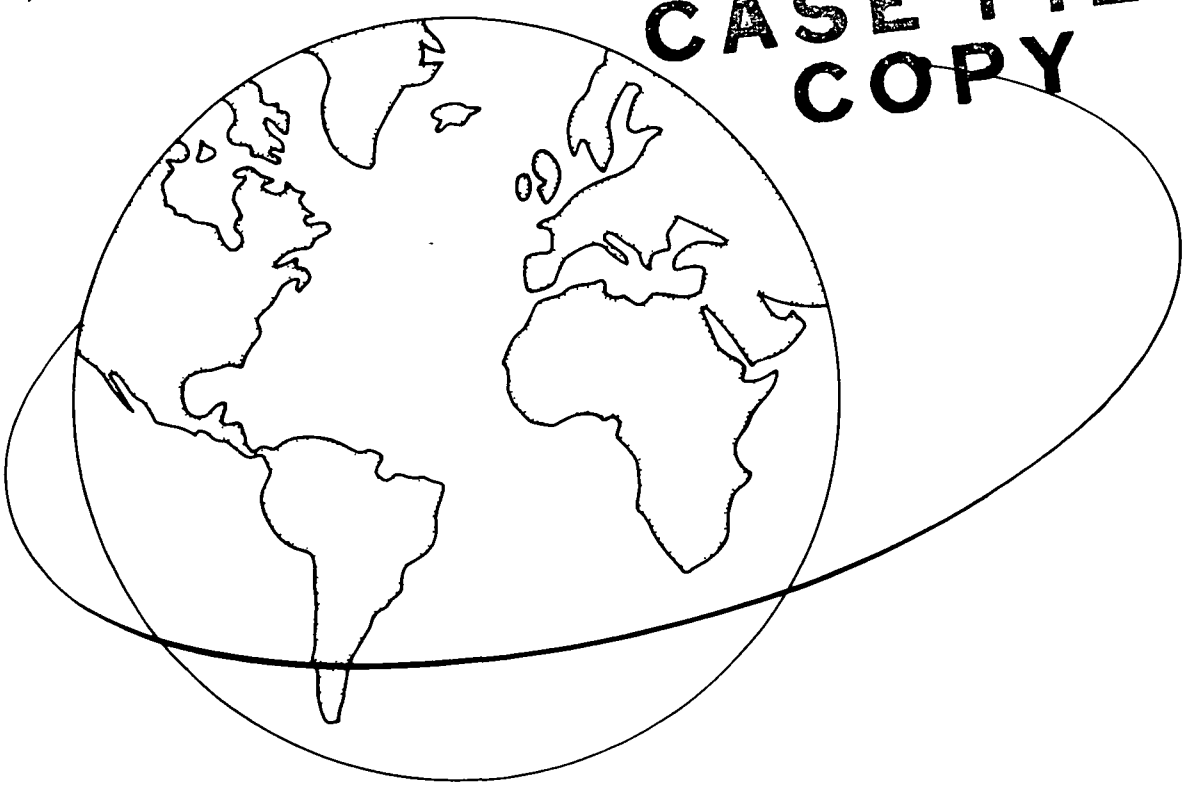
A SUPPLEMENTAL CATALOG OF ATMOSPHERIC DENSITIES FROM SATELLITE-DRAG ANALYSIS

L. G. JACCHIA and J. W. SLOWEY



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ABSTRACT

The present catalog of densities derived from satellite-drag analysis extends and supplements similar earlier publications by the authors. The densities were computed from nine artificial satellites for effective heights ranging from 300 to 1130 km, and are presented together with pertinent data that permit the location in time and space of the point to which they refer. The intervals covered vary between 1 and 6 years for the different satellites and average about 3.5 years for the nine satellites. The cutoff date for the data included is, in most cases, January 14, 1970.

RESUME

Ce nouveau catalogue des densités, déduit d'une analyse du ralentissement des satellites, est une extension et un supplément des publications antérieures faites par les auteurs. Les densités furent calculées à partir de neuf satellites artificiels pour des altitude effectives allant de 300 à 1130 km et sont présentées avec les données pertinentes qui permettent la localisation dans le temps et l'espace du point auquel elles se rapportent. Les intervalles recouverts varient entre 1 et 6 années pour les différent satellites, la moyenne pour les neuf satellites étant d'environ 3,5 années. La date limite des données considérées est, dans la plupart des cas, le 14 janvier 1970.

КОНСПЕКТ

Настоящий каталог плотностей выведенный из анализа драга спутника расширяется и дополняет подобные ранние публикации авторов. Плотности высчитывались для девяти искуственных спутников для эффективных высот от 300 до 1130 км и приводятся вместе с относящимися к делу данными которые позволяют определение по времени и пространству точки к которой они относятся. Покрываемые интервалы времени простираются на от 1 до 6 лет для различных спутников и для девяти спутников в среднем являются в 3,5 лет. В большинстве случаев, дата окончания сборки приведенных данных является 14 января 1970г.

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1. INTRODUCTION

This paper presents a catalog of atmospheric densities determined from the drag on nine artificial earth satellites, augmenting the density data published in a number of earlier catalogs (Jacchia and Slowey, 1962, 1965, 1970). The data represent a continuation beyond the terminal date of the last of these earlier catalogs in the case of three satellites. We have not previously published any data from the other six.

The contents of the several catalogs, including this one, are summarized in Table 1. The standard height (or heights or range of height) used is given for each satellite in the second column of the table as an indication of the height coverage that the data provide. The inclusive dates in the remaining columns are in the form of the Modified Julian Date (MJD = JD - 2,400,000.5), as in previous catalogs. Note that the cutoff date for this catalog is MJD 40600 (January 14, 1970). Densities for 1958 Alpha were continued slightly beyond this date in order to complete the lifetime of that satellite, which ended on MJD 40676. The descent dates for 1964 76A and 1964 4A were MJD 40147 and 40379, respectively, and the densities from these satellites, therefore, terminate just before those dates.

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The combined coverage of the catalogs can be seen somewhat more graphically in Figure 1. Here we have plotted the heights of the various satellites as a function of time over the intervals for which density data are given. The height plotted is the smoothed effective height. We define effective height as the average of the actual height around the satellite's orbit weighted by the local atmospheric density as specified by an appropriate atmospheric model. Heights in the plot are not intended to be taken too literally, however. The effective height has all the relatively short-term variations that occur in the perigee height plus fairly large and rapid variations due to variations in the scale height of the atmosphere. A considerable amount of smoothing was, therefore, applied in drawing the figure, and these heights can be regarded only as approximate.

Some basic data on the nine satellites are given in Table 2. For each satellite listed in the first column, the second column gives the standard height we have adopted. The density tables (Table 4) include densities at the perigee height and, to facilitate analysis of the densities, at the constant "standard" height given in Table 2. In the earlier catalogs, standard heights were chosen to be near the average perigee heights, while for this one, they were chosen to be near the average effective height for the satellite. We made this decision because the effect of possible scale-height errors in the density model, which must be assumed in order to derive a density from the observed drag, is minimized if the density is computed for the effective height. The models we have used have always given reasonably accurate scale heights in the low-to-moderate height range, and therefore, no serious error was made in computing densities for the perigee height. However, at the heights reached by Echo 2 and some of the Explorer satellites, helium and hydrogen become important constituents and the models are far less certain. It was deemed prudent, therefore, to make the change beginning with this catalog.

Reduction to a standard height is, of course, meaningful only as long as the actual effective height does not deviate too much from the adopted standard height. For many satellites, it is entirely reasonable to use a single standard height over a period of many years, or even over most of the satellite's lifetime. However, for those satellites that are strongly affected by solar-radiation pressure, variations in the

actual height are quite large and it is necessary to change the standard height at fairly frequent intervals. Thus, for three of the satellites in Table 2, it is not possible to have a single standard height throughout. For these satellites only, the range of the standard height is given in Table 2, and a detailed tabulation of the standard heights is given separately in Table 3.

The area-to-mass ratio assumed for each satellite is given in the third column of Table 2. The remaining columns should require no further explanation.

As was the case with the earlier catalogs, the densities given here were determined mainly from field-reduced Baker-Nunn observations, which have a topocentric accuracy of a few minutes of arc. For dates after MJD 40400 (MJD 40300 in the case of 1963 53A), however, the Baker-Nunn observations were supplemented by radar observations made by the U S. Air Force. This was done mainly to compensate for a decrease in the level of Baker-Nunn operation imposed by reductions in financial support. It has worked out quite well, and we have been able to continue most of our work in drag analysis at this level of resolution without impairment. (There has been considerable impairment, however, in the high-resolution work, which is based entirely on accurately reduced Baker-Nunn photographs; such data are not covered in this catalog.) The direction components of the radar observations are, for the most part, inferior to the Baker-Nunn observations. On the other hand, the range components from a number of the radar stations are accurate to a few tenths of a kilometer. This makes them somewhat better, generally, than the field-reduced Baker-Nunn observations. They are also better in that they are not restricted to twilight visibility and clear weather, so they tend to be much better distributed around the satellite's orbit and provide essentially continuous coverage, free of extended periods with only a few observations or no observations at all.

2. METHOD OF COMPUTATION

The method by which we determine atmospheric densities from satellite observations was described in some detail in one of the earlier catalogs (Jacchia and Slowey, 1962) and need not be repeated here. As before, the contribution of solar-radiation pressure to the observed acceleration was computed by use of Kozai's (1961) formulation. Specular reflection from a spherical surface and a value of the solar constant of 2.00 cal cm^{-2} min^{-1} were assumed. Densities were computed from the corrected accelerations by evaluating Sterne's (1958, 1959) integral in the form that includes atmospheric rotation. In all cases, the atmosphere was assumed to be corotating with the earth.

For the earlier catalogs, densities were computed assuming a constant drag coefficient of 2.2. At low heights, such an assumption is probably valid. At heights much above 400 km during low solar activity or 600 km during high solar activity, however, the drag coefficient is expected to increase with height owing to the decrease in the mean molecular weight of the atmosphere. This variation in the drag coefficient is quite significant for some of the satellites included here. We have, therefore, adopted a variable model for the drag coefficient, based on the work of Cook (1965, 1966). This was incorporated in the evaluation of Sterne's integral rather than just being evaluated at a particular height, so that the effect of the variation around the satellite's orbit has been included. In order that the model give a drag coefficient of 2.2 at low heights, we set the constant $c = 3.92$ in the expression for the accommodation coefficient:

$$\alpha = \frac{c\mu}{(1+\mu)^2} \quad .$$

We did this on the assumption that the molecular weight of the surface could be taken as 16.0 in computing μ, the ratio of the mean molecular weight of the atmosphere to that of the satellite surface.

The most recently published atmospheric model by Jacchia (1971, generally referred to as J71) has been used to represent the variations in density around the satellite's orbit and to make the reduction to a standard height.

3. EXPLANATION OF THE TABLES

The numerical results from each of the nine satellites are given in Table 4, which is nearly identical in form to those of the earlier catalogs. The Modified Julian Date is listed in the first column. The observed rate of change of the anomalistic period, or "acceleration," is given in the second. The contribution to the acceleration ascribed to solar-radiation pressure is in the third column, and the difference – i.e., the portion of the acceleration due to atmospheric drag – is in the fourth. Column 3 is blank in those cases where the effect of radiation pressure compared to that of atmospheric drag is negligible. The common logarithms of the density, in grams per cubic centimeter, at the height of perigee and at the standard height appear in columns five and six, respectively. The local exospheric temperature in the J71 model that corresponds to the computed densities is given in column seven. The next three columns contain, in order, the perigee height, the difference in right ascension between perigee and the sun, and the difference in declination between perigee and the sun. The global minimum exospheric temperature, computed by using a model of the diurnal variation and given in the last column in earlier catalogs, has been eliminated from this table.

4. PLOTS OF DENSITIES

The logarithms of the density at standard height are plotted for each of the nine satellites in Figures 2 through 10. The densities from the three satellites for which a variable standard height was used in the density tables have, in this case, been reduced to single standard heights. It should be emphasized, however, that this was done only to provide visual representations of the data and that densities taken from the plots should not be applied to more serious purposes. Each figure also includes plots of the diurnal variation for the satellite's perigee and the semiannual variation (according to the models of these variations associated with the J71 model) as well as plots of the 10.7-cm solar flux and the daily geomagnetic index A_p. The diurnal and semiannual variations are shown normalized relative to the maximum possible range taken as unity.

It will be noticed that, at times, the densities from 1963 53A and 1966 70A are aligned in groups of nearly constant density, changing only in well-defined "quantum" steps from one such group to another. This is due to the fact that the accelerations at these times were deemed to be accurate to only one figure and were so rounded before the densities were computed. It occurs when we have sought to maintain high resolution when the drag was relatively small. The effect could have been eliminated by taking a longer time step (1.0 day instead of 0.5 day, in most cases), but this would have sacrificed some of the information contained in the data. A better solution, perhaps, would have been to allow an extra figure and let the scatter in the resulting densities speak for itself.

5. ACKNOWLEDGMENTS

The authors are indebted to Mrs. Margaret Anderson, Mrs. Helene Cornelius, and Mrs. Mary Thorndike for their assistance in all phases of the work that went into this report and to Mr. I. G. Campbell for his expert help in all matters of computer programing. We would also like to express our appreciation to the 14th Aerospace Force, U.S. Air Force, for providing us with radar observations of the satellites we used for drag analysis and, in particular, to Dr. A. W. Bevan for his many efforts on our behalf.

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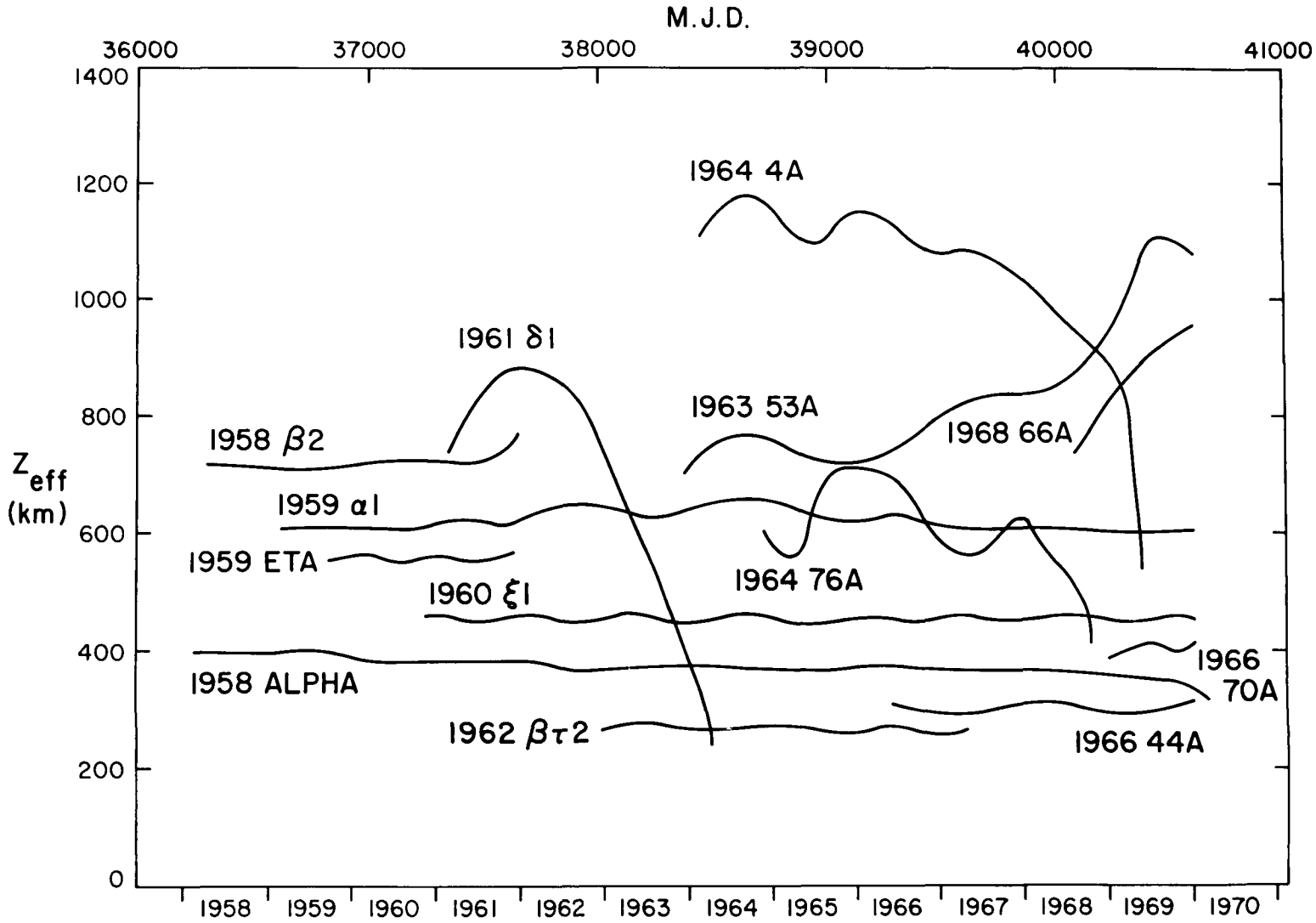

Figure 1. Effective heights of satellites over intervals for which density data have been published. The heights have been considerably smoothed and can only be regarded as approximate.

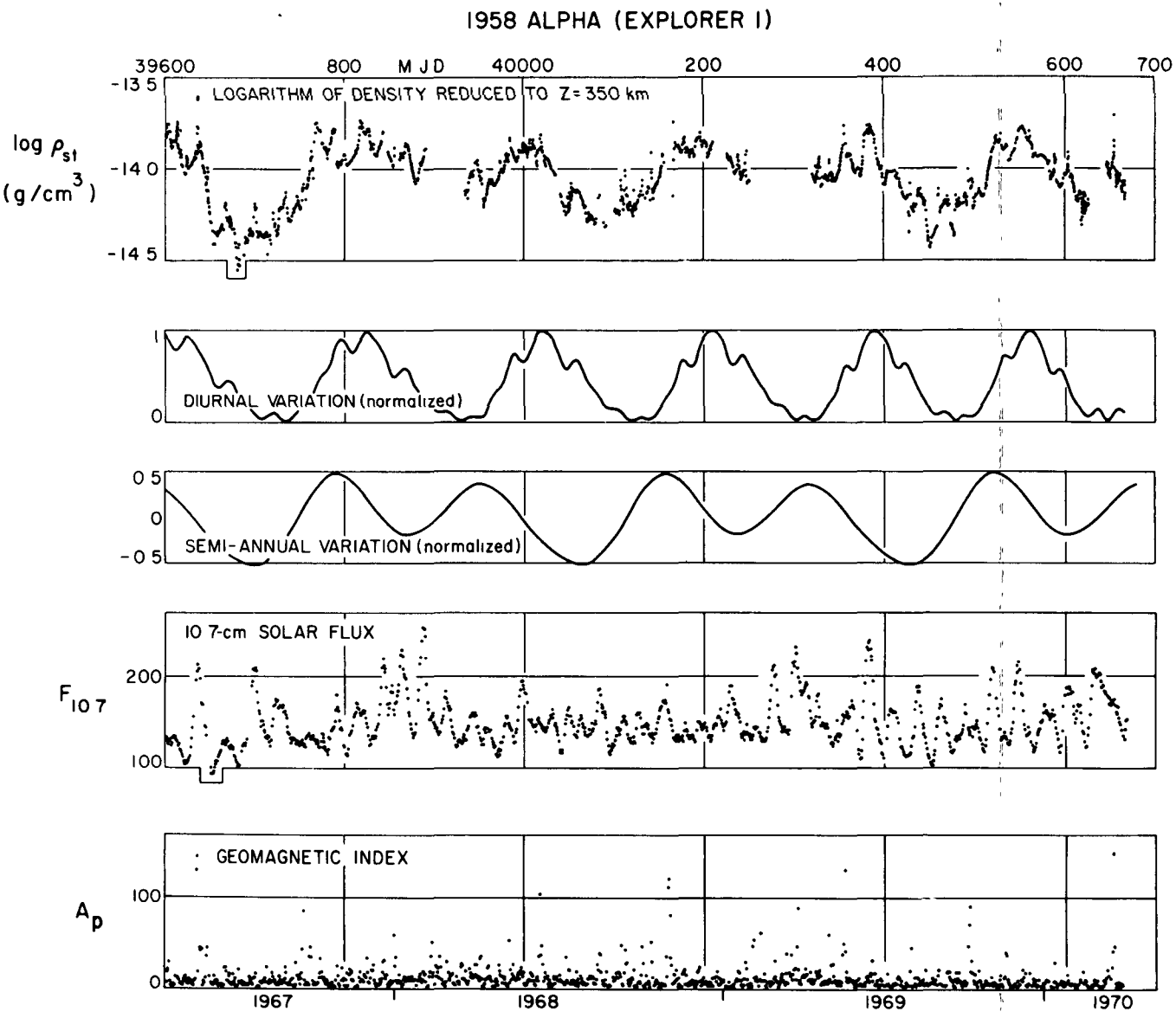

Figure 2. Density results from 1958 Alpha (Explorer 1).

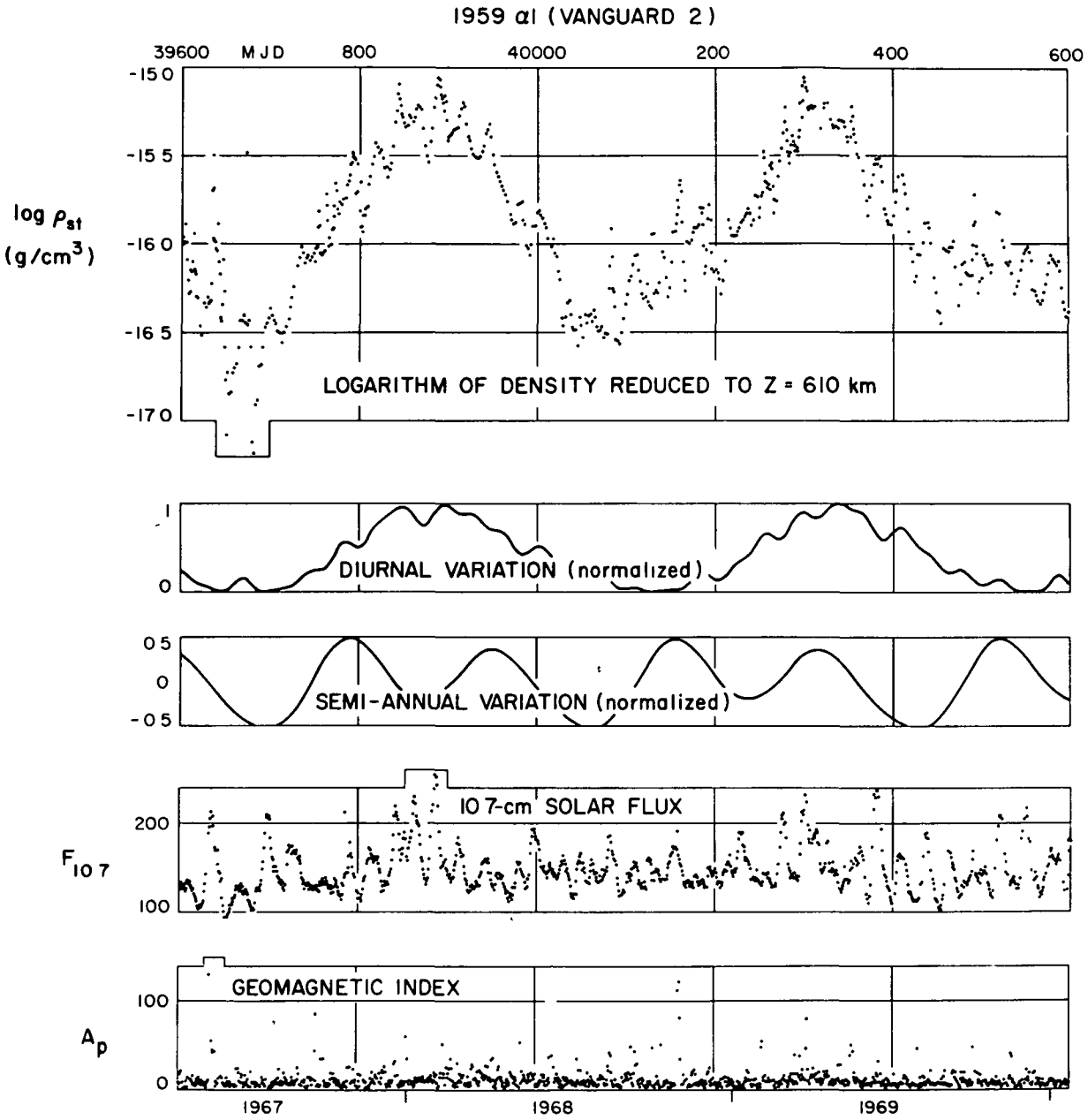

Figure 3. Density results from 1959 α1 (Vanguard 2).

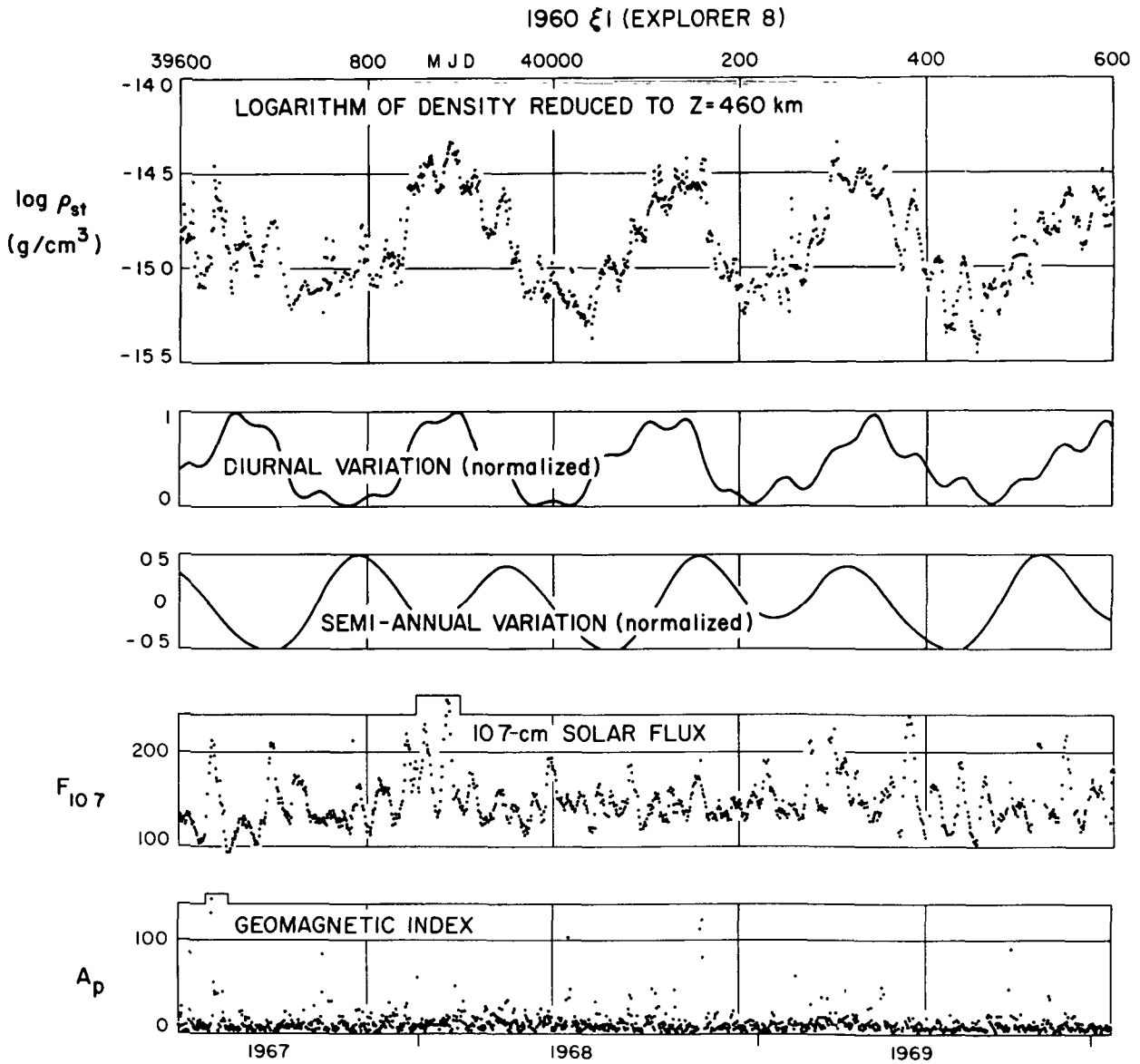

Figure 4. Density results from 1960 ξ1 (Explorer 8).

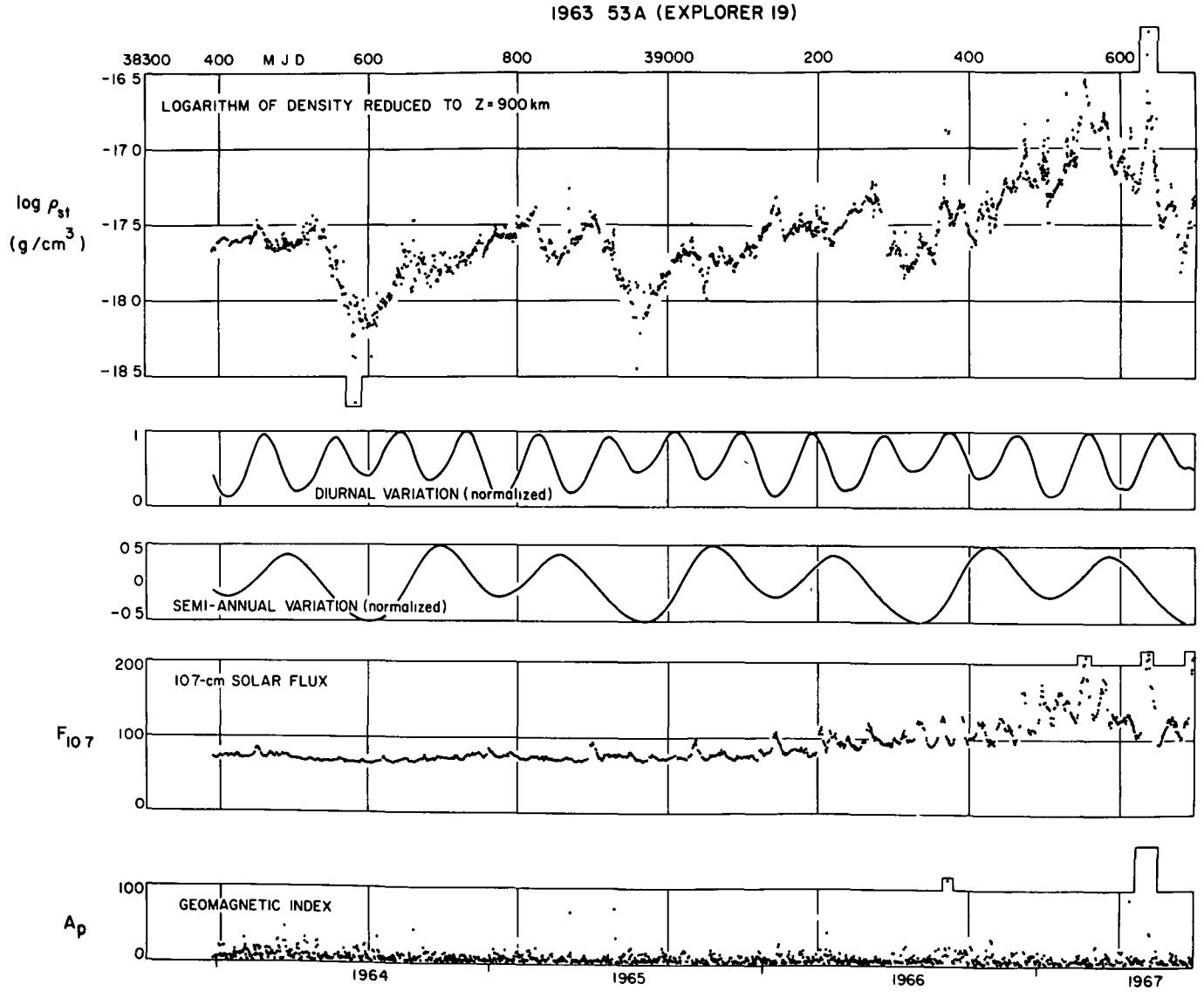

Figure 5a. Density results from 1963 53A (Explorer 19).

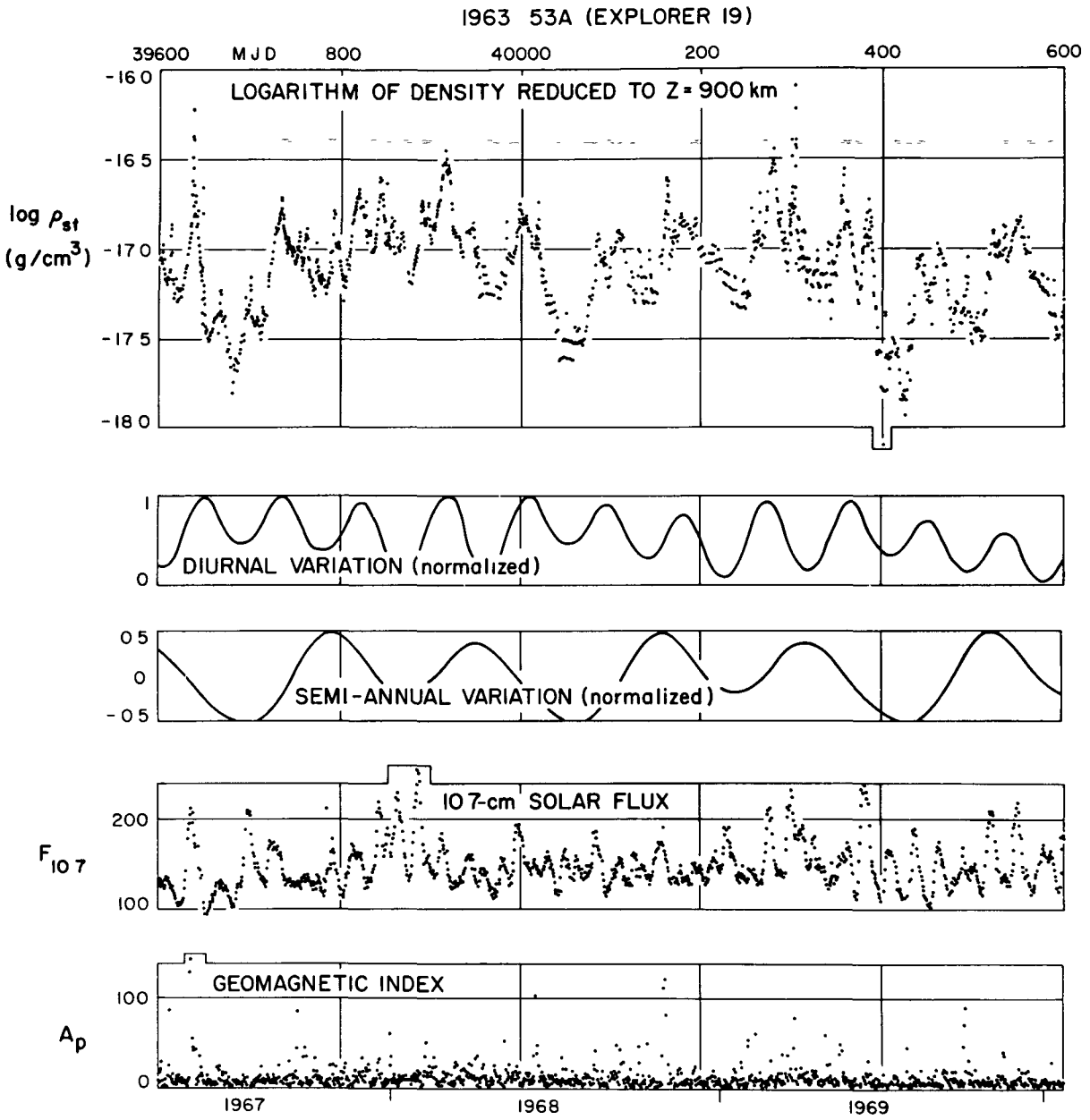

Figure 5b. Density results from 1963 53A (Explorer 19).

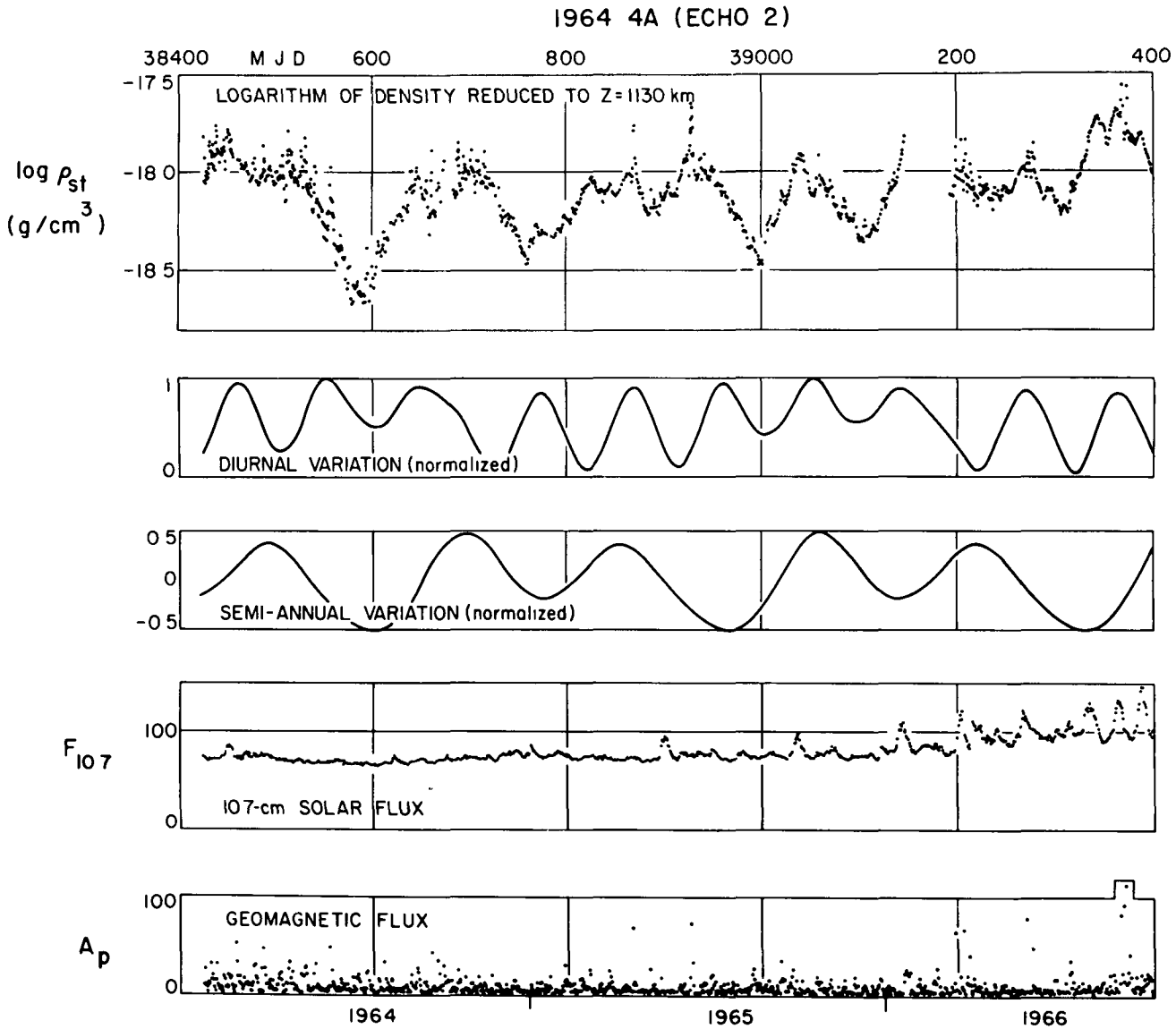

Figure 6a. Density results from 1964 4A (Echo 2).

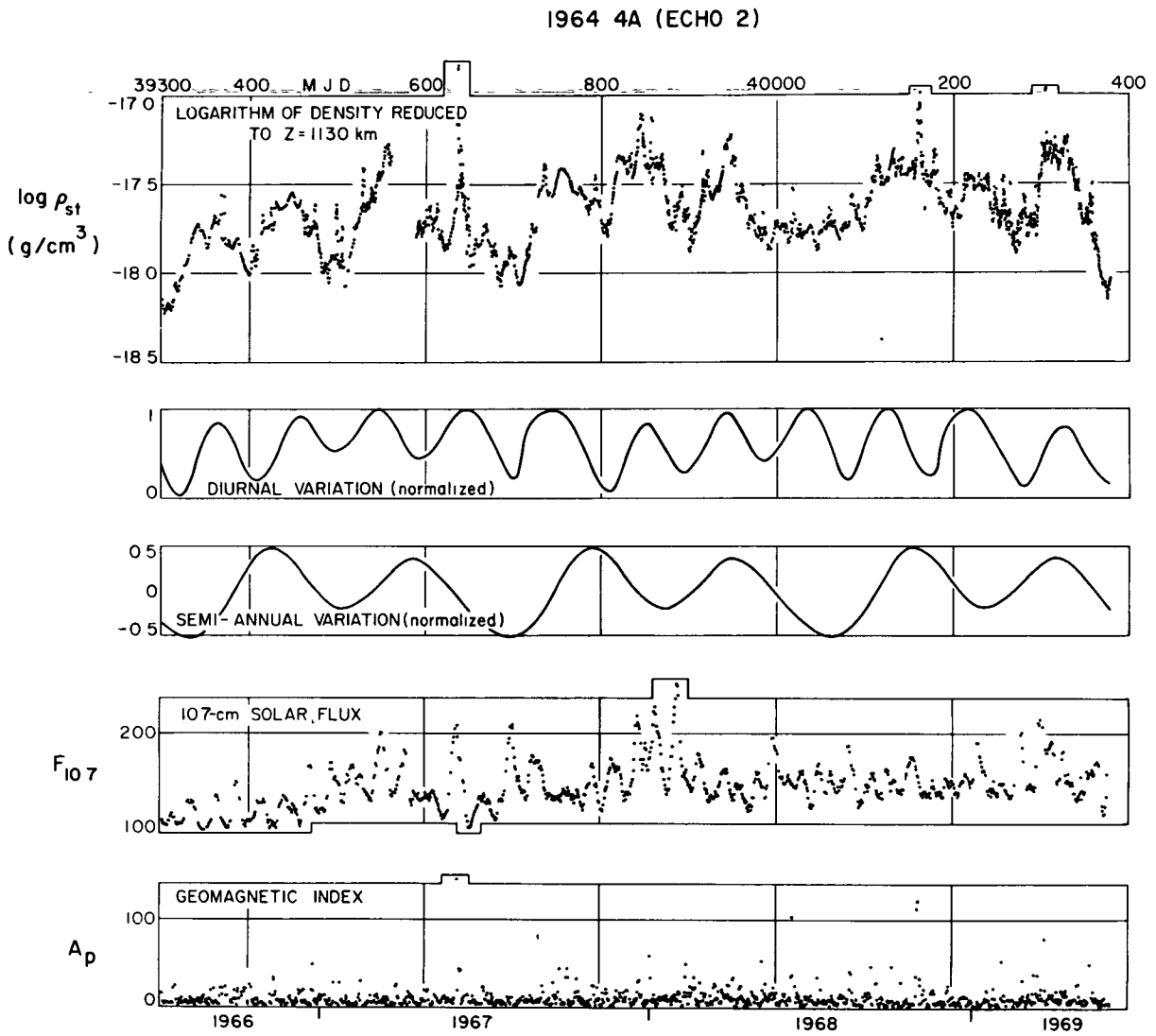

Figure 6b. Density results from 1964 4A (Echo 2).

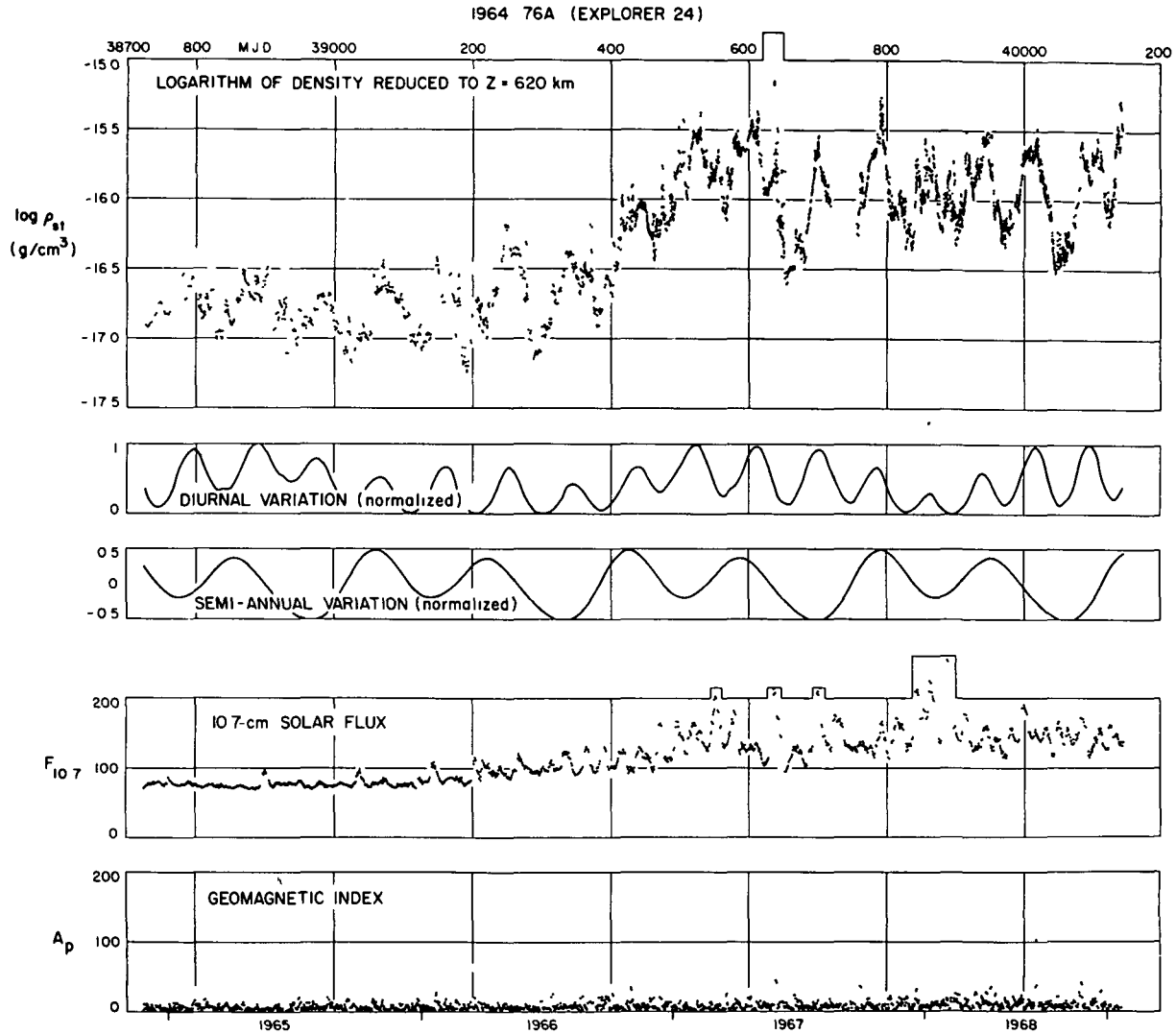

Figure 7. Density results from 1964 76A (Explorer 24).

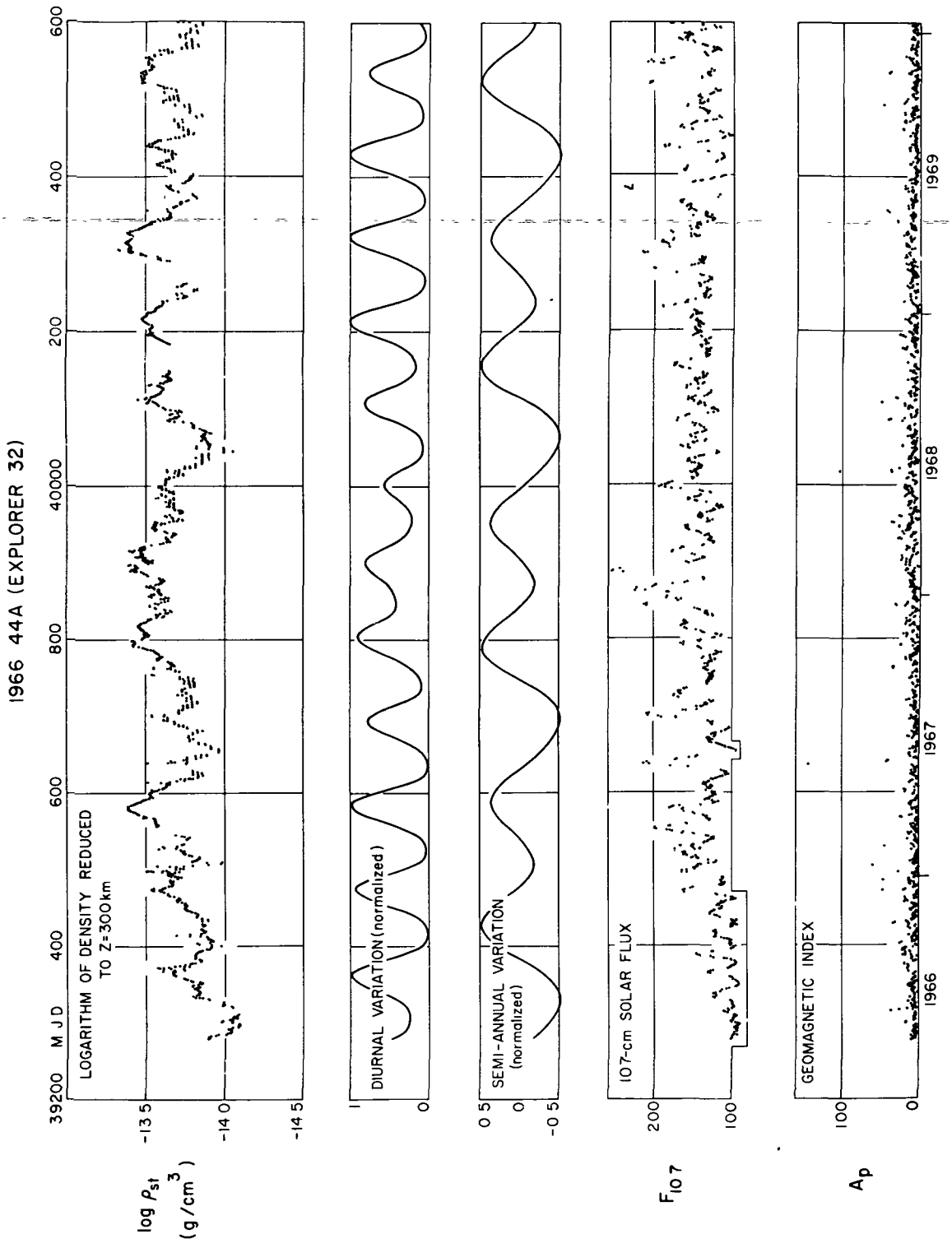

Figure 8. Density results from 1966 44A (Explorer 32).

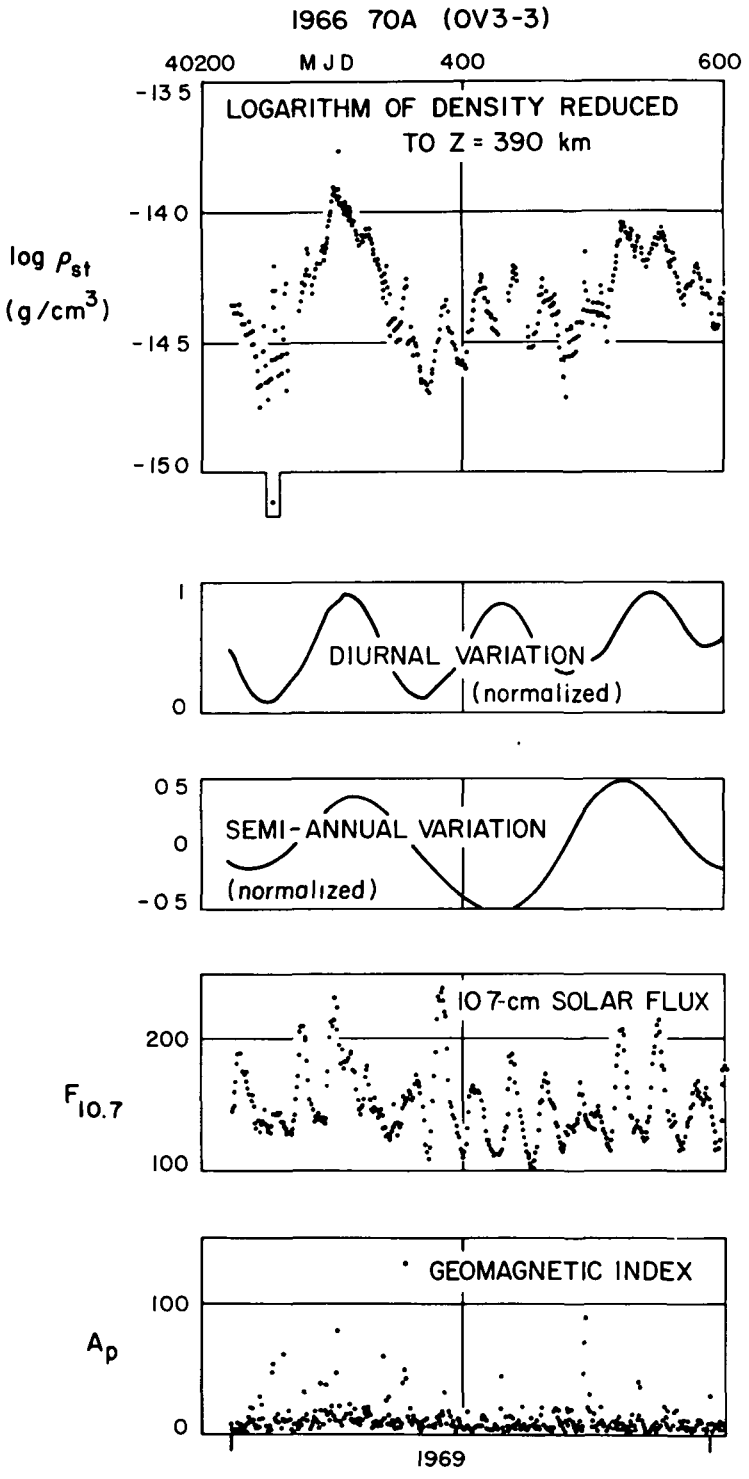

Figure 9. Density results from 1966 70A (OV3-3).

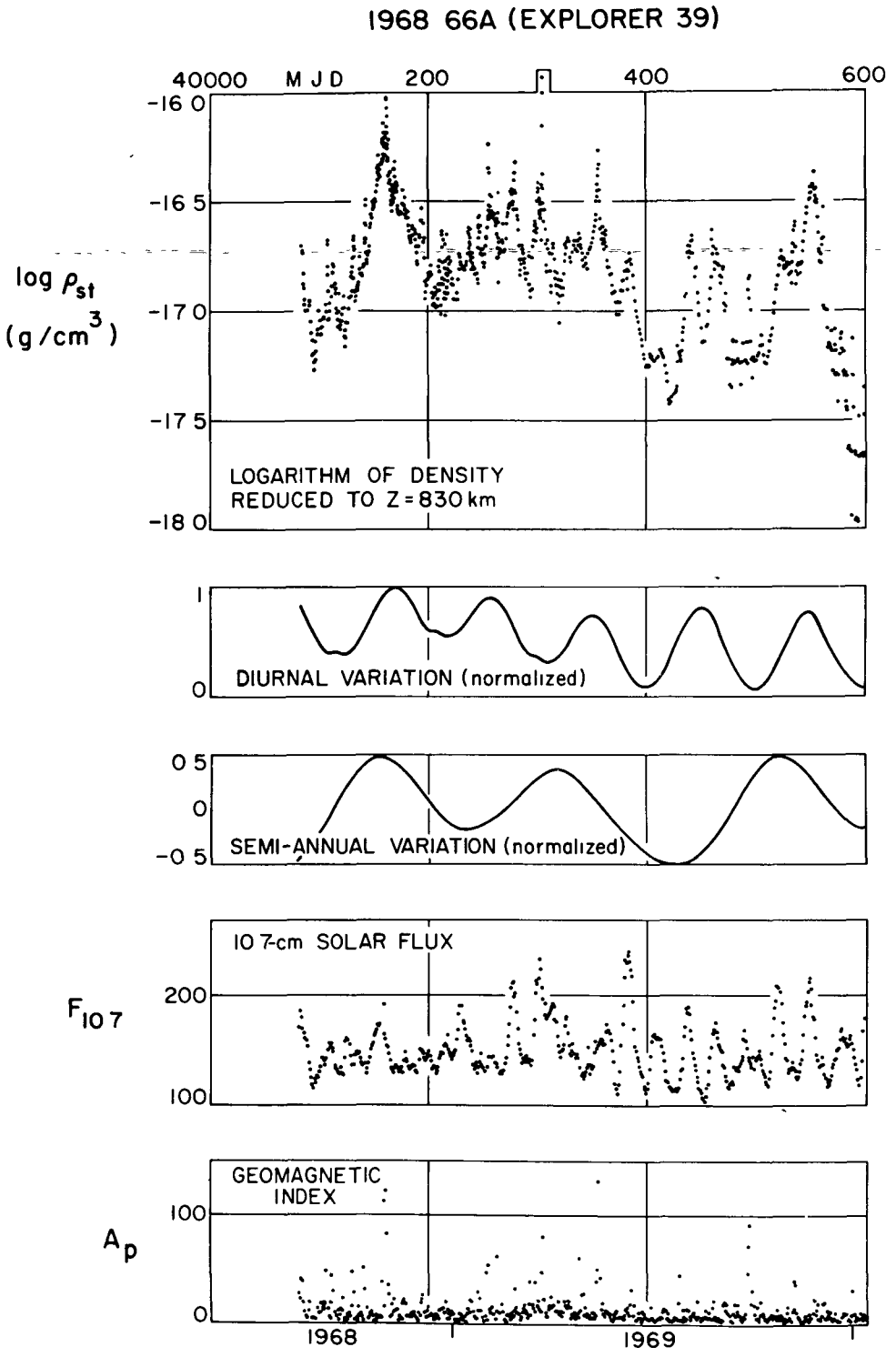

Figure 10. Density results from 1968 66A (Explorer 39).

Table 1. Summary of published atmospheric densities from satellite drag.

Satellite	Standard height (km)	Interval, SAO Spec Rep No. 100 (MJD)*	Interval, SAO Spec. Rep. No 171 (MJD)	Interval, SAO Spec. Rep No 326 (MJD)	Interval, this catalog (MJD)
1962 βτ2 (Injun 3)	250			38013.0–39595 0	
1966 44A (Explorer 32)	300				39279.0–40600 00
1958 Alpha (Explorer 1)	350, 355	36242 0–37390 0	36242 0–38300 0	38300 0–39600 0	39600 0–40666 25
1966 70A (OV3-3)	390				40222.0–40600 00
1960 ξ1 (Explorer 8)	426, 452	37246.0–37414.0	37246 0–38300 0	38300 0–39600.0	39600 0–40600 00
1961 δ1 (Explorer 9)	270–760	37349 0–37574.0	37349 0–38300.0	38300.5–38494 0	
1959 Eta (Vanguard 3)	516	36834.0–37438.0	36834.0–37928 0		
1959 α2 (Rocket)	563	36645.0–37387.5			
1959 α1 (Vanguard 2)	563, 600	36622.5–37387.5	36622 5–38300 0	38300 0–39600 0	39600 0–40600 00
1964 76A (Explorer 24)	530–630				38726.0–40144.00
1958 β1 (Rocket)	655	36710 0–37100 0			
1958 β2 (Vanguard 1)	658	36340 0–37595.0	36340 0–37590 0		
1968 66A (Explorer 39)	800–850				40084 5–40600 00
1963 53A (Explorer 19)	700–1030				38390 0–40600 00
1964 4A (Echo 2)	1130				38425 0–40377 25

*Note that most of the densities in this catalog were recomputed using a better atmospheric model and included in the next catalog, SAO Spec. Rep. No. 171

Table 2. Basic data on satellites for this catalog.

Satellite	Standard height (km)	Area/mass ratio ($cm^2\ g^{-1}$)	Eccentricity	Interval	Resolution (days)*
1966 44A (Explorer 32)	300	0 0299	0 16 –0 14	1966 Jun. 3–1970 Jan. 14	0.5 –1.0 (0 2)
1958 Alpha (Explorer 1)	350	0 170	0 07 –0 01	1967 Apr 20–1970 Mar 21	0 5 –1.0 (0.2)
1966 70A (OV3-3)	390	0 087	0 23	1969 Jan. 1–1970 Jan. 14	0 25–1.0 (0 25)
1960 ξ1 (Explorer 8)	452	0 110	0 12 –0 11	1967 Apr 20–1970 Jan. 14	1 0 (0 5)
1959 α1 (Vanguard 2)	600	0.236	0.16	1967 Apr. 20–1970 Jan. 14	1 0 –2 0 (0.5)
1964 76A (Explorer 24)	530–630†	12.20	0 12 –0 01	1964 Nov. 27–1968 Oct. 15	0.25–1.0 (0 1)
1968 66A (Explorer 39)	800–850†	11 15	0 12 –0 10	1968 Aug. 16–1970 Jan 14	0 25–1 0 (0 2)
1963 53A (Explorer 19)	700–1030†	13.02	0 11 –0.05	1963 Dec. 27–1970 Jan. 14	0 5 –2 0 (0 2)
1964 4A (Echo 2)	1130	51.55	0.025–0 001	1964 Jan 31–1969 Jun. 5	0.2 –1 0 (0 2)

*The figures in parentheses give the highest resolution during large geomagnetic perturbations; the other figures represent the resolution under more normal conditions

†Standard height varies; a detailed tabulation appears in Table 3

Table 3. Standard heights for those satellites where a variable value was used.

Satellite	Interval (MJD)	Standard height (km)
1964 76A (Explorer 24)	38726.00–38958.00	580
	38959.00–39346.00	630
	39346.50–39951.75	580
	39952.00–40144.00	530
1968 66A (Explorer 39)	40084.50–40295.00	800
	40295.50–40464.50	850
	40465.00–40600.00	800
1963 53A (Explorer 19)	38390.00–39093.00	700
	39094.00–39949.50	800
	39950.00–40192.00	900
	40192.50–40283.00	1000
	40283.50–40600.00	1030

Table 4. Acceleration, drag, atmospheric densities, atmospheric temperatures, and geometric parameters.

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39600.00	6.40		6.4	-13.74	-13.83	1087	337.6	20.7	-12.3
00.50	6.30		6.3	.74	.83	1093	338.0	21.0	-14.7
01.00	6.22		6.2	.75	.83	1092	338.4	21.2	-17.1
01.50	6.48		6.5	.73	.81	1109	338.8	21.4	-19.4
02.00	6.64		6.6	.72	.80	1115	339.3	21.7	-21.7
02.50	6.98		7.0	.70	.78	1131	339.9	22.1	-24.0
03.00	7.16		7.2	.69	.76	1146	340.5	22.5	-26.3
03.50	7.19		7.2	.69	.75	1154	341.1	22.9	-28.5
04.00	7.11		7.1	.70	.76	1141	341.7	23.5	-30.6
04.50	6.37		6.4	.74	.80	1102	342.4	24.1	-32.6
05.00	6.31		6.3	.75	.80	1106	343.0	24.8	-34.6
05.50	5.67		5.7	.79	.84	1088	343.7	25.6	-36.5
06.00	5.40		5.4	.81	.86	1086	344.3	26.5	-38.3
06.50	4.99		5.0	.85	.88	1067	344.9	27.6	-39.9
07.00	4.87		4.9	.85	.89	1065	345.5	28.7	-41.5
07.50	4.88		4.9	.85	.88	1070	346.0	29.9	-42.9
08.00	4.94		4.9	.85	.88	1072	346.5	31.2	-44.1
08.50	4.95		4.9	.85	.88	1074	346.9	32.7	-45.2
09.00	5.27		5.3	.82	.84	1101	347.2	34.2	-46.1
09.50	5.29		5.3	.82	.84	1099	347.4	35.8	-46.9
10.00	5.27		5.3	.83	.84	1096	347.6	37.4	-47.4
10.50	5.27		5.3	.83	.84	1099	347.7	39.1	-47.8
11.00	5.25		5.2	.83	.85	1095	347.7	40.7	-48.0
11.50	5.44		5.4	.82	.84	1104	347.7	42.4	-48.0
12.00	5.66		5.7	.80	.82	1111	347.5	44.1	-47.8
12.50	6.09		6.1	.77	.79	1125	347.3	45.7	-47.4
39612.80	6.4		6.4	-13.75	-13.77	1136	347.1	46.6	-47.1
13.00	6.5		6.5	.74	.77	1142	346.9	47.2	-46.9
13.20	7.0		7.0	.71	.74	1158	346.8	47.8	-46.6
13.40	6.8		6.8	.73	.75	1134	346.6	48.4	-46.3
13.60	6.5		6.5	.75	.78	1111	346.5	48.9	-46.0
13.80	6.3		6.3	.76	.79	1097	346.3	49.5	-45.6
14.00	6.0		6.0	.78	.81	1091	346.1	50.0	-45.2
14.20	5.9		5.9	.78	.81	1102	345.9	50.5	-44.8
14.40	5.2		5.2	.83	.87	1071	345.7	51.0	-44.4
14.60	5.1		5.1	.84	.88	1070	345.5	51.5	-44.0
14.80	4.9		4.9	.86	.89	1060	345.3	52.0	-43.5
39615.00	5.03		5.0	-13.85	-13.89	1065	345.0	52.4	-43.0
15.50	4.81		4.8	.86	.91	1051	344.4	53.5	-41.7
16.00	4.69		4.7	.87	.92	1043	343.8	54.4	-40.3
16.50	4.78		4.8	.86	.92	1051	343.0	55.2	-38.7
39616.60	4.5		4.5	-13.89	-13.94	1033	342.9	55.4	-38.4
16.80	5.0		5.0	.84	.90	1069	342.6	55.7	-37.8
17.00	5.0		5.0	.84	.90	1065	342.4	56.0	-37.1
17.20	6.7		6.7	.72	.78	1156	342.1	56.2	-36.4
17.40	5.0		5.0	.85	.91	1042	341.8	56.5	-35.7
17.60	4.7		4.7	.87	.94	1021	341.6	56.7	-35.0
17.80	4.6		4.6	.88	.95	1030	341.3	57.0	-34.3
18.00	4.6		4.6	.87	.94	1039	341.1	57.2	-33.6
18.20	4.7		4.7	.86	.94	1044	340.8	57.4	-32.8
39619.00	4.34		4.3	-13.90	-13.98	1012	339.8	58.1	-29.8
20.00	4.15		4.2	.91	-14.00	1001	338.8	58.7	-25.8
21.00	4.00		4.0	.93	.03	983	337.9	59.2	-21.7
22.00	3.85		3.9	.94	.04	971	337.3	59.6	-17.5

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39622.50	3.89		3.9	-13.94	-14.04	969	337.1	59.8	-15.4
23.00	4.05		4.0	.93	.04	974	336.9	60.0	-13.3
23.50	4.37		4.4	.89	.00	999	336.8	60.2	-11.3
24.00	4.83		4.8	.85	-13.96	1030	336.8	60.4	-9.2
24.50	4.57		4.6	.87	.98	1020	336.9	60.7	-7.2
25.00	4.79		4.8	.85	.96	1031	336.9	61.1	-5.3
39626.00	4.28		4.3	-13.90	-14.00	1006	337.3	61.9	-1.5
27.00	4.37		4.4	.89	-13.99	1013	337.7	63.1	2.0
28.00	4.37		4.4	.90	.99	1015	338.2	64.6	5.2
29.00	4.40		4.4	.90	.99	1019	338.8	66.6	7.9
30.00	4.51		4.5	.89	.98	1032	339.2	68.9	10.1
31.00	4.63		4.6	.89	.97	1045	339.6	71.6	11.6
39632.00	4.81		4.8	-13.87	-13.95	1057	339.8	74.6	12.6
32.50	4.71		4.7	.88	.96	1051	339.8	76.2	12.8
33.00	4.75		4.7	.88	.96	1059	339.8	77.8	12.8
33.50	4.88		4.9	.87	.95	1070	339.7	79.4	12.6
34.00	5.13		5.1	.85	.93	1074	339.6	81.0	12.3
34.50	5.23		5.2	.85	.93	1076	339.5	82.5	11.7
35.00	5.21		5.2	.85	.93	1076	339.3	84.0	11.0
39635.20	5.1		5.1	-13.86	-13.94	1066	339.2	84.6	10.7
35.40	5.9		5.9	.79	.88	1124	339.1	85.1	10.3
35.60	6.4		6.4	.76	.84	1140	339.0	85.7	9.9
35.80	7.6		7.6	.69	.77	1167	338.9	86.2	9.5
36.00	6.9		6.9	.75	.82	1095	338.8	86.7	9.1
36.20	11.6		11.6	.53	.60	1266	338.6	87.2	8.6
36.40	11.2		11.2	.55	.62	1239	338.5	87.7	8.2
36.60	7.4		7.4	.71	.79	1128	338.4	88.2	7.7
36.80	5.4		5.4	.84	.93	1051	338.3	88.7	7.1
37.00	5.7		5.7	.82	.90	1082	338.1	89.1	6.6
37.20	5.7		5.7	.81	.90	1087	338.0	89.5	6.0
37.40	5.8		5.8	.81	.90	1096	337.9	89.9	5.4
39638.00	5.81		5.8	-13.80	-13.90	1102	337.4	91.1	3.5
38.50	5.90		5.9	.80	.89	1094	337.1	91.9	1.8
39.00	6.37		6.4	.76	.86	1108	336.8	92.6	0.0
39.50	6.12		6.1	.78	.88	1095	336.5	93.3	-1.9
40.00	5.87		5.9	.79	.89	1103	336.2	93.8	-3.8
40.50	5.64		5.6	.81	.92	1089	335.9	94.3	-5.9
41.00	5.45		5.4	.83	.93	1057	335.7	94.7	-8.0
41.50	5.25		5.3	.83	.94	1054	335.6	95.0	-10.1
42.00	4.96		5.0	.85	.97	1054	335.5	95.3	-12.3
42.50	4.55		4.6	.88	-14.00	1039	335.5	95.5	-14.5
43.00	4.46		4.5	.89	.01	1038	335.5	95.7	-16.8
43.50	4.46		4.5	.89	.01	1033	335.6	95.9	-19.1
44.00	4.32		4.3	.91	.03	1015	335.8	96.1	-21.4
44.50	4.11		4.1	.93	.05	1005	336.0	96.3	-23.6
45.00	3.87		3.9	.95	.06	996	336.3	96.4	-25.9
45.50	3.62		3.6	.99	.10	974	336.7	96.6	-28.2
46.00	3.49		3.5	-14.00	.11	964	337.2	96.8	-30.4
39646.20	3.3		3.3	-14.03	-14.13	945	337.4	96.9	-31.3
46.40	3.5		3.5	.00	.10	969	337.6	97.0	-32.2
46.60	3.6		3.6	-13.99	.09	978	337.8	97.2	-33.1
46.80	3.6		3.6	.99	.09	974	338.0	97.3	-34.0
47.00	4.3		4.3	.92	.01	1012	338.2	97.4	-34.8
47.20	4.1		4.1	.94	.04	979	338.5	97.5	-35.7
47.40	3.8		3.8	.97	.06	968	338.7	97.7	-36.6

Table 4 (Cont)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39647.60	3.7		3.7	-13.98	-14.07	984	339.0	97.9	-37.4
47.80	3.2		3.2	-14.04	.13	954	339.2	98.0	-38.2
48.00	3.1		3.1	.06	.14	940	339.5	98.2	-39.1
48.20	2.9		2.9	.09	.17	913	339.7	98.4	-39.9
39648.50	2.74		2.7	-14.12	-14.20	908	340.1	98.7	-41.1
49.00	2.59		2.6	.13	.21	915	340.8	99.3	-43.0
49.50	2.46		2.5	.15	.22	905	341.5	100.0	-44.8
50.00	2.33		2.3	.18	.25	881	342.2	100.8	-46.6
50.50	2.20		2.2	.20	.27	876	342.8	101.7	-48.2
51.00	2.04		2.0	.24	.30	861	343.5	102.7	-49.8
51.50	1.92		1.9	.26	.32	856	344.0	103.8	-51.2
52.00	1.86		1.9	.26	.31	862	344.6	105.0	-52.4
52.50	1.74		1.7	.31	.35	843	345.1	106.4	-53.5
53.00	1.65		1.7	.31	.35	843	345.5	107.8	-54.5
53.50	1.53		1.5	.36	.40	820	345.9	109.3	-55.2
54.00	1.42		1.4	.39	.43	809	346.1	110.8	-55.8
54.50	1.37		1.4	.39	.43	810	346.3	112.5	-56.2
55.00	1.39		1.4	.39	.43	810	346.4	114.1	-56.4
55.50	1.58		1.6	.34	.37	831	346.5	115.8	-56.4
56.00	1.63		1.6	.34	.37	829	346.4	117.4	-56.2
56.50	1.61		1.6	.34	.37	833	346.3	119.0	-55.8
57.00	1.60		1.6	.33	.37	837	346.0	120.6	-55.3
57.50	1.58		1.6	.33	.37	836	345.7	122.1	-54.5
58.00	1.60		1.6	.33	.38	835	345.4	123.5	-53.6
58.50	1.61		1.6	.33	.38	833	344.9	124.8	-52.6
59.00	1.64		1.6	.33	.38	830	344.4	126.0	-51.3
59.50	1.66		1.7	.30	.36	844	343.9	127.1	-50.0
60.00	1.71		1.7	.30	.36	847	343.3	128.0	-48.5
60.50	1.76		1.8	.27	.34	855	342.7	128.9	-46.9
61.00	1.80		1.8	.27	.35	853	342.0	129.7	-45.1
61.50	1.80		1.8	.27	.35	851	341.4	130.4	-43.3
62.00	1.85		1.8	.27	.36	851	340.7	130.9	-41.4
62.50	1.86		1.9	.25	.34	860	340.1	131.4	-39.5
63.00	2.00		2.0	.22	.32	868	339.5	131.9	-37.4
63.50	2.01		2.0	.22	.33	864	338.9	132.2	-35.3
64.00	2.04		2.0	.22	.33	863	338.4	132.5	-33.2
64.50	2.05		2.1	.20	.31	876	337.8	132.8	-31.0
65.00	1.99		2.0	.22	.34	863	337.4	133.0	-28.8
65.50	1.96		2.0	.22	.34	860	336.6	133.2	-26.6
66.00	2.00		2.0	.22	.35	857	336.2	133.3	-24.4
66.50	2.01		2.0	.23	.35	851	335.9	133.5	-22.1
67.00	2.73		2.7	.10	.23	906	335.7	133.7	-19.9
67.50	2.90		2.9	.07	.20	922	335.5	133.8	-17.7
68.00	2.75		2.8	.08	.21	917	335.4	134.0	-15.4
68.50	2.58		2.6	.11	.25	900	335.3	134.3	-13.3
69.00	2.42		2.4	.15	.28	887	335.3	134.6	-11.1
69.50	2.40		2.4	.15	.28	890	335.4	134.9	-9.0
70.00	2.35		2.3	.17	.30	883	335.5	135.3	-7.0
70.50	2.39		2.4	.15	.28	893	335.7	135.8	-5.0
71.00	2.34		2.3	.17	.30	881	335.9	136.4	-3.1
71.50	2.32		2.3	.17	.30	881	336.1	137.0	-1.3
72.00	2.15		2.2	.19	.31	871	336.3	137.8	0.4
72.50	2.09		2.1	.21	.33	861	336.6	138.6	2.1
73.00	2.40		2.4	.16	.27	891	336.8	139.5	3.6
73.50	2.31		2.3	.17	.29	890	337.1	140.6	5.0
74.00	2.21		2.2	.19	.31	887	337.3	141.8	6.2
74.50	2.10		2.1	.21	.32	879	337.6	143.0	7.3
75.00	1.98		2.0	.23	.34	868	337.8	144.4	8.3
75.50	1.98		2.0	.23	.34	867	337.9	145.8	9.1

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39676.00	2.00		2.0	-14.24	-14.34	865	338.1	147.3	9.7
76.50	2.00		2.0	.24	.34	859	338.2	148.8	10.1
77.00	2.02		2.0	.24	.34	862	338.2	150.4	10.4
77.50	1.98		2.0	.23	.34	868	338.2	152.0	10.4
78.00	1.92		1.9	.26	.36	852	338.2	153.6	10.3
78.50	1.87		1.9	.26	.36	851	338.1	155.1	10.0
79.00	1.73		1.7	.30	.41	834	338.0	156.6	9.5
79.50	1.63		1.6	.32	.44	824	337.9	158.1	8.9
80.00	1.55		1.6	.32	.44	826	337.7	159.5	8.1
80.50	1.38		1.4	.38	.50	802	337.5	160.7	7.1
81.00	1.20		1.2	.44	.57	774	337.2	161.9	6.0
81.50	1.27		1.3	.41	.53	787	337.0	163.0	4.7
82.00	1.57		1.6	.32	.44	820	336.7	164.0	3.3
82.50	1.72		1.7	.29	.42	824	336.5	164.9	1.8
83.00	1.40		1.4	.38	.51	786	336.2	165.7	0.2
83.50	1.25		1.3	.41	.54	776	336.0	166.3	-1.5
39688.50	1.50		1.5	-14.34	-14.47	812	336.2	169.6	-21.7
89.00	1.71		1.7	.29	.42	835	336.6	169.8	-23.8
89.50	1.71		1.7	.29	.42	833	337.0	170.0	-26.0
90.00	1.74		1.7	.29	.41	835	337.5	170.2	-28.1
90.50	1.78		1.8	.27	.38	853	338.0	170.5	-30.2
91.00	1.67		1.7	.29	.40	844	338.6	170.8	-32.2
91.50	1.67		1.7	.29	.40	845	339.2	171.1	-34.3
92.00	1.67		1.7	.29	.39	848	339.9	171.5	-36.2
92.50	1.63		1.6	.32	.41	838	340.5	172.0	-38.1
93.00	1.63		1.6	.32	.41	841	341.2	172.6	-39.9
93.50	1.62		1.6	.32	.40	845	341.9	173.3	-41.7
94.00	1.73		1.7	.30	.37	861	342.6	174.1	-43.3
94.50	1.77		1.8	.28	.34	872	343.3	175.0	-44.9
95.00	1.82		1.8	.28	.34	867	343.9	175.9	-46.3
95.50	1.76		1.8	.29	.34	870	344.5	177.0	-47.6
96.00	1.74		1.7	.31	.36	866	345.1	178.2	-48.8
96.50	1.65		1.7	.31	.35	866	345.6	179.6	-49.8
97.00	1.65		1.6	.34	.38	853	346.0	181.0	-50.7
97.50	1.72		1.7	.32	.35	869	346.4	182.5	-51.4
98.00	1.65		1.6	.34	.37	864	346.7	184.0	-51.9
98.50	1.63		1.6	.34	.37	865	346.9	185.7	-52.2
99.00	1.96		2.0	.25	.28	911	347.0	187.3	-52.3
99.50	2.34		2.3	.19	.22	940	347.1	189.0	-52.3
39700.00	2.36		2.4	.17	.20	945	347.0	190.7	-52.0
00.50	2.16		2.2	.21	.24	927	346.9	192.4	-51.6
01.00	2.34		2.3	.19	.22	935	346.7	194.0	-50.9
01.50	2.28		2.3	.19	.22	932	346.4	195.5	-50.1
02.00	1.94		1.9	.27	.30	897	346.0	197.0	-49.1
02.50	1.71		1.7	.31	.35	877	345.6	198.4	-48.0
03.00	1.63		1.6	.34	.38	863	345.1	199.6	-46.7
03.50	1.64		1.6	.33	.38	858	344.5	200.8	-45.2
04.00	1.72		1.7	.30	.36	868	343.9	201.9	-43.6
04.50	1.75		1.7	.30	.36	867	343.3	202.8	-41.9
05.00	1.78		1.8	.27	.34	877	342.7	203.7	-40.1
05.50	1.77		1.8	.27	.35	874	342.0	204.4	-38.2
06.00	1.81		1.8	.27	.35	869	341.3	205.1	-36.2
06.50	1.80		1.8	.27	.36	862	340.7	205.6	-34.1
07.00	1.81		1.8	.27	.36	857	340.0	206.1	-31.9
07.50	1.82		1.8	.27	.37	855	339.4	206.5	-29.7
08.00	1.84		1.8	.26	.37	855	338.8	206.9	-27.4
08.50	1.83		1.8	.26	.37	854	338.3	207.2	-25.1
09.00	1.84		1.8	.26	.38	850	337.8	207.4	-22.8

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39709.50	1.84		1.8	-14.26	-14.38	848	337.4	207.7	-20.5
10.00	1.87		1.9	.24	.36	855	337.0	207.9	-18.1
10.50	1.89		1.9	.24	.37	851	336.7	208.1	-15.7
11.00	1.89		1.9	.24	.37	853	336.5	208.3	-13.3
11.50	1.90		1.9	.24	.37	854	336.3	208.5	-11.0
12.00	1.92		1.9	.24	.37	852	336.2	208.7	-8.6
12.50	1.94		1.9	.24	.37	849	336.1	209.0	-6.3
13.00	1.97		2.0	.22	.35	857	336.1	209.3	-4.0
13.50	1.97		2.0	.22	.35	854	336.2	209.7	-1.8
14.00	1.94		1.9	.24	.37	842	336.3	210.1	0.4
14.50	1.91		1.9	.24	.37	848	336.4	210.6	2.5
15.00	1.91		1.9	.24	.36	855	336.6	211.2	4.6
15.50	1.89		1.9	.24	.36	856	336.8	211.9	6.5
16.00	1.86		1.9	.24	.36	853	337.0	212.6	8.4
16.50	1.86		1.9	.24	.36	851	337.3	213.5	10.2
17.00	1.80		1.8	.26	.38	843	337.5	214.4	11.9
17.50	1.69		1.7	.29	.41	831	337.3	215.5	13.4
18.00	1.66		1.7	.29	.41	832	337.5	216.7	14.9
18.50	1.61		1.6	.31	.43	820	337.7	217.9	16.1
19.00	1.66		1.7	.29	.40	829	337.9	219.3	17.2
19.50	2.26		2.3	.16	.27	886	338.0	220.7	18.2
20.00	2.47		2.5	.13	.24	906	338.1	222.3	19.0
20.50	2.33		2.3	.17	.27	889	338.1	223.9	19.6
21.00	2.32		2.3	.17	.28	889	338.1	225.5	20.0
21.50	2.11		2.1	.21	.32	870	338.1	227.1	20.3
22.00	2.17		2.2	.19	.30	880	338.0	228.8	20.3
22.50	2.12		2.1	.21	.32	867	337.9	230.4	20.2
23.00	2.17		2.2	.19	.30	877	337.8	232.0	19.9
23.50	2.02		2.0	.23	.34	858	337.6	233.5	19.4
24.00	1.97		2.0	.23	.35	858	337.3	234.9	18.7
24.50	1.95		1.9	.26	.37	847	337.1	236.3	17.9
25.00	1.96		2.0	.23	.35	855	336.8	237.6	16.9
25.50	2.05		2.1	.21	.33	864	336.5	238.7	15.8
26.00	2.25		2.2	.19	.32	871	336.2	239.8	14.6
26.50	2.40		2.4	.15	.28	885	335.8	240.8	13.2
27.00	2.69		2.7	.10	.23	909	335.5	241.6	11.7
27.50	2.76		2.8	.09	.22	912	335.2	242.4	10.1
28.00	2.81		2.8	.09	.22	908	335.0	243.0	8.5
28.50	2.89		2.9	.07	.21	917	334.7	243.6	6.7
29.00	2.84		2.8	.08	.22	908	334.5	244.1	4.9
29.50	2.86		2.9	.07	.21	915	334.4	244.6	3.0
30.00	2.92		2.9	.07	.21	916	334.3	245.0	1.1
30.50	2.93		2.9	.07	.21	917	334.2	245.3	-0.9
31.00	2.94		2.9	.07	.21	916	334.3	245.6	-2.9
31.50	2.98		3.0	.05	.20	922	334.3	245.8	-4.9
32.00	3.00		3.0	.05	.19	922	334.5	246.1	-7.0
32.50	3.05		3.1	.04	.18	928	334.7	246.3	-9.0
33.00	3.08		3.1	.04	.18	926	335.0	246.5	-11.1
33.50	3.24		3.2	.03	.16	933	335.4	246.8	-13.1
34.00	3.39		3.4	.00	.13	950	335.8	247.0	-15.2
34.50	3.42		3.4	.00	.13	947	336.3	247.3	-17.2
35.00	3.20		3.2	.03	.15	928	336.8	247.7	-19.2
35.50	2.93		2.9	.08	.19	906	337.4	248.1	-21.1
36.00	2.67		2.7	.10	.21	899	338.0	248.6	-23.0
36.50	2.47		2.5	.14	.24	890	338.6	249.1	-24.8
37.00	2.29		2.3	.17	.27	871	339.3	249.7	-26.6
37.50	2.25		2.2	.19	.29	863	340.0	250.4	-28.3
38.00	2.21		2.2	.19	.28	866	340.7	251.2	-29.9
38.50	2.19		2.2	.19	.28	870	341.3	252.1	-31.4
39.00	2.15		2.1	.22	.29	862	342.0	253.1	-32.7

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39739.50	2.12		2.1	-14.22	-14.29	863	342.6	254.3	-34.0
40.00	2.11		2.1	.22	.28	864	343.2	255.5	-35.1
40.50	2.11		2.1	.22	.28	861	343.8	256.9	-36.1
41.00	2.17		2.2	.20	.26	871	344.2	258.3	-36.9
41.50	2.17		2.2	.20	.25	872	344.6	259.8	-37.6
42.00	2.35		2.3	.19	.23	876	345.0	261.5	-38.0
42.50	2.39		2.4	.17	.22	885	345.2	263.1	-38.3
43.00	2.35		2.3	.19	.23	878	345.4	264.9	-38.4
43.50	2.35		2.4	.17	.21	890	345.5	266.6	-38.3
44.00	2.34		2.3	.19	.23	884	345.5	268.3	-38.0
44.50	2.39		2.4	.17	.21	892	345.4	270.0	-37.5
45.00	2.45		2.5	.15	.20	899	345.2	271.7	-36.8
45.50	2.45		2.5	.15	.20	896	345.0	273.3	-36.0
46.00	2.62		2.6	.14	.19	898	344.6	274.9	-34.9
46.50	2.90		2.9	.10	.15	910	344.2	276.3	-33.7
47.00	2.89		2.9	.10	.15	904	343.8	277.6	-32.3
47.50	2.74		2.7	.13	.19	889	343.3	278.9	-30.8
48.00	2.76		2.8	.11	.17	894	342.7	280.0	-29.2
48.50	2.73		2.7	.12	.19	885	342.1	281.0	-27.4
49.00	2.72		2.7	.12	.20	883	341.5	281.9	-25.5
49.50	2.64		2.6	.14	.22	872	340.9	282.7	-23.6
50.00	2.65		2.7	.12	.21	881	340.2	283.4	-21.5
50.50	2.61		2.6	.13	.23	872	339.6	284.0	-19.3
51.00	2.65		2.7	.11	.21	878	339.0	284.5	-17.1
51.50	3.03		3.0	.07	.17	895	338.4	285.0	-14.8
52.00	3.43		3.4	.02	.12	914	337.8	285.4	-12.5
52.50	3.53		3.5	.00	.12	917	337.3	285.7	-10.2
53.00	3.63		3.6	-13.99	.11	921	336.9	286.0	-7.8
53.50	3.76		3.8	.97	.09	924	336.5	286.3	-5.3
54.00	4.36		4.4	.91	.03	948	336.1	286.5	-2.9
54.50	4.89		4.9	.86	-13.98	970	335.8	286.8	-0.5
55.00	4.08		4.1	.94	-14.06	929	335.6	287.0	1.9
55.50	3.66		3.7	.98	.11	916	335.4	287.3	4.4
56.00	3.20		3.2	-14.04	.17	892	335.3	287.5	6.8
56.50	3.43		3.4	.01	.14	906	335.3	287.8	9.1
57.00	3.74		3.7	-13.97	.11	926	335.3	288.2	11.5
57.50	3.85		3.8	.96	.09	930	335.4	288.6	13.8
58.00	3.94		3.9	.96	.08	931	335.5	289.0	16.0
58.50	4.06		4.1	.94	.06	945	335.7	289.5	18.2
59.00	4.16		4.2	.93	.05	952	335.9	290.1	20.3
59.50	4.15		4.1	.94	.06	946	336.1	290.8	22.4
60.00	4.20		4.2	.93	.05	951	336.3	291.6	24.3
60.50	4.42		4.4	.91	.03	961	336.6	292.5	26.1
61.00	4.60		4.6	.90	.01	972	336.8	293.5	27.8
61.50	5.31		5.3	.84	-13.95	997	337.1	294.5	29.4
62.00	5.36		5.4	.84	.94	991	337.3	295.7	30.9
62.50	5.94		5.9	.80	.90	1015	337.5	297.0	32.2
63.00	5.52		5.5	.83	.93	995	337.7	298.4	33.4
63.50	4.67		4.7	.90	-14.00	953	337.8	299.9	34.4
64.00	4.55		4.6	.91	.01	953	337.9	301.4	35.2
64.50	4.09		4.1	.96	.06	933	338.0	303.0	35.9
65.00	4.14		6.4	.76	-13.86	1063	338.1	304.6	36.3
65.50	4.21		6.7	.74	.84	1082	338.2	306.2	36.6
66.00	4.28		7.4	.70	.80	1112	338.1	307.9	36.7
66.50	4.17		8.4	.65	.74	1153	338.1	309.5	36.6
67.00	4.12		8.5	.64	.74	1154	338.0	311.1	36.3
67.50	4.11		8.6	.63	.73	1163	337.8	312.6	35.8
68.00	4.29		8.5	.64	.74	1159	337.6	314.1	35.2
68.50	4.51		8.5	.64	.74	1151	337.4	315.5	34.4
69.00	4.54		8.1	.66	.76	1131	337.2	316.8	33.5

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39769.50	4.60		8.0	-13.66	-13.77	1127	336.9	317.9	32.4
70.00	4.56		7.8	.67	.78	1119	336.6	319.0	31.1
70.50	4.53		7.8	.67	.78	1114	336.3	320.0	29.8
71.00	4.56		7.8	.67	.78	1116	336.1	320.8	28.3
71.50	4.67		7.8	.67	.78	1113	335.8	321.6	26.7
72.00	4.89		7.8	.67	.79	1102	335.6	322.3	25.1
72.50	5.28		7.9	.66	.78	1108	335.4	322.8	23.3
73.00	6.03		7.7	.67	.79	1090	335.2	323.3	21.5
73.50	6.01		6.6	.74	.86	1031	335.1	323.8	19.7
74.00	5.50		6.5	.75	.87	1033	335.0	324.1	17.7
74.50	5.39		6.5	.75	.87	1038	335.0	324.5	15.8
75.00	5.42		6.5	.75	.86	1038	335.1	324.7	13.8
75.50	5.11		6.2	.77	.88	1025	335.2	325.0	11.7
76.00	4.81		6.1	.77	.89	1022	335.4	325.2	9.7
76.50	4.70		6.0	.78	.89	1022	335.6	325.5	7.6
77.00	4.67		5.9	.79	.90	1023	335.9	325.7	5.6
77.50	4.54		5.9	.79	.89	1021	336.3	325.9	3.5
78.00	4.72		6.0	.78	.89	1021	336.8	326.2	1.5
78.50	4.75		5.8	.79	.89	1018	337.3	326.5	-0.5
79.00	4.79		5.7	.80	.90	1023	337.9	326.8	-2.5
79.50	4.80		5.4	.82	.92	1011	338.5	327.2	-4.5
80.00	4.81		5.2	.84	.93	1003	339.1	327.7	-6.4
80.50	4.84		4.9	.87	.95	984	339.8	328.2	-8.2
81.00	4.85		5.3	.83	.91	1005	340.5	328.8	-10.0
81.50	4.86		5.4	.83	.90	1016	341.2	329.5	-11.7
82.00	4.90		5.4	.83	.89	1021	341.8	330.3	-13.2
82.50	4.96		5.7	.80	.86	1043	342.5	331.2	-14.7
83.00	5.00		5.7	.80	.86	1049	343.2	332.2	-16.1
83.50	5.05		5.7	.80	.85	1053	343.8	333.4	-17.4
84.00	5.06		5.8	.80	.84	1063	344.3	334.6	-18.5
84.50	5.12		5.8	.80	.84	1067	344.9	336.0	-19.5
85.00	5.18		6.0	.79	.82	1081	345.3	337.4	-20.3
85.50	5.26		6.3	.77	.80	1094	345.7	338.9	-20.9
86.00	5.35		6.3	.77	.80	1084	346.0	340.5	-21.3
86.50	5.45		6.5	.76	.79	1093	346.2	342.2	-21.6
87.00	5.54		6.6	.75	.78	1107	346.3	343.9	-21.7
87.50	5.66		6.3	.77	.80	1093	346.3	345.7	-21.6
88.00	5.77		6.3	.77	.80	1094	346.3	347.4	-21.3
88.50	5.87		6.5	.76	.79	1108	346.1	349.1	-20.8
89.00	6.01		6.6	.75	.78	1113	345.9	350.7	-20.1
89.50	6.20		6.6	.75	.78	1112	345.6	352.3	-19.2
90.00	6.40		4.1	.96	.99	970	345.1	353.8	-18.1
90.50	6.68		4.2	.95	.99	967	344.6	355.2	-16.9
91.00	7.35		4.3	.94	.99	965	344.1	356.5	-15.5
91.50	8.39		4.2	.96	-14.00	954	343.4	357.7	-14.0
92.00	8.50		4.1	.97	.02	941	342.8	358.7	-12.3
92.50	8.59		4.1	.97	.02	938	342.1	359.7	-10.5
93.00	8.54		4.3	.95	.01	947	341.4	0.5	-8.7
93.50	8.51		4.5	.92	-13.99	963	340.7	1.3	-6.7
94.00	8.12		4.5	.92	.99	970	339.9	1.9	-4.6
94.50	7.96		4.6	.91	.98	974	339.2	2.5	-2.4
95.00	7.85		4.6	.90	.99	972	338.6	3.0	-0.2
95.50	7.76		4.5	.91	-14.00	968	337.9	3.4	2.0
96.00	7.77		4.6	.90	-13.99	968	337.3	3.7	4.4
96.50	7.81		4.7	.89	.99	967	336.7	4.0	6.7
97.00	7.84		4.9	.87	.97	972	336.2	4.3	9.1
97.50	7.88		5.3	.84	.94	987	335.8	4.5	11.5
98.00	7.72		6.0	.78	.89	1016	335.4	4.7	13.9
98.50	6.65		6.0	.78	.89	1021	335.1	4.9	16.3
99.00	6.52		5.5	.82	.93	1003	334.9	5.1	18.7

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39799.50	6.51		5.4	-13.82	-13.94	995	334.8	5.3	21.1
39800.00	6.50		5.4	.82	.94	995	334.7	5.6	23.5
00.50	6.21		5.1	.84	.96	984	334.6	5.8	25.8
01.00	6.11		4.8	.87	.99	972	334.7	6.2	28.1
01.50	5.98		4.7	.88	.99	967	334.8	6.5	30.4
02.00	5.89		4.7	.88	.99	964	335.0	7.0	32.6
02.50	5.95		4.5	.90	-14.01	948	335.2	7.5	34.7
03.00	5.96		4.7	.88	-13.99	955	335.4	8.1	36.7
03.50	5.77		4.8	.87	.98	961	335.7	8.7	38.7
04.00	5.66		4.8	.87	.98	970	336.0	9.5	40.6
04.50	5.43		4.8	.87	.98	977	336.3	10.4	42.3
05.00	5.16		4.8	.87	.97	980	336.6	11.4	43.9
05.50	4.93		4.8	.87	.97	981	336.9	12.5	45.4
06.00	5.25		4.9	.87	.97	976	337.2	13.7	46.8
06.50	5.38		4.9	.87	.97	969	337.4	15.0	48.0
07.00	5.37		4.9	.88	.97	972	337.7	16.4	49.0
07.50	5.70		5.0	.87	.96	981	337.9	17.8	49.9
08.00	5.69		5.0	.87	.96	983	338.0	19.4	50.6
08.50	5.73		5.0	.87	.96	986	338.2	20.9	51.1
09.00	5.77		5.1	.86	.94	1001	338.2	22.5	51.4
09.50	5.83		5.1	.86	.94	1003	338.3	24.2	51.5
10.00	6.02		5.2	.85	.94	1002	338.3	25.8	51.5
10.50	6.27		5.3	.84	.93	1007	338.2	27.3	51.2
11.00	6.32		5.3	.84	.93	1015	338.1	28.9	50.7
11.50	6.47		5.4	.83	.92	1029	337.9	30.3	50.1
12.00	6.62		5.5	.83	.92	1037	337.7	31.7	49.3
12.50	6.28		5.7	.81	.90	1046	337.5	33.0	48.3
13.00	6.34		5.8	.80	.90	1051	337.3	34.1	47.2
13.50	6.52		5.9	.80	.89	1055	337.0	35.2	46.0
14.00	6.64		6.0	.79	.89	1060	336.7	36.2	44.6
14.50	6.63		6.2	.78	.87	1072	336.4	37.0	43.1
15.00	6.73		6.7	.74	.84	1100	335.8	37.7	41.4
15.50	7.22		7.2	.71	.81	1125	335.6	38.4	39.7
16.00	7.98		8.0	.67	.77	1151	335.3	38.9	37.9
16.50	8.67		8.7	.63	.74	1169	335.1	39.4	36.0
17.00	8.52		8.5	.64	.75	1165	334.9	39.8	34.1
17.50	7.87		7.9	.67	.78	1144	334.8	40.2	32.1
18.00	8.09		8.1	.66	.77	1148	334.7	40.4	30.0
18.50	8.49		8.5	.64	.75	1161	334.7	40.7	27.9
19.00	8.38		8.4	.64	.75	1160	334.8	40.9	25.8
19.50	8.31		8.3	.65	.76	1162	334.9	41.1	23.6
20.00	7.91		7.9	.67	.78	1146	335.0	41.2	21.5
20.50	7.41		7.4	.70	.80	1128	335.3	41.4	19.3
21.00	7.26		7.3	.70	.81	1129	335.6	41.6	17.1
21.50	7.14		7.1	.72	.82	1120	336.0	41.7	15.0
22.00	7.18		7.2	.71	.81	1125	336.4	42.0	12.8
22.50	7.13		7.1	.72	.81	1120	336.9	42.2	10.7
23.00	7.04		7.0	.73	.82	1116	337.4	42.6	8.6
23.50	7.10		7.1	.72	.81	1123	338.0	42.9	6.6
24.00	7.09		7.1	.72	.80	1136	338.6	43.4	4.7
24.50	7.25		7.2	.71	.79	1150	339.2	43.9	2.7
25.00	7.19		7.2	.72	.79	1143	339.8	44.6	0.9
25.50	6.97		7.0	.73	.80	1128	340.5	45.3	-0.8
26.00	7.17		7.2	.72	.78	1134	341.1	46.1	-2.4
26.50	6.95		6.9	.74	.80	1133	341.7	47.1	-4.0
27.00	6.36		6.4	.77	.82	1130	342.3	48.1	-5.4
27.50	5.84		5.8	.81	.86	1099	342.8	49.3	-6.6
28.00	5.63		5.6	.82	.87	1085	343.3	50.6	-7.7
28.50	5.24		5.2	.85	.90	1067	343.7	52.0	-8.7
29.00	5.27		5.3	.85	.89	1080	344.0	53.4	-9.5

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39829.50	5.17		5.2	-13.86	-13.90	1076	344.3	55.0	-10.0
30.00	5.47		5.5	.83	.87	1086	344.5	56.6	-10.5
30.50	5.61		5.6	.83	.87	1084	344.6	58.3	-10.7
31.00	5.55		5.6	.83	.87	1083	344.6	60.0	-10.7
31.50	5.63		5.6	.83	.87	1083	344.6	61.6	-10.5
32.00	5.59		5.6	.83	.87	1086	344.4	63.3	-10.1
32.50	5.28		5.3	.85	.90	1068	344.2	64.9	-9.5
33.00	4.90		4.9	.89	.93	1042	343.8	66.4	-8.8
33.50	4.84		4.8	.89	.94	1042	343.4	67.9	-7.8
34.00	4.77		4.8	.89	.94	1044	343.0	69.2	-6.7
34.50	4.87		4.9	.88	.94	1051	342.5	70.5	-5.5
35.00	4.94		4.9	.88	.94	1055	341.9	71.6	-4.1
35.50	5.06		5.1	.86	.93	1071	341.3	72.7	-2.5
36.00	5.20		5.2	.85	.92	1076	340.6	73.6	-0.8
36.50	5.35		5.4	.84	.91	1082	339.9	74.4	1.0
37.00	5.54		5.5	.83	.91	1082	339.2	75.1	2.8
37.50	5.74		5.7	.81	.90	1092	338.5	75.7	4.8
38.00	5.84		5.8	.80	.90	1097	337.8	76.2	6.8
38.50	5.95		6.0	.79	.89	1105	337.2	76.6	9.0
39.00	6.09		6.1	.78	.88	1105	336.5	76.9	11.1
39.50	6.26		6.3	.77	.88	1111	335.9	77.2	13.3
40.00	6.54		6.5	.76	.87	1116	335.3	77.5	15.6
40.50	6.73		6.7	.75	.86	1123	334.7	77.7	17.9
41.00	6.91		6.9	.73	.85	1133	334.2	77.8	20.1
41.50	7.64		7.6	.70	.81	1162	333.8	78.0	22.4
42.00	7.69		7.7	.69	.81	1165	333.4	78.1	24.7
42.50	7.91		7.9	.68	.81	1170	333.1	78.3	27.0
43.00	7.85		7.9	.69	.81	1164	332.9	78.4	29.3
39848.50	6.10		6.1	-13.80	-13.92	1092	334.1	84.2	50.6
49.00	5.87		5.9	.81	.93	1085	334.4	85.3	51.9
49.50	5.77		5.8	.81	.94	1083	334.6	86.5	53.1
50.00	5.74		5.7	.82	.94	1080	334.8	87.8	54.1
50.50	5.64		5.6	.83	.95	1070	335.0	89.2	54.9
51.00	5.58		5.6	.83	.95	1069	335.2	90.6	55.6
51.50	5.51		5.5	.84	.96	1061	335.3	92.2	56.1
52.00	5.39		5.4	.85	.97	1059	335.4	93.7	56.4
52.50	5.28		5.3	.86	.97	1061	335.4	95.3	56.5
53.00	5.13		5.1	.88	.99	1044	335.4	96.9	56.4
53.50	5.04		5.0	.89	-14.00	1037	335.4	98.5	56.1
54.00	5.00		5.0	.88	.00	1042	335.3	100.0	55.6
54.50	5.11		5.1	.88	-13.99	1042	335.2	101.5	54.9
55.00	5.83		5.8	.82	.94	1075	335.0	102.9	54.1
55.50	6.39		6.4	.78	.89	1092	334.8	104.2	53.0
39860.50	5.52		5.5	-13.83	-13.96	1063	333.2	111.8	35.6
61.00	5.72		5.7	.82	.95	1073	333.2	112.1	33.4
61.50	6.05		6.0	.80	.93	1088	333.3	112.3	31.2
62.00	6.00		6.0	.80	.93	1091	333.5	112.5	28.9
62.50	5.94		5.9	.81	.93	1092	333.7	112.7	26.6
63.00	5.66		5.7	.82	.95	1088	334.0	112.8	24.2
63.50	5.58		5.6	.83	.95	1086	334.4	113.0	21.9
64.00	5.65		5.6	.84	.95	1093	334.8	113.1	19.5
64.50	5.59		5.6	.84	.95	1100	335.3	113.3	17.2
65.00	5.40		5.4	.85	.96	1088	335.9	113.5	14.9
65.50	5.33		5.4	.85	.96	1086	336.1	113.7	12.5
66.00	5.69		5.7	.83	.93	1109	336.9	114.0	10.3
66.50	5.69		5.7	.83	.92	1110	337.6	114.4	8.0

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39867.00	6.08		6.1	-13.80	-13.89	1128	338.4	114.8	5.9
67.50	6.18		6.2	.80	.88	1134	339.2	115.3	3.7
68.00	6.17		6.2	.80	.87	1138	340.0	115.9	1.7
68.50	6.30		6.3	.79	.86	1150	340.8	116.6	-0.2
69.00	6.10		6.1	.81	.87	1144	341.6	117.4	-2.1
69.50	5.97		6.0	.82	.87	1143	342.3	118.3	-3.8
70.00	5.85		5.8	.83	.88	1133	343.0	119.4	-5.5
70.50	5.65		5.6	.85	.89	1124	343.7	120.5	-6.9
71.00	5.43		5.4	.86	.91	1113	344.3	121.8	-8.3
71.50	5.15		5.2	.88	.92	1102	344.8	123.2	-9.5
72.00	4.93		4.9	.90	.94	1084	345.3	124.6	-10.5
72.50	4.74		4.7	.92	.96	1068	345.7	126.2	-11.3
73.00	4.52		4.5	.94	.97	1056	346.0	127.8	-11.9
73.50	4.32		4.3	.96	.99	1045	346.2	129.5	-12.4
74.00	4.21		4.2	.97	-14.00	1045	346.2	131.2	-12.6
74.50	4.10		4.1	.98	.01	1037	346.2	132.9	-12.7
75.00	4.01		4.0	.99	.02	1020	346.2	134.6	-12.5
75.50	3.86		3.9	-14.00	.03	1010	346.0	136.3	-12.1
76.00	3.76		3.8	.01	.04	1008	345.7	137.9	-11.6
76.50	3.71		3.7	.02	.05	1001	345.3	139.4	-10.9
77.00	3.64		3.6	.03	.07	991	344.9	140.8	-9.9
77.50	3.51		3.5	.04	.08	982	344.4	142.1	-8.9
78.00	3.47		3.5	.03	.09	978	343.8	143.3	-7.6
78.50	3.47		3.5	.03	.09	976	343.1	144.4	-6.3
79.00	3.50		3.5	.03	.10	972	342.5	145.4	-4.8
79.50	3.55		3.5	.03	.10	967	341.8	146.3	-3.2
80.00	3.60		3.6	.02	.09	972	341.1	147.0	-1.4
80.50	3.74		3.7	.01	.09	981	340.3	147.7	0.4
81.00	3.88		3.9	-13.98	.07	994	339.6	148.2	2.3
81.50	3.94		3.9	.98	.08	984	338.9	148.7	4.2
82.00	4.05		4.1	.96	.06	991	338.2	149.1	6.2
82.50	4.42		4.4	.93	.03	1011	337.6	149.4	8.3
83.00	4.69		4.7	.91	.01	1024	337.0	149.7	10.4
83.50	5.09		5.1	.87	-13.98	1047	336.4	149.9	12.5
84.00	4.97		5.0	.88	.99	1035	335.9	150.2	14.7
84.50	5.11		5.1	.88	.99	1037	335.4	150.3	16.8
85.00	5.12		5.1	.88	-14.00	1036	335.0	150.5	19.0
85.50	5.20		5.2	.87	-13.99	1039	334.7	150.7	21.1
86.00	5.38		5.4	.85	.98	1052	334.3	150.9	23.3
86.50	5.56		5.6	.84	.96	1062	334.1	151.1	25.4
87.00	5.45		5.5	.85	.97	1060	333.9	151.4	27.5
87.50	5.64		5.6	.84	.97	1062	333.8	151.7	29.5
88.00	5.92		5.9	.82	.95	1069	333.7	152.1	31.5
39889.00	6.39		6.4	-13.79	-13.92	1090	333.8	153.1	35.3
90.00	6.47		6.5	.79	.91	1092	333.9	154.4	38.8
39933.00	3.23		3.2	-14.06	-14.21	850	332.0	232.9	23.9
33.50	3.71		3.7	.00	.15	881	332.4	233.9	25.4
34.00	3.85		3.9	-13.97	.12	895	332.7	234.9	26.8
34.50	3.72		3.7	-14.00	.15	883	333.0	236.0	28.1
35.00	3.86		3.9	-13.98	.12	892	333.3	237.3	29.2
35.50	3.75		3.8	.99	.13	887	333.6	238.6	30.1
36.00	3.93		3.9	.98	.12	893	333.8	240.1	30.9
36.50	3.77		3.8	.99	.13	891	334.0	241.6	31.5
37.00	3.49		3.5	-14.03	.16	876	334.1	243.3	31.9
37.50	3.52		3.5	.03	.16	876	334.2	244.9	32.1
38.00	3.94		3.9	-13.98	.12	902	334.3	246.6	32.2
38.50	4.27		4.3	.94	.08	924	334.3	248.4	32.0

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39939.00	4.63		4.6	-13.92	-14.05	932	334.2	250.1	31.6
39.50	4.75		4.7	.91	.04	929	334.1	251.8	31.1
40.00	4.87		4.9	.89	.03	936	333.9	253.4	30.3
40.50	4.96		5.0	.89	.02	941	333.7	255.0	29.4
41.00	4.89		4.9	.89	.03	939	333.4	256.4	28.2
41.50	4.81		4.8	.90	.04	933	333.1	257.8	26.9
42.00	4.83		4.8	.90	.05	929	332.8	259.1	25.5
42.50	4.91		4.9	.89	.04	932	332.5	260.3	23.9
43.00	5.00		5.0	.88	.03	937	332.2	261.3	22.2
43.50	5.27		5.3	.86	.01	951	331.8	262.3	20.3
44.00	5.29		5.3	.86	.01	950	331.5	263.1	18.3
44.50	5.80		5.8	.82	-13.98	971	331.2	263.8	16.3
45.00	5.86		5.9	.81	.97	972	330.9	264.5	14.1
45.50	5.91		5.9	.81	.97	968	330.7	265.0	11.9
46.00	5.91		5.9	.81	.97	969	330.5	265.5	9.6
46.50	5.97		6.0	.80	.96	977	330.4	265.9	7.2
47.00	6.09		6.1	.79	.96	977	330.3	266.3	4.8
47.50	6.01		6.0	.80	.97	968	330.3	266.6	2.4
48.00	5.75		5.7	.82	.99	957	330.4	266.8	-0.1
48.50	5.38		5.4	.84	-14.01	949	330.5	267.1	-2.6
49.00	5.22		5.2	.86	.02	941	330.7	267.3	-5.1
49.50	5.06		5.1	.87	.03	937	331.0	267.6	-7.6
50.00	4.87		4.9	.88	.04	931	331.4	267.8	-10.1
50.50	4.64		4.6	.91	.07	919	331.8	268.1	-12.6
51.00	4.59		4.6	.91	.06	923	332.3	268.5	-15.0
51.50	4.51		4.5	.92	.07	918	332.9	268.8	-17.4
52.00	4.61		4.6	.92	.06	914	333.4	269.2	-19.8
52.50	5.02		5.0	.88	.02	927	334.1	269.7	-22.1
53.00	4.21		4.2	.96	.09	896	334.8	270.3	-24.4
53.50	3.43		3.4	-14.05	.17	858	335.4	271.0	-26.6
54.00	2.98		3.0	.10	.22	840	336.1	271.7	-28.6
54.50	3.14		3.1	.09	.20	854	336.8	272.6	-30.6
55.00	3.21		3.2	.08	.19	866	337.5	273.6	-32.5
55.50	3.17		3.2	.08	.18	869	338.2	274.7	-34.3
56.00	3.28		3.3	.07	.17	873	338.8	275.9	-35.9
56.50	3.31		3.3	.07	.17	873	339.3	277.3	-37.4
57.00	3.29		3.3	.08	.16	873	339.9	278.7	-38.7
57.50	3.41		3.4	.07	.15	878	340.3	280.3	-39.8
58.00	3.51		3.5	.06	.14	886	340.7	281.9	-40.7
58.50	3.61		3.6	.04	.12	895	340.9	283.6	-41.5
59.00	3.72		3.7	.04	.11	897	341.1	285.4	-42.0
59.50	3.77		3.8	.03	.10	899	341.2	287.2	-42.4
60.00	3.86		3.9	.02	.09	905	341.2	289.0	-42.5
60.50	4.12		4.1	.00	.07	914	341.1	290.8	-42.4
61.00	4.00		4.0	.00	.08	911	341.0	292.5	-42.1
61.50	3.89		3.9	.01	.09	907	340.7	294.2	-41.6
62.00	3.90		3.9	.01	.09	906	340.4	295.8	-41.0
62.50	3.96		4.0	.00	.08	913	339.9	297.3	-40.1
63.00	4.11		4.1	-13.99	.08	919	339.5	298.7	-39.1
63.50	4.18		4.2	.98	.07	923	338.9	300.0	-37.9
64.00	4.25		4.2	.97	.07	921	338.3	301.2	-36.6
64.50	4.14		4.1	.98	.08	916	337.7	302.3	-35.1
65.00	4.15		4.1	.98	.09	917	337.0	303.2	-33.5
65.50	4.04		4.0	.98	.10	914	336.3	304.0	-31.8
66.00	4.03		4.0	.98	.10	916	335.7	304.7	-30.0
66.50	4.09		4.1	.97	.10	921	335.0	305.3	-28.2
67.00	4.11		4.1	.97	.10	920	334.4	305.9	-26.2
67.50	4.15		4.2	.95	.09	922	333.7	306.3	-24.2
68.00	4.20		4.2	.95	.10	917	333.2	306.7	-22.2
68.50	4.29		4.3	.94	.09	918	332.6	307.0	-20.1

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39969.00	4.39		4.4	-13.93	-14.08	918	332.2	307.3	-18.0
69.50	4.45		4.4	.93	.09	916	331.8	307.6	-15.8
70.00	4.51		4.5	.92	.08	921	331.4	307.8	-13.7
70.50	4.61		4.6	.91	.07	928	331.2	308.1	-11.5
71.00	4.68		4.7	.90	.06	941	331.0	308.3	-9.4
71.50	4.77		4.8	.89	.05	949	330.8	308.6	-7.2
72.00	4.85		4.9	.88	.04	948	330.8	308.9	-5.1
72.50	5.12		5.1	.87	.03	951	330.8	309.2	-3.1
73.00	5.92		5.9	.81	-13.96	985	330.9	309.6	-1.0
73.50	5.71		5.7	.82	.98	976	331.0	310.0	1.0
74.00	5.26		5.3	.85	-14.01	962	331.2	310.5	2.9
74.50	5.26		5.3	.85	.01	965	331.4	311.1	4.7
75.00	5.16		5.2	.86	.02	964	331.6	311.8	6.5
75.50	5.18		5.2	.87	.01	966	331.9	312.6	8.2
76.00	5.20		5.2	.87	.01	968	332.1	313.5	9.7
76.50	5.02		5.0	.88	.03	963	332.4	314.5	11.2
77.00	5.07		5.1	.87	.02	973	332.7	315.6	12.5
77.50	5.18		5.2	.87	.01	979	333.0	316.8	13.6
78.00	5.44		5.4	.86	-13.99	984	333.2	318.1	14.7
78.50	5.66		5.7	.84	.97	1000	333.4	319.5	15.5
79.00	6.19		6.2	.80	.93	1032	333.6	321.1	16.2
79.50	6.16		6.2	.80	.93	1034	333.7	322.7	16.7
80.00	5.97		6.0	.81	.94	1030	333.8	324.3	17.0
80.50	5.79		5.8	.83	.95	1026	333.8	326.0	17.1
81.00	5.69		5.7	.83	.96	1024	333.8	327.7	17.0
81.50	5.61		5.6	.84	.97	1020	333.8	329.4	16.7
82.00	5.52		5.5	.85	.98	1016	333.6	331.1	16.2
82.50	5.58		5.6	.84	.97	1025	333.5	332.7	15.5
83.00	6.06		6.1	.80	.93	1045	333.3	334.2	14.6
83.50	7.70		7.7	.71	.83	1097	333.0	335.7	13.5
84.00	7.40		7.4	.72	.85	1083	332.8	337.1	12.3
84.50	6.73		6.7	.76	.89	1070	332.5	338.3	10.9
85.00	6.73		6.7	.76	.90	1073	332.2	339.5	9.3
85.50	6.72		6.7	.76	.90	1064	331.8	340.5	7.6
86.00	6.65		6.7	.76	.90	1061	331.5	341.4	5.8
86.50	6.46		6.5	.77	.91	1059	331.2	342.2	3.9
87.00	6.44		6.4	.77	.92	1053	330.9	342.9	1.9
87.50	6.31		6.3	.78	.93	1042	330.7	343.5	-0.2
88.00	6.18		6.2	.78	.93	1034	330.5	344.1	-2.4
88.50	6.07		6.1	.79	.94	1030	330.3	344.5	-4.6
89.00	5.98		6.0	.79	.95	1030	330.2	344.9	-6.9
89.50	5.90		5.9	.80	.95	1028	330.1	345.2	-9.3
90.00	5.85		5.9	.80	.95	1029	330.2	345.5	-11.7
90.50	5.78		5.8	.80	.96	1028	330.2	345.8	-14.1
91.00	5.69		5.7	.81	.97	1028	330.4	346.0	-16.5
91.50	5.62		5.6	.82	.97	1026	330.6	346.2	-19.0
92.00	5.75		5.8	.80	.95	1039	330.9	346.4	-21.4
92.50	5.80		5.8	.81	.95	1039	331.3	346.7	-23.8
93.00	5.86		5.9	.80	.94	1051	331.8	346.9	-26.3
93.50	5.87		5.9	.80	.94	1054	332.3	347.2	-28.7
94.00	6.21		6.2	.78	.91	1067	332.8	347.6	-31.0
94.50	6.27		6.3	.78	.90	1074	333.4	348.0	-33.3
95.00	6.08		6.1	.79	.92	1069	334.1	348.5	-35.6
95.50	6.03		6.0	.80	.92	1071	334.8	349.0	-37.7
96.00	5.99		6.0	.81	.92	1070	335.4	349.7	-39.8
96.50	5.93		5.9	.82	.92	1066	336.1	350.4	-41.9
97.00	5.99		6.0	.81	.91	1078	336.8	351.3	-43.8
97.50	6.38		6.4	.78	.88	1101	337.5	352.3	-45.5
98.00	6.45		6.5	.78	.87	1106	338.1	353.4	-47.2
98.50	6.06		6.1	.81	.89	1093	338.7	354.6	-48.7

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39999.00	5.77		5.8	-13.83	-13.91	1087	339.3	355.9	-50.1
99.50	5.64		5.6	.84	.92	1082	339.7	357.4	-51.3
40000.00	5.92		5.9	.82	.90	1095	340.1	358.9	-52.3
00.50	6.24		6.2	.80	.87	1110	340.4	0.6	-53.1
01.00	6.09		6.1	.81	.88	1116	340.7	2.3	-53.7
01.50	5.80		5.8	.83	.90	1107	340.8	4.0	-54.1
02.00	5.71		5.7	.83	.90	1104	340.9	5.8	-54.3
02.50	5.54		5.5	.85	.92	1097	340.8	7.6	-54.3
03.00	5.32		5.3	.86	.93	1090	340.7	9.3	-54.0
03.50	5.12		5.1	.88	.95	1076	340.5	11.0	-53.6
04.00	5.60		5.6	.84	.91	1101	340.1	12.7	-53.0
04.50	5.91		5.9	.81	.89	1118	339.7	14.2	-52.1
05.00	5.94		5.9	.81	.90	1116	339.3	15.7	-51.1
05.50	6.08		6.1	.80	.88	1121	338.7	17.0	-49.9
06.00	6.50		6.5	.77	.86	1139	338.1	18.2	-48.6
06.50	6.81		6.8	.75	.84	1155	337.5	19.3	-47.1
07.00	6.25		6.3	.78	.88	1124	336.8	20.3	-45.5
07.50	6.05		6.0	.80	.91	1104	336.1	21.1	-43.7
08.00	6.15		6.1	.79	.90	1111	335.4	21.9	-41.9
08.50	6.19		6.2	.78	.90	1109	334.8	22.5	-40.0
09.00	6.33		6.3	.78	.90	1105	334.1	23.1	-37.9
09.50	6.91		6.9	.74	.86	1137	333.4	23.5	-35.8
10.00	7.32		7.3	.71	.84	1160	332.8	23.9	-33.7
10.50	6.82		6.8	.74	.87	1132	332.2	24.3	-31.5
11.00	6.73		6.7	.74	.88	1127	331.7	24.6	-29.3
11.50	6.57		6.6	.75	.89	1125	331.2	24.8	-27.0
12.00	6.58		6.6	.75	.89	1127	330.9	25.0	-24.8
12.50	5.95		6.0	.79	.94	1095	330.5	25.2	-22.5
13.00	5.40		5.4	.83	.98	1063	330.3	25.4	-20.2
13.50	5.34		5.3	.84	.99	1058	330.1	25.6	-17.9
14.00	5.69		5.7	.81	.96	1080	330.0	25.9	-15.7
14.50	6.33		6.3	.77	.92	1108	329.9	26.1	-13.4
15.00	6.47		6.5	.76	.91	1118	330.0	26.4	-11.2
15.50	6.61		6.6	.75	.90	1128	330.0	26.8	-9.1
16.00	6.68		6.7	.74	.90	1129	330.1	27.3	-7.0
16.50	6.73		6.7	.75	.90	1134	330.2	27.8	-5.0
17.00	6.75		6.7	.75	.90	1134	330.4	28.4	-3.0
17.50	6.76		6.8	.74	.89	1125	330.6	29.1	-1.2
18.00	7.55		7.6	.70	.84	1154	330.8	29.9	0.6
18.50	8.00		8.0	.68	.82	1162	331.1	30.8	2.2
19.00	7.22		7.2	.73	.86	1129	331.3	31.8	3.7
19.50	6.79		6.8	.75	.89	1121	331.5	33.0	5.1
20.00	6.64		6.6	.76	.90	1115	331.7	34.2	6.3
20.50	6.45		6.4	.77	.91	1100	331.9	35.6	7.3
21.00	6.29		6.3	.78	.92	1101	332.1	37.1	8.2
21.50	6.00		6.0	.80	.94	1091	332.2	38.6	8.9
22.00	5.92		5.9	.81	.94	1090	332.2	40.2	9.4
22.50	5.59		5.6	.83	.96	1086	332.3	41.9	9.7
23.00	5.37		5.4	.84	.98	1077	332.2	43.6	9.8
23.50	5.19		5.2	.86	-14.00	1064	332.2	45.2	9.7
24.00	5.53		5.5	.84	-13.98	1075	332.0	46.9	9.4
24.50	5.86		5.9	.81	.95	1092	331.9	48.5	8.9
25.00	5.83		5.8	.81	.95	1095	331.7	50.1	8.2
25.50	5.82		5.8	.81	.96	1098	331.4	51.6	7.3
26.00	5.80		5.8	.81	.96	1090	331.1	52.9	6.3
26.50	5.90		5.9	.80	.95	1094	330.8	54.2	5.1
27.00	5.80		5.8	.81	.96	1090	330.5	55.4	3.7
27.50	5.69		5.7	.82	.97	1090	330.2	56.4	2.2

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
40028.00	5.61		5.6	-13.82	-13.98	1087	329.8	57.4	0.5
29.00	5.48		5.5	.83	.99	1079	329.2	58.9	-3.1
30.00	5.37		5.4	.84	-14.01	1068	328.7	60.1	-7.1
31.00	5.27		5.3	.84	.02	1066	328.3	60.9	-11.4
32.00	5.18		5.2	.85	.02	1066	328.3	61.5	-15.9
33.00	5.16		5.2	.85	.02	1059	328.5	61.9	-20.5
34.00	5.05		5.0	.87	.04	1042	329.0	62.3	-25.2
35.00	4.91		4.9	.88	.04	1042	329.8	62.8	-29.8
40040.50	3.52		3.5	-14.04	-14.15	968	330.8	70.2	-51.1
41.00	3.42		3.4	.05	.16	966	337.3	71.5	-52.3
41.50	3.27		3.3	.06	.16	963	337.8	73.0	-53.4
42.00	3.09		3.1	.09	.19	947	338.2	74.5	-54.3
42.50	3.09		3.1	.09	.19	950	338.6	76.2	-55.0
43.00	3.01		3.0	.10	.20	945	338.8	77.9	-55.4
43.50	2.95		2.9	.12	.21	938	339.0	79.6	-55.7
44.00	2.98		3.0	.10	.20	949	339.1	81.4	-55.8
44.50	2.88		2.9	.12	.21	940	339.1	83.2	-55.6
45.00	2.72		2.7	.15	.24	922	339.0	85.0	-55.3
45.50	2.85		2.9	.12	.21	941	338.9	86.7	-54.7
46.00	2.63		2.6	.17	.26	915	338.6	88.3	-53.9
46.50	2.61		2.6	.17	.27	916	338.2	89.9	-52.9
47.00	2.72		2.7	.15	.25	918	337.8	91.4	-51.8
47.50	2.99		3.0	.11	.21	932	337.3	92.7	-50.4
48.00	3.48		3.5	.04	.15	965	336.7	93.9	-48.9
48.50	3.47		3.5	.04	.15	972	336.1	95.0	-47.3
49.00	3.44		3.4	.05	.17	967	335.4	96.0	-45.5
49.50	3.24		3.2	.07	.20	949	334.7	96.9	-43.6
40050.00	2.9		2.9	-14.11	-14.25	925	334.1	97.6	-41.6
50.20	3.0		3.0	.10	.24	933	333.8	97.9	-40.8
50.40	3.1		3.1	.09	.22	938	333.5	98.2	-40.0
50.60	3.2		3.2	.07	.21	947	333.2	98.4	-39.1
50.80	3.8		3.8	.00	.14	991	333.0	98.6	-38.2
51.00	3.8		3.8	.00	.14	973	332.7	98.8	-37.4
51.20	4.7		4.7	-13.91	.05	1023	332.4	99.0	-36.5
51.40	4.3		4.3	.95	.09	1002	332.2	99.2	-35.6
51.60	4.1		4.1	.96	.11	997	331.9	99.4	-34.7
51.80	3.6		3.6	-14.02	.17	965	331.7	99.6	-33.7
52.00	3.5		3.5	.03	.18	954	331.5	99.7	-32.8
52.20	3.9		3.9	-13.98	.14	984	331.2	99.9	-31.9
52.40	3.8		3.8	.99	.15	981	331.0	100.0	-30.9
40052.50	3.63		3.6	-14.01	-14.18	966	330.9	100.1	-30.5
53.00	3.78		3.8	-13.99	.16	981	330.4	100.4	-28.1
53.50	4.04		4.0	.97	.14	991	329.9	100.6	-25.7
54.00	4.19		4.2	.94	.12	1005	329.6	100.8	-23.2
40055.00	4.13		4.1	-13.95	-14.13	994	329.0	101.3	-18.4
56.00	4.07		4.1	.95	.14	992	328.7	101.8	-13.5
57.00	4.18		4.2	.94	.13	1002	328.8	102.4	-8.8
58.00	4.09		4.1	.96	.14	996	329.0	103.3	-4.3
59.00	4.11		4.1	.96	.14	989	329.5	104.4	-0.1
60.00	4.15		4.2	.95	.12	993	330.0	106.0	3.8
61.00	4.07		4.1	.97	.13	997	330.6	108.1	7.2
62.00	4.01		4.0	.98	.14	996	331.2	110.6	10.0
63.00	3.80		3.8	-14.01	.16	977	331.6	113.5	12.2
64.00	3.73		3.7	.02	.17	965	331.9	116.7	13.6
65.00	3.61		3.6	.03	.19	960	332.0	120.2	14.1

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40066.00	3.50		3.5	-14.04	-14.20	956	331.9	123.6	13.9
40066.50	3.45		3.4	-14.05	-14.21	947	331.8	125.2	13.5
67.00	3.32		3.3	.06	.22	942	331.6	126.8	12.9
67.50	3.28		3.3	.06	.23	940	331.4	128.3	12.1
68.00	3.37		3.4	.05	.21	943	331.2	129.7	11.1
68.50	3.05		3.1	.09	.26	919	330.9	131.0	10.0
69.00	2.93		2.9	.11	.29	905	330.7	132.2	8.7
69.50	2.84		2.8	.13	.30	897	330.4	133.2	7.3
70.00	2.84		2.8	.12	.30	897	330.1	134.2	5.7
70.50	2.85		2.8	.12	.31	896	329.8	135.0	4.0
71.00	2.92		2.9	.11	.29	900	329.6	135.7	2.2
71.50	3.04		3.0	.09	.28	901	329.4	136.4	0.4
72.00	3.15		3.2	.07	.25	914	329.2	136.9	-1.6
72.50	3.11		3.1	.08	.27	912	329.1	137.4	-3.6
73.00	2.97		3.0	.09	.28	906	329.0	137.8	-5.7
73.50	2.88		2.9	.11	.30	893	329.0	138.1	-7.8
74.00	3.07		3.1	.08	.27	903	329.1	138.5	-10.0
74.50	3.07		3.1	.08	.27	902	329.2	138.7	-12.1
40075.00	3.05		3.0	-14.09	-14.28	897	329.7	139.0	-14.4
76.00	3.03		3.0	.10	.27	899	330.2	139.5	-18.8
77.00	2.95		2.9	.11	.28	894	330.9	140.1	-23.2
78.00	2.81		2.8	.13	.29	890	331.8	140.8	-27.5
79.00	2.63		2.6	.16	.32	879	333.0	141.8	-31.6
80.00	2.60		2.6	.17	.31	885	334.3	143.1	-35.4
81.00	2.72		2.7	.15	.28	898	335.5	144.9	-38.8
82.00	2.96		3.0	.12	.23	917	336.7	147.2	-41.7
83.00	3.39		3.4	.07	.18	942	337.7	149.9	-44.0
84.00	3.45		3.5	.06	.16	952	338.4	153.1	-45.6
85.00	3.50		3.5	.06	.16	948	338.8	156.7	-46.4
86.00	3.20		3.2	.10	.19	926	338.9	160.4	-46.3
87.00	2.82		2.8	.15	.25	900	338.5	164.0	-45.4
88.00	2.62		2.6	.18	.29	885	337.8	167.4	-43.6
89.00	2.51		2.5	.19	.31	876	336.8	170.5	-41.1
90.00	2.43		2.4	.20	.33	864	335.5	173.1	-37.9
91.00	2.51		2.5	.18	.33	864	334.1	175.1	-34.1
40100.50	3.42		3.4	-14.03	-14.24	887	328.1	183.8	11.3
01.00	3.48		3.5	.02	.22	900	328.4	184.6	13.4
01.50	3.39		3.4	.03	.23	892	328.6	185.4	15.4
02.00	3.41		3.4	.04	.23	888	328.9	186.4	17.3
02.50	3.41		3.4	.04	.23	886	329.2	187.5	19.1
03.00	3.34		3.3	.06	.24	877	329.5	188.7	20.7
03.50	3.38		3.4	.05	.23	884	329.8	190.0	22.2
04.00	3.39		3.4	.04	.23	888	330.0	191.4	23.5
04.50	3.26		3.3	.06	.24	882	330.2	192.9	24.6
05.00	3.25		3.3	.06	.24	881	330.4	194.5	25.6
05.50	3.25		3.3	.06	.23	880	330.5	196.2	26.3
06.00	3.23		3.2	.07	.25	871	330.6	198.0	26.9
06.50	3.32		3.3	.06	.23	878	330.6	199.7	27.2
07.00	3.84		3.8	.00	.17	905	330.5	201.5	27.4
07.50	4.63		4.6	-13.92	.09	941	330.5	203.2	27.3
08.00	5.00		5.0	.88	.05	968	330.3	205.0	27.0
08.50	4.40		4.4	.93	.11	941	330.1	206.6	26.5
09.00	4.08		4.1	.96	.14	925	329.8	208.2	25.9
09.50	4.04		4.0	.97	.16	920	329.5	209.7	25.0
10.00	3.88		3.9	.98	.17	913	329.2	211.0	24.0
10.50	3.46		3.5	-14.03	.22	888	328.9	212.3	22.8

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40111.00	3.54		3.5	-14.03	-14.22	887	328.6	213.4	21.5
11.50	3.83		3.8	-13.99	.19	896	328.2	214.5	20.0
12.00	4.48		4.5	.92	.12	923	327.9	215.4	18.4
12.50	5.82		5.8	.81	.01	984	327.6	216.2	16.8
13.00	5.48		5.5	.84	.03	967	327.3	216.9	15.0
13.50	4.74		4.7	.90	.10	925	327.1	217.5	13.1
14.00	4.34		4.3	.94	.14	903	326.9	218.0	11.1
14.50	4.28		4.3	.94	.14	903	326.8	218.5	9.1
15.00	4.16		4.2	.95	.15	897	326.7	218.9	7.1
15.50	3.80		3.8	.98	.20	880	326.7	219.2	5.0
16.00	3.72		3.7	.99	.21	877	326.8	219.5	2.8
16.50	3.63		3.6	-14.00	.22	872	326.9	219.8	0.7
17.00	3.55		3.5	.01	.23	870	327.2	220.1	-1.5
17.50	3.66		3.7	-13.99	.20	886	327.5	220.4	-3.7
18.00	3.67		3.7	.99	.20	882	327.9	220.7	-5.8
18.50	3.80		3.8	.98	.18	883	328.3	221.0	-8.0
19.00	3.60		3.6	-14.01	.20	873	328.8	221.3	-10.1
19.50	3.41		3.4	.03	.22	867	329.4	221.7	-12.2
20.00	3.34		3.3	.04	.23	862	330.0	222.2	-14.3
20.50	3.21		3.2	.06	.24	851	330.7	222.7	-16.2
21.00	2.99		3.0	.09	.26	839	331.4	223.4	-18.2
21.50	2.99		3.0	.09	.26	843	332.1	224.1	-20.0
22.00	3.27		3.3	.06	.21	859	332.8	224.9	-21.8
22.50	4.12		4.1	-13.97	.11	904	333.5	225.8	-23.4
23.00	3.42		3.4	-14.04	.19	872	334.2	226.9	-24.9
23.50	3.29		3.3	.05	.19	876	334.9	228.1	-26.3
24.00	3.12		3.1	.08	.22	864	335.5	229.4	-27.5
24.50	3.16		3.2	.08	.20	872	336.0	230.8	-28.6
25.00	3.31		3.3	.07	.19	880	336.5	232.4	-29.5
40126.00	3.32		3.3	-14.07	-14.18	879	337.3	235.8	-30.7
27.00	3.44		3.4	.06	.17	884	337.7	239.4	-31.1
28.00	3.56		3.6	.04	.15	890	337.7	243.2	-30.7
29.00	3.71		3.7	.03	.14	893	337.3	246.8	-29.4
30.00	3.94		3.9	.01	.12	896	336.5	250.2	-27.2
31.00	4.30		4.3	-13.97	.09	902	335.4	253.1	-24.3
32.00	4.68		4.7	.93	.06	912	334.1	255.5	-20.8
33.00	4.01		4.0	.99	.14	880	332.7	257.4	-16.8
34.00	3.75		3.7	-14.02	.19	866	331.2	258.8	-12.3
35.00	3.99		4.0	-13.99	.16	875	329.9	259.9	-7.6
36.00	4.12		4.1	.97	.16	871	328.8	260.8	-2.7
37.00	4.38		4.4	.94	.14	878	327.9	261.4	2.4
40137.50	4.52		4.5	-13.94	-14.13	881	327.5	261.7	5.0
38.00	4.77		4.8	.91	.11	897	327.2	261.9	7.6
38.50	4.81		4.8	.91	.11	894	327.0	262.2	10.1
39.00	4.87		4.9	.90	.10	898	326.9	262.5	12.6
39.50	4.80		4.8	.90	.11	894	326.9	262.8	15.2
40.00	4.63		4.6	.92	.13	888	326.9	263.2	17.6
40.50	4.07		4.1	.97	.18	863	327.0	263.6	20.1
41.00	4.09		4.1	.98	.18	856	327.2	264.1	22.4
41.50	5.83		5.8	.83	.03	922	327.4	264.6	24.7
42.00	7.48		7.5	.73	-13.92	980	327.6	265.2	27.0
42.50	5.40		5.4	.87	-14.06	900	327.9	266.0	29.1
43.00	4.66		4.7	.93	.12	874	328.2	266.8	31.1
43.50	4.19		4.2	.98	.17	854	328.5	267.8	33.1
44.00	4.47		4.5	.95	.13	873	328.9	268.8	34.8
44.50	4.54		4.5	.95	.13	876	329.2	270.0	36.5
45.00	4.67		4.7	.93	.11	890	329.5	271.3	38.0
45.50	4.74		4.7	.93	.11	889	329.8	272.7	39.3

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40146.00	4.80		4.8	-13.93	-14.10	891	330.0	274.2	40.5
46.50	4.87		4.9	.92	.09	895	330.2	275.8	41.4
47.00	4.95		5.0	.92	.08	898	330.4	277.5	42.2
47.50	4.97		5.0	.92	.08	899	330.5	279.2	42.7
48.00	5.02		5.0	.92	.08	903	330.6	280.9	43.1
48.50	5.05		5.0	.92	.08	902	330.6	282.7	43.2
49.00	5.04		5.0	.92	.09	897	330.6	284.4	43.2
49.50	5.15		5.1	.92	.08	901	330.5	286.1	42.9
50.00	5.26		5.3	.90	.06	916	330.4	287.8	42.4
50.50	5.40		5.4	.89	.05	925	330.2	289.3	41.7
51.00	5.51		5.5	.88	.05	929	330.0	290.8	40.8
51.50	5.66		5.7	.86	.03	939	329.8	292.1	39.8
52.00	5.84		5.8	.86	.03	943	329.5	293.3	38.6
52.50	6.03		6.0	.84	.01	950	329.2	294.5	37.3
53.00	6.20		6.2	.83	.00	955	329.0	295.5	35.8
53.50	7.08		7.1	.77	-13.94	989	328.7	296.4	34.2
54.00	7.29		7.3	.75	.93	994	328.4	297.1	32.4
54.50	7.15		7.1	.77	.94	983	328.2	297.8	30.6
55.00	6.62		6.6	.80	.98	966	328.0	298.4	28.7
55.50	6.47		6.5	.80	.98	965	327.8	298.9	26.7
56.00	6.47		6.5	.80	.98	962	327.7	299.3	24.7
56.50	6.54		6.5	.80	.98	960	327.6	299.7	22.6
40165.50	9.89		9.9	-13.63	-13.74	1132	335.6	309.6	-12.7
66.00	3.66		3.7	-14.05	-14.16	869	336.1	311.0	-13.8
66.50	5.89		5.9	-13.85	-13.96	984	336.6	312.6	-14.8
67.00	6.76		6.8	.79	.89	1019	337.0	314.2	-15.5
67.50	7.27		7.3	.76	.86	1034	337.3	315.9	-16.0
68.00	7.02		7.0	.78	.88	1035	337.5	317.7	-16.4
68.50	6.97		7.0	.78	.87	1038	337.6	319.5	-16.5
69.00	6.95		6.9	.79	.88	1024	337.6	321.4	-16.4
69.50	6.95		6.9	.79	.88	1021	337.5	323.2	-16.0
70.00	6.97		7.0	.78	.88	1030	337.3	325.0	-15.5
70.50	6.93		6.9	.78	.88	1031	337.0	326.7	-14.7
71.00	6.94		6.9	.78	.89	1027	336.6	328.4	-13.7
71.50	6.96		7.0	.78	.88	1031	336.2	329.9	-12.6
72.00	6.94		6.9	.78	.89	1033	335.6	331.4	-11.2
72.50	6.78		6.8	.78	.90	1036	335.0	332.7	-9.7
73.00	6.75		6.8	.78	.90	1039	334.4	333.9	-8.0
73.50	6.65		6.7	.78	.91	1029	333.7	335.0	-6.2
74.00	6.55		6.6	.79	.92	1019	333.0	335.9	-4.3
74.50	6.58		6.6	.78	.92	1019	332.2	336.7	-2.2
75.00	6.64		6.6	.78	.93	1018	331.5	337.4	-0.1
75.50	6.71		6.7	.77	.92	1021	330.8	338.0	2.1
76.00	6.90		6.9	.76	.91	1030	330.1	338.5	4.5
76.50	7.63		7.6	.72	.88	1048	329.4	339.0	6.8
77.00	7.94		7.9	.70	.87	1048	328.7	339.3	9.2
77.50	8.03		8.0	.70	.86	1050	328.2	339.7	11.7
78.00	8.37		8.4	.68	.85	1059	327.6	339.9	14.2
78.50	8.58		8.6	.67	.84	1065	327.2	340.2	16.7
79.00	8.11		8.1	.69	.87	1052	326.8	340.4	19.2
79.50	7.54		7.5	.72	.90	1033	326.5	340.6	21.7
80.00	7.15		7.1	.74	.93	1024	326.2	340.8	24.2
80.50	7.23		7.2	.74	.92	1022	326.1	341.1	26.7
81.00	7.82		7.8	.70	.89	1040	326.0	341.3	29.1
81.50	7.84		7.8	.70	.89	1051	325.9	341.7	31.6
82.00	7.72		7.7	.71	.89	1048	326.0	342.1	33.9
82.50	7.64		7.6	.71	.90	1044	326.1	342.5	36.2
83.00	7.31		7.3	.73	.92	1031	326.2	343.0	38.4

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40183.50	6.95		6.9	-13.76	-13.94	1015	326.4	343.7	40.5
84.00	6.82		6.8	.76	.95	1017	326.5	344.4	42.6
84.50	6.78		6.8	.76	.95	1019	326.8	345.2	44.5
85.00	7.21		7.2	.74	.92	1034	327.0	346.2	46.3
85.50	7.42		7.4	.73	.91	1040	327.2	347.3	47.9
86.00	7.43		7.4	.73	.91	1044	327.4	348.5	49.4
86.50	7.40		7.4	.73	.91	1045	327.6	349.8	50.8
87.00	7.42		7.4	.73	.90	1043	328.0	351.2	51.9
87.50	7.47		7.5	.73	.90	1050	328.2	352.7	52.9
88.00	7.25		7.3	.74	.91	1046	328.3	354.3	53.7
88.50	7.33		7.3	.74	.91	1047	328.4	356.0	54.2
89.00	7.07		7.1	.75	.92	1039	326.5	357.7	54.6
89.50	6.71		6.7	.78	.94	1024	328.4	359.4	54.7
90.00	6.85		6.9	.76	.93	1043	328.4	1.1	54.6
90.50	6.92		6.9	.76	.93	1048	328.2	2.8	54.3
91.00	7.72		7.7	.71	.89	1078	328.0	4.4	53.8
91.50	8.31		8.3	.68	.86	1093	327.8	5.9	53.1
92.00	8.58		8.6	.67	.84	1109	327.5	7.4	52.2
92.50	8.69		8.7	.66	.84	1117	327.2	8.7	51.1
93.00	8.75		8.7	.66	.84	1110	326.9	10.0	49.8
93.50	8.81		8.8	.66	.84	1106	326.6	11.1	48.4
94.00	8.85		8.9	.66	.84	1105	326.2	12.1	46.9
94.50	8.87		8.9	.66	.84	1103	325.9	12.9	45.2
95.00	9.04		9.0	.65	.83	1109	325.6	13.7	43.4
95.50	9.55		9.6	.62	.81	1130	325.3	14.4	41.4
96.00	9.49		9.5	.63	.81	1125	325.0	14.9	39.4
96.50	9.09		9.1	.64	.83	1125	324.8	15.4	37.3
97.00	8.46		8.5	.67	.86	1112	324.6	15.8	35.2
97.50	8.15		8.1	.69	.88	1098	324.5	16.1	32.9
98.00	7.94		7.9	.70	.89	1088	324.5	16.4	30.7
98.50	8.05		8.1	.69	.88	1092	324.6	16.6	28.4
99.00	8.08		8.1	.69	.88	1094	324.7	16.8	26.0
99.50	8.27		8.3	.67	.86	1112	324.9	17.0	23.7
40200.00	8.38		8.4	.67	.86	1115	325.2	17.2	21.3
00.50	8.36		8.4	.67	.85	1110	325.5	17.4	18.9
01.00	8.15		8.1	.69	.87	1106	326.0	17.6	16.6
01.50	8.07		8.1	.69	.86	1118	326.5	17.9	14.3
02.00	7.97		8.0	.69	.86	1113	327.1	18.2	12.0
02.50	7.83		7.8	.71	.87	1109	327.7	18.6	9.7
03.00	7.36		7.4	.73	.89	1101	328.4	19.0	7.5
03.50	6.70		6.7	.77	.93	1072	329.1	19.6	5.4
04.00	6.29		6.3	.80	.95	1057	329.8	20.2	3.4
04.50	6.18		6.2	.80	.95	1056	330.6	20.9	1.4
05.00	6.32		6.3	.80	.94	1067	331.3	21.8	-0.4
05.50	6.35		6.3	.80	.94	1069	332.0	22.8	-2.1
06.00	6.38		6.4	.80	.93	1074	332.7	23.9	-3.7
06.50	6.56		6.6	.78	.91	1087	333.3	25.2	-5.1
07.00	6.57		6.6	.78	.91	1091	333.9	26.6	-6.4
07.50	6.59		6.6	.78	.90	1099	334.4	28.1	-7.4
08.00	6.55		6.5	.79	.90	1102	334.8	29.7	-8.3
08.50	6.76		6.8	.77	.88	1116	335.2	31.4	-9.0
09.00	6.90		6.9	.77	.88	1115	335.4	33.1	-9.5
09.50	6.98		7.0	.76	.87	1117	335.6	34.9	-9.7
10.00	7.21		7.2	.75	.86	1130	335.6	36.7	-9.7
10.50	7.17		7.2	.75	.86	1139	335.6	38.6	-9.5
40225.50	7.51		7.5	-13.73	-13.93	1111	325.5	59.9	47.2
26.00	7.42		7.4	.74	.93	1102	325.7	60.9	48.8
26.50	7.22		7.2	.75	.94	1093	326.0	62.0	50.2

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40227.00	7.10		7.1	-13.76	-13.95	1093	326.3	63.2	51.5
27.50	6.97		7.0	.77	.95	1090	326.5	64.6	52.7
28.00	6.90		6.9	.78	.96	1084	326.7	66.0	53.6
28.50	6.98		7.0	.78	.96	1080	326.9	67.6	54.4
29.00	7.10		7.1	.77	.95	1076	327.0	69.2	54.9
29.50	7.22		7.2	.77	.94	1085	327.1	70.9	55.2
30.00	7.08		7.1	.78	.95	1081	327.1	72.6	55.3
30.50	6.95		7.0	.78	.96	1079	327.1	74.3	55.2
31.00	6.80		6.8	.79	.97	1075	327.0	76.0	54.9
31.50	6.71		6.7	.80	.98	1069	326.8	77.7	54.3
32.00	6.58		6.6	.80	.98	1066	326.7	79.3	53.5
32.50	6.42		6.4	.81	-14.00	1053	326.4	80.8	52.6
33.00	6.31		6.3	.82	.01	1041	326.2	82.3	51.4
33.50	6.03		6.0	.84	.03	1022	325.9	83.6	50.1
34.00	5.90		5.9	.84	.04	1021	325.5	84.7	48.6
34.50	5.96		6.0	.83	.03	1031	325.2	85.8	46.9
35.00	6.00		6.0	.83	.03	1027	324.9	86.8	45.1
35.50	6.01		6.0	.83	.04	1019	324.6	87.6	43.2
36.00	6.06		6.1	.83	.03	1017	324.3	88.3	41.1
36.50	6.19		6.2	.82	.02	1019	324.0	88.9	39.0
37.00	6.28		6.3	.81	.02	1025	323.7	89.5	36.7
37.50	6.66		6.7	.78	-13.99	1043	323.6	89.9	34.4
38.00	7.30		7.3	.75	.95	1069	323.4	90.3	32.0
38.50	7.50		7.5	.73	.94	1075	323.4	90.6	29.6
39.00	7.05		7.0	.76	.97	1050	323.4	90.9	27.1
39.50	6.48		6.5	.80	-14.00	1026	323.5	91.1	24.6
40.00	6.27		6.3	.81	.02	1018	323.6	91.3	22.1
40.50	5.98		6.0	.83	.04	1010	323.8	91.5	19.6
41.00	5.82		5.8	.84	.05	1003	324.2	91.8	17.0
41.50	5.41		5.4	.87	.08	984	324.5	92.0	14.5
42.00	5.46		5.5	.87	.07	992	325.0	92.3	12.0
42.50	5.51		5.5	.87	.06	996	325.5	92.6	9.5
43.00	5.59		5.6	.86	.05	1009	326.0	93.0	7.1
43.50	5.69		5.7	.85	.04	1018	326.6	93.5	4.7
44.00	5.82		5.8	.85	.03	1028	327.2	94.0	2.4
44.50	5.90		5.9	.84	.02	1035	327.9	94.7	0.1
40245.00	5.83		5.8	-13.85	-14.03	1027	328.3	95.3	-1.9
40246.00	5.75		5.8	-13.86	-14.02	1017	329.3	97.2	-5.9
46.50	6.27		6.3	.83	-13.99	1032	329.8	98.4	-7.7
40246.75	6.3		6.3	-13.83	-13.99	1030	330.0	99.0	-8.5
47.00	7.0		7.0	.78	.94	1063	330.2	99.7	-9.3
47.25	8.8		8.8	.69	.84	1144	330.4	100.3	-10.1
47.50	7.3		7.3	.77	.92	1086	330.6	101.1	-10.8
47.75	5.7		5.7	.87	-14.03	1011	330.8	101.8	-11.4
48.00	5.3		5.3	.91	.06	991	330.9	102.6	-12.0
48.25	4.8		4.8	.95	.10	969	331.0	103.4	-12.6
40248.50	4.81		4.8	-13.95	-14.10	967	331.2	104.3	-13.1
49.00	4.82		4.8	.95	.10	966	331.3	106.0	-14.0
49.50	4.91		4.9	.94	.09	980	331.4	107.8	-14.6
50.00	4.97		5.0	.93	.08	990	331.4	109.7	-15.1
50.50	4.98		5.0	.93	.08	989	331.3	111.6	-15.3
51.00	4.96		5.0	.93	.08	985	331.1	113.5	-15.2
40321.00	7.10		7.1	-13.78	-14.04	934	319.6	252.7	-9.2
21.50	6.99		7.0	.78	.04	934	319.9	253.1	-11.9

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40322.00	6.70		6.7	-13.80	-14.06	925	320.3	253.4	-14.5
22.50	6.60		6.6	.81	.07	923	320.8	253.8	-17.2
23.00	6.45		6.5	.82	.07	925	321.4	254.2	-19.7
23.50	6.24		6.2	.84	.09	918	322.0	254.7	-22.3
24.00	6.39		6.4	.84	.07	918	322.6	255.3	-24.7
24.50	7.60		7.6	.77	-13.99	959	323.3	256.0	-27.1
25.00	7.37		7.4	.78	-14.00	953	324.0	256.8	-29.4
25.50	6.57		6.6	.84	.05	929	324.7	257.7	-31.6
26.00	6.33		6.3	.86	.06	923	325.4	258.7	-33.7
26.50	6.83		6.8	.83	.03	941	326.1	259.9	-35.6
27.00	7.12		7.1	.82	.01	957	326.8	261.2	-37.4
27.50	7.27		7.3	.81	-13.99	966	327.3	262.7	-39.0
28.00	7.45		7.5	.80	.98	970	327.9	264.2	-40.5
28.50	7.76		7.8	.78	.96	980	328.3	265.9	-41.7
29.00	7.97		8.0	.77	.95	988	328.7	267.7	-42.7
29.50	6.97		7.0	.83	-14.00	957	328.9	269.6	-43.5
30.00	6.06		6.1	.89	.06	929	329.1	271.6	-44.1
30.50	5.54		5.5	.93	.11	909	329.2	273.6	-44.4
31.00	5.65		5.6	.92	.10	914	329.1	275.6	-44.5
31.50	5.70		5.7	.91	.09	916	329.0	277.5	-44.3
32.00	6.32		6.3	.87	.05	937	328.7	279.4	-43.9
32.50	6.33		6.3	.87	.05	938	328.4	281.2	-43.3
33.00	6.34		6.3	.87	.06	940	327.9	283.0	-42.4
33.50	6.33		6.3	.87	.06	932	327.4	284.6	-41.4
34.00	6.33		6.3	.87	.06	933	326.9	286.0	-40.2
34.50	6.37		6.4	.86	.06	940	326.2	287.4	-38.7
35.00	6.45		6.4	.86	.06	935	325.5	288.6	-37.2
35.50	6.68		6.7	.83	.05	945	324.9	289.6	-35.5
36.00	6.62		6.6	.84	.06	938	324.1	290.5	-33.6
36.50	6.52		6.5	.84	.07	932	323.4	291.3	-31.7
37.00	6.55		6.6	.83	.06	937	322.6	292.0	-29.7
37.50	6.52		6.5	.84	.07	934	321.9	292.6	-27.6
38.00	6.47		6.5	.84	.08	929	321.3	293.1	-25.4
38.50	6.79		6.8	.82	.06	935	320.6	293.6	-23.1
39.00	6.99		7.0	.80	.05	939	320.1	294.0	-20.9
39.50	8.58		8.6	.71	-13.96	981	319.6	294.3	-18.6
40.00	8.27		8.3	.73	.98	972	319.2	294.6	-16.2
40.50	7.34		7.3	.78	-14.04	950	318.8	294.9	-13.9
41.00	7.31		7.3	.78	.04	946	318.6	295.2	-11.6
41.50	7.55		7.5	.77	.03	946	318.4	295.5	-9.3
42.00	7.28		7.3	.78	.04	942	318.3	295.8	-7.0
42.50	6.87		6.9	.80	.07	935	318.3	296.2	-4.7
43.00	6.73		6.7	.81	.08	932	318.4	296.6	-2.5
43.50	6.83		6.8	.81	.08	931	318.5	297.1	-0.4
44.00	7.25		7.3	.78	.04	945	318.7	297.7	1.7
44.50	7.01		7.0	.80	.06	936	318.9	298.4	3.7
45.00	6.69		6.7	.82	.08	931	319.2	299.1	5.5
45.50	6.55		6.6	.83	.08	934	319.5	300.0	7.3
46.00	6.55		6.6	.83	.08	936	319.8	301.0	9.0
46.50	6.61		6.6	.83	.08	938	320.1	302.2	10.5
47.00	6.74		6.7	.83	.07	943	320.4	303.4	11.8
47.50	6.90		6.9	.82	.06	954	320.7	304.8	13.0
48.00	6.98		7.0	.81	.05	962	321.0	306.3	14.0
48.50	7.03		7.0	.81	.05	965	321.2	307.9	14.8
49.00	7.11		7.1	.80	.04	976	321.4	309.6	15.3
49.50	7.22		7.2	.79	.03	982	321.5	311.4	15.7
50.00	7.35		7.4	.78	.02	988	321.6	313.2	15.9
50.50	7.49		7.5	.78	.01	989	321.6	315.1	15.8
51.00	7.65		7.7	.77	.00	993	321.5	316.9	15.5
51.50	7.89		7.9	.76	-13.99	1001	321.4	318.7	14.9

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40352.00	8.18		8.2	-13.74	-13.97	1020	321.2	320.4	14.2
52.50	8.45		8.5	.72	.95	1037	321.0	322.0	13.2
53.00	8.84		8.8	.70	.94	1051	320.7	323.6	12.0
53.50	9.21		9.2	.68	.92	1069	320.4	325.0	10.6
54.00	9.64		9.6	.67	.90	1070	320.0	326.3	9.1
54.50	10.11		10.1	.65	.88	1070	319.6	327.5	7.4
55.00	10.68		10.7	.62	.86	1085	319.0	328.6	5.5
55.50	11.14		11.1	.60	.84	1103	318.6	329.5	3.5
56.00	11.84		11.8	.58	.82	1115	318.3	330.3	1.4
56.50	13.10		13.1	.54	.77	1130	317.9	331.0	-0.8
57.00	14.45		14.5	.49	.73	1173	317.6	331.6	-3.1
57.50	10.48		10.5	.62	.87	1071	317.3	332.1	-5.5
58.00	8.90		8.9	.69	.94	1034	317.1	332.5	-7.9
58.50	9.00		9.0	.68	.94	1049	317.0	332.9	-10.4
59.00	8.76		8.8	.69	.95	1042	317.0	333.2	-13.0
59.50	8.91		8.9	.69	.94	1045	317.0	333.5	-15.6
60.00	9.11		9.1	.68	.93	1052	317.2	333.8	-18.2
60.50	8.92		8.9	.69	.94	1050	317.4	334.1	-20.8
61.00	8.84		8.8	.69	.94	1053	317.7	334.3	-23.4
61.50	8.79		8.8	.69	.94	1059	318.1	334.6	-25.9
62.00	8.90		8.9	.68	.93	1066	318.6	335.0	-28.5
62.50	8.81		8.8	.69	.93	1060	319.1	335.4	-31.0
63.00	8.87		8.9	.69	.93	1069	319.7	335.8	-33.5
63.50	8.68		8.7	.70	.93	1065	320.4	336.4	-35.9
64.00	8.53		8.5	.71	.94	1062	321.1	337.0	-38.3
64.50	7.89		7.9	.75	.97	1042	321.8	337.7	-40.5
65.00	7.48		7.5	.77	.98	1029	322.6	338.6	-42.6
65.50	7.16		7.2	.79	-14.00	1022	323.3	339.6	-44.7
66.00	6.98		7.0	.80	.01	1014	324.0	340.7	-46.5
66.50	6.79		6.8	.82	.01	1015	324.7	342.0	-48.3
67.00	6.58		6.6	.83	.02	1016	325.4	343.4	-49.8
67.50	6.46		6.5	.84	.03	1014	326.0	344.9	-51.2
68.00	6.33		6.3	.85	.04	1011	326.5	346.6	-52.3
68.50	6.26		6.3	.85	.03	1015	326.9	348.4	-53.3
69.00	6.26		6.3	.85	.03	1015	327.2	350.3	-54.0
69.50	6.31		6.3	.85	.03	1009	327.5	352.2	-54.5
70.00	6.35		6.4	.84	.02	1016	327.6	354.1	-54.7
70.50	6.46		6.5	.83	.01	1029	327.6	356.1	-54.7
71.00	6.56		6.6	.82	.01	1032	327.5	358.1	-54.5
71.50	6.59		6.6	.82	.01	1025	327.3	359.9	-54.0
72.00	6.54		6.5	.83	.01	1017	327.0	1.7	-53.2
72.50	6.51		6.5	.83	.02	1017	326.6	3.4	-52.3
73.00	6.55		6.6	.82	.01	1021	326.2	5.0	-51.1
73.50	6.32		6.3	.84	.03	1011	325.6	6.5	-49.7
74.00	6.10		6.1	.85	.05	1006	325.0	7.8	-48.2
74.50	6.29		6.3	.83	.04	1013	324.3	8.9	-46.5
75.00	6.58		6.6	.81	.02	1024	323.6	9.9	-44.7
75.50	6.94		6.9	.79	.01	1040	322.9	10.8	-42.7
76.00	7.29		7.3	.76	-13.99	1055	322.2	11.6	-40.6
76.50	7.73		7.7	.74	.97	1067	321.5	12.3	-38.5
77.00	8.18		8.2	.71	.94	1090	320.7	12.8	-36.2
77.50	8.80		8.8	.69	.92	1115	320.1	13.3	-33.9
78.00	9.38		9.4	.66	.89	1141	319.4	13.7	-31.5
78.50	10.29		10.3	.62	.86	1182	318.8	14.0	-29.1
79.00	11.06		11.1	.59	.83	1207	318.3	14.3	-26.7
79.50	11.40		11.4	.58	.82	1207	317.9	14.6	-24.2
80.00	11.57		11.6	.57	.81	1213	317.5	14.8	-21.8
80.50	11.55		11.6	.58	.81	1210	317.2	15.1	-19.3
81.00	11.91		11.9	.57	.81	1213	316.9	15.4	-16.9
81.50	12.30		12.3	.56	.79	1230	316.8	15.7	-14.4

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40382.00	13.00		13.0	-13.53	-13.77	1251	316.7	16.0	-12.1
82.50	12.08		12.1	.57	.80	1216	316.6	16.4	-9.7
83.00	11.66		11.7	.58	.82	1214	316.7	16.9	-7.5
83.50	11.98		12.0	.57	.81	1231	316.7	17.5	-5.3
84.00	12.60		12.6	.55	.78	1245	316.9	18.2	-3.2
84.50	13.27		13.3	.53	.76	1265	317.0	18.9	-1.2
85.00	12.99		13.0	.54	.77	1255	317.2	19.8	0.7
85.50	12.85		12.9	.54	.77	1255	317.3	20.9	2.4
86.00	12.83		12.8	.55	.78	1252	317.5	22.0	4.0
86.50	12.72		12.7	.55	.78	1234	317.6	23.1	5.4
87.00	12.38		12.4	.56	.79	1225	317.7	24.5	6.6
87.50	12.07		12.1	.57	.80	1233	317.9	26.1	7.7
88.00	12.00		12.0	.57	.81	1235	318.0	27.7	8.5
88.50	11.79		11.8	.58	.81	1218	318.0	29.4	9.2
89.00	11.39		11.4	.60	.83	1195	318.1	31.2	9.6
89.50	11.08		11.1	.60	.84	1190	318.0	33.0	9.8
90.00	10.73		10.7	.61	.86	1185	318.0	34.8	9.7
90.50	10.40		10.4	.62	.87	1186	317.8	36.7	9.4
91.00	10.12		10.1	.63	.88	1179	317.6	38.4	8.9
91.50	9.84		9.8	.65	.90	1158	317.4	40.1	8.2
92.00	9.60		9.6	.66	.91	1143	317.2	41.7	7.2
92.50	9.37		9.4	.66	.92	1130	316.9	43.2	6.1
93.00	9.14		9.1	.68	.94	1120	316.5	44.6	4.7
93.50	8.93		8.9	.68	.95	1115	316.2	45.8	3.2
94.00	8.75		8.7	.69	.96	1109	315.8	46.9	1.5
94.50	8.56		8.6	.69	.97	1110	315.5	47.9	-0.3
95.00	8.38		8.4	.70	.98	1100	315.2	48.8	-2.2
95.50	8.22		8.2	.71	.99	1084	314.9	49.5	-4.3
96.00	8.20		8.2	.71	.99	1076	314.6	50.2	-6.5
96.50	8.12		8.1	.72	-14.00	1066	314.4	50.7	-8.7
97.00	8.12		8.1	.72	.00	1067	314.3	51.2	-11.1
97.50	8.20		8.2	.71	.00	1074	314.2	51.6	-13.4
98.00	8.35		8.3	.70	-13.99	1076	314.2	51.9	-15.9
98.50	7.73		7.7	.74	-14.02	1051	314.3	52.2	-18.3
99.00	7.28		7.3	.76	.05	1039	314.5	52.5	-20.8
99.50	6.73		6.7	.79	.08	1015	314.8	52.7	-23.3
40400.00	6.60		6.6	.80	.09	1014	315.1	53.0	-25.9
00.50	6.55		6.6	.80	.09	1018	315.5	53.3	-28.4
01.00	6.54		6.5	.81	.09	1017	316.0	53.6	-30.8
01.50	6.59		6.6	.80	.08	1024	316.6	54.0	-33.3
02.00	6.70		6.7	.80	.07	1030	317.2	54.4	-35.7
02.50	6.89		6.9	.79	.06	1043	317.9	54.9	-38.0
03.00	7.16		7.2	.78	.04	1056	318.7	55.5	-40.3
03.50	7.34		7.3	.78	.03	1053	319.4	56.2	-42.4
04.00	7.44		7.4	.78	.02	1055	320.1	57.1	-44.5
04.50	7.36		7.4	.78	.01	1069	320.9	58.1	-46.5
05.00	7.27		7.3	.79	.02	1079	321.6	59.2	-48.3
05.50	7.17		7.2	.79	.02	1078	322.3	60.4	-49.9
06.00	7.09		7.1	.80	.02	1075	322.9	61.8	-51.4
06.50	7.06		7.1	.81	.02	1078	323.5	63.4	-52.7
07.00	7.00		7.0	.81	.03	1076	324.0	65.0	-53.8
07.50	6.99		7.0	.81	.02	1078	324.3	66.8	-54.6
08.00	6.98		7.0	.82	.02	1080	324.6	68.7	-55.3
08.50	6.96		7.0	.82	.02	1077	324.8	70.7	-55.7
09.00	6.96		7.0	.82	.02	1073	324.9	72.7	-55.8
09.50	6.99		7.0	.82	.02	1071	324.8	74.7	-55.7
10.00	7.07		7.1	.81	.02	1075	324.7	76.7	-55.3
10.50	7.14		7.1	.81	.02	1076	324.4	78.6	-54.7
11.00	7.19		7.2	.80	.02	1076	324.0	80.5	-53.8
11.50	7.27		7.3	.80	.02	1076	323.5	82.2	-52.7

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40412.00	7.32		7.3	-13.80	-14.02	1076	323.0	83.8	-51.4
12.50	7.28		7.3	.79	.02	1073	322.3	85.3	-49.9
13.00	7.13		7.1	.80	.04	1061	321.5	86.6	-48.2
13.50	6.96		7.0	.81	.05	1056	320.8	87.8	-46.4
14.00	6.98		7.0	.81	.06	1049	320.0	88.9	-44.4
14.50	7.14		7.1	.80	.05	1046	319.2	89.8	-42.3
15.00	7.64		7.6	.77	.03	1063	318.4	90.6	-40.0
15.50	7.65		7.6	.76	.03	1055	317.6	91.2	-37.7
16.00	7.72		7.7	.76	.03	1056	316.9	91.8	-35.3
16.50	7.34		7.3	.78	.06	1036	316.2	92.3	-32.8
17.00	7.08		7.1	.79	.08	1030	315.5	92.7	-30.2
17.50	6.87		6.9	.79	.09	1024	314.9	93.1	-27.7
18.00	6.77		6.8	.80	.10	1017	314.4	93.4	-25.1
18.50	6.77		6.8	.80	.11	1010	314.0	93.7	-22.4
19.00	6.78		6.8	.80	.11	1007	313.7	94.0	-19.8
19.50	6.63		6.6	.81	.13	1002	313.4	94.3	-17.2
20.00	6.56		6.6	.81	.13	1007	313.2	94.6	-14.6
20.50	6.48		6.5	.82	.14	999	313.2	94.9	-12.0
21.00	6.40		6.4	.82	.15	994	313.2	95.3	-9.5
21.50	6.34		6.3	.83	.15	991	313.2	95.7	-7.0
22.00	6.24		6.2	.84	.16	986	313.4	96.3	-4.6
22.50	6.20		6.2	.84	.16	985	313.6	96.9	-2.3
23.00	6.13		6.1	.85	.17	979	313.8	97.6	-0.1
23.50	6.09		6.1	.85	.17	980	314.1	98.5	2.0
24.00	6.11		6.1	.86	.17	976	314.4	99.4	4.0
24.50	6.15		6.1	.86	.17	972	314.6	100.5	5.8
25.00	6.15		6.2	.85	.16	978	314.9	101.8	7.5
25.50	6.31		6.3	.85	.15	986	315.2	103.1	9.0
26.00	6.11		6.1	.86	.17	976	315.5	104.6	10.3
26.50	5.67		5.7	.89	.20	957	315.7	106.2	11.5
27.00	5.19		5.2	.94	.24	934	315.9	107.9	12.4
27.50	4.67		4.7	.98	.28	908	316.0	109.7	13.1
28.00	4.10		4.1	-14.04	.34	873	316.1	111.6	13.5
28.50	4.86		4.9	-13.97	.27	908	316.1	113.4	13.7
29.00	7.50		7.5	.79	.08	1016	316.0	115.3	13.7
29.50	6.49		6.5	.85	.14	970	315.9	117.2	13.5
30.00	5.61		5.6	.91	.21	938	315.8	118.9	13.0
30.50	5.51		5.5	.91	.22	941	315.5	120.6	12.3
31.00	5.45		5.5	.91	.22	944	315.3	122.2	11.3
31.50	5.40		5.4	.92	.23	939	315.0	123.7	10.2
32.00	5.38		5.4	.92	.24	937	314.7	125.1	8.9
32.50	5.42		5.4	.92	.24	931	314.3	126.3	7.4
33.00	6.00		6.0	.88	.19	951	314.0	127.4	5.8
33.50	5.88		5.9	.88	.20	946	313.7	128.4	4.0
34.00	5.88		5.9	.88	.21	951	313.4	129.2	2.1
34.50	5.85		5.8	.89	.22	947	313.1	130.0	0.1
35.00	5.83		5.8	.89	.22	948	312.7	130.6	-2.0
35.50	5.89		5.9	.88	.21	951	312.5	131.1	-4.2
36.00	6.20		6.2	.86	.19	958	312.4	131.6	-6.5
36.50	6.73		6.7	.83	.16	974	312.3	132.0	-8.8
37.00	7.88		7.9	.76	.08	1018	312.3	132.3	-11.2
37.50	7.27		7.3	.80	.12	993	312.4	132.7	-13.6
38.00	7.07		7.1	.81	.13	990	312.6	133.0	-16.0
38.50	6.93		6.9	.82	.14	985	312.8	133.3	-18.4
39.00	6.85		6.9	.82	.14	988	313.1	133.6	-20.8
39.50	6.74		6.7	.83	.15	984	313.6	133.9	-23.2
40.00	6.63		6.6	.84	.16	982	314.1	134.3	-25.6
40.50	6.60		6.6	.84	.15	980	314.6	134.8	-27.9
41.00	6.60		6.6	.84	.15	979	315.2	135.3	-30.2
41.50	6.68		6.7	.84	.14	983	315.9	136.0	-32.4

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40442.00	6.61		6.6	-13.85	-14.14	977	316.6	136.7	-34.5
42.50	6.55		6.6	.85	.14	978	317.3	137.5	-36.5
43.00	6.25		6.2	.88	.17	964	318.0	138.5	-38.4
43.50	5.92		5.9	.90	.18	953	318.7	139.6	-40.2
44.00	5.72		5.7	.92	.20	951	319.4	140.9	-41.8
44.50	5.64		5.6	.92	.20	952	320.0	142.3	-43.2
45.00	5.83		5.8	.91	.18	956	320.6	143.9	-44.5
45.50	5.78		5.8	.92	.18	946	321.0	145.6	-45.6
46.00	5.75		5.8	.92	.18	947	321.4	147.4	-46.4
46.50	5.11		5.1	.97	.23	920	321.8	149.3	-47.0
47.00	4.47		4.5	-14.02	.29	893	322.0	151.3	-47.4
47.50	4.19		4.2	.05	.32	876	322.2	153.4	-47.5
48.00	3.94		3.9	.08	.35	861	322.2	155.5	-47.3
48.50	3.74		3.7	.10	.37	851	322.1	157.5	-46.9
49.00	3.63		3.6	.11	.39	843	321.9	159.5	-46.2
49.50	3.48		3.5	.12	.40	836	321.5	161.5	-45.3
50.00	3.31		3.3	.15	.43	820	321.1	163.3	-44.2
50.50	3.26		3.3	.15	.43	817	320.6	165.0	-42.8
51.00	3.30		3.3	.14	.43	817	320.1	166.6	-41.3
51.50	3.44		3.4	.13	.43	819	319.4	168.0	-39.5
52.00	3.60		3.6	.10	.41	827	318.7	169.3	-37.6
52.50	3.77		3.8	.07	.39	833	318.0	170.4	-35.5
53.00	3.91		3.9	.06	.38	833	317.3	171.4	-33.3
53.50	3.98		4.0	.05	.37	838	316.5	172.3	-31.0
54.00	4.01		4.0	.04	.38	838	315.8	173.0	-28.5
54.50	4.11		4.1	.03	.37	842	315.1	173.7	-26.0
55.00	4.17		4.2	.02	.37	845	314.5	174.2	-23.4
55.50	4.27		4.3	.01	.36	848	313.9	174.7	-20.8
56.00	4.42		4.4	.00	.35	847	313.3	175.1	-18.1
56.50	4.54		4.5	-13.99	.35	846	312.9	175.5	-15.4
57.00	4.63		4.6	.98	.34	850	312.5	175.8	-12.7
57.50	4.70		4.7	.97	.33	855	312.2	176.2	-9.9
58.00	4.78		4.8	.96	.32	859	311.9	176.5	-7.2
58.50	4.81		4.8	.96	.33	862	311.8	176.8	-4.5
59.00	4.85		4.9	.96	.32	869	311.7	177.2	-1.8
59.50	7.06		7.1	.80	.15	955	311.8	177.6	0.8
60.00	7.18		7.2	.80	.15	947	311.9	178.1	3.4
60.50	7.84		7.8	.77	.11	970	312.0	178.7	5.9
61.00	6.66		6.7	.83	.18	933	312.2	179.4	8.3
61.50	6.11		6.1	.87	.22	914	312.5	180.1	10.6
62.00	5.83		5.8	.90	.24	904	312.7	181.0	12.8
62.50	5.93		5.9	.89	.23	910	313.0	182.0	14.9
63.00	5.92		5.9	.89	.23	911	313.3	183.2	16.8
63.50	6.04		6.0	.89	.22	915	313.6	184.4	18.6
64.00	5.99		6.0	.89	.21	914	313.9	185.8	20.2
64.50	5.97		6.0	.89	.21	914	314.1	187.4	21.6
65.00	6.07		6.1	.88	.20	916	314.3	189.0	22.9
65.50	6.25		6.2	.87	.20	923	314.4	190.8	23.9
66.00	6.39		6.4	.86	.18	934	314.5	192.6	24.6
66.50	6.39		6.4	.86	.18	933	314.6	194.5	25.2
67.00	6.46		6.5	.85	.18	937	314.5	196.4	25.5
67.50	6.60		6.6	.84	.17	938	314.4	198.3	25.5
68.00	6.59		6.6	.84	.17	932	314.3	200.2	25.3
68.50	6.31		6.3	.86	.20	915	313.6	202.1	24.9
69.00	6.33		6.3	.86	.20	916	313.4	203.9	24.2
69.50	6.54		6.5	.85	.19	916	313.1	205.5	23.4
70.00	7.13		7.1	.81	.15	924	312.8	207.1	22.3
70.50	6.75		6.7	.84	.18	905	312.4	208.5	21.0
71.00	6.32		6.3	.86	.21	894	312.1	209.7	19.6
71.50	6.52		6.5	.84	.20	901	311.7	210.8	18.0

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40472.00	6.46		6.5	-13.84	-14.20	894	311.4	211.8	16.3
72.50	6.94		6.9	.81	.17	905	311.1	212.7	14.4
73.00	6.12		6.1	.86	.23	879	310.8	213.5	12.5
73.50	5.57		5.6	.90	.27	860	310.6	214.1	10.4
74.00	5.23		5.2	.93	.31	839	310.3	214.7	8.2
74.50	5.11		5.1	.93	.32	838	310.2	215.2	6.0
75.00	4.99		5.0	.94	.32	832	310.2	215.6	3.7
75.50	5.13		5.1	.93	.31	835	310.3	216.0	1.4
76.00	4.93		4.9	.95	.33	827	310.4	216.4	-0.9
76.50	4.83		4.8	.96	.34	824	310.6	216.7	-3.3
77.00	4.55		4.6	.98	.36	820	310.9	217.1	-5.7
77.50	4.41		4.4	-14.00	.37	812	311.3	217.4	-8.0
78.00	4.40		4.4	.00	.37	812	311.8	217.8	-10.4
78.50	4.47		4.5	-13.99	.35	817	312.4	218.2	-12.7
79.00	5.79		5.8	.89	.24	863	313.0	218.7	-15.0
79.50	7.00		7.0	.82	.15	904	313.7	219.3	-17.2
80.00	6.47		6.5	.85	.18	892	314.4	220.0	-19.4
80.50	6.09		6.1	.88	.20	884	315.1	220.8	-21.4
81.00	5.89		5.9	.89	.21	883	315.9	221.7	-23.4
81.50	5.80		5.8	.90	.21	878	316.7	222.7	-25.3
82.00	5.76		5.8	.91	.21	873	317.4	223.9	-27.0
82.50	5.99		6.0	.90	.19	879	318.1	225.2	-28.5
83.00	6.20		6.2	.89	.17	887	318.7	226.7	-29.9
83.50	5.64		5.6	.93	.21	868	319.3	228.3	-31.1
84.00	5.69		5.7	.92	.20	878	319.8	230.0	-32.1
84.50	5.68		5.7	.93	.20	876	320.2	231.9	-32.8
85.00	5.75		5.7	.93	.20	877	320.5	233.9	-33.3
85.50	5.78		5.8	.92	.19	884	320.7	236.0	-33.6
86.00	5.74		5.7	.93	.20	881	320.8	238.1	-33.6
86.50	5.77		5.8	.92	.19	884	320.8	240.2	-33.4
87.00	5.78		5.8	.92	.19	884	320.6	242.3	-32.9
87.50	5.75		5.8	.93	.20	880	320.3	244.3	-32.1
88.00	5.87		5.9	.92	.19	875	319.9	246.2	-31.1
88.50	6.32		6.3	.89	.17	887	319.5	248.1	-29.9
89.00	6.61		6.6	.87	.15	896	318.9	249.8	-28.4
89.50	6.76		6.8	.86	.14	897	318.2	251.3	-26.7
90.00	6.88		6.9	.86	.14	898	317.5	252.7	-24.9
90.50	6.76		6.8	.86	.15	894	316.7	254.0	-22.9
91.00	6.53		6.5	.88	.18	882	315.9	255.1	-20.7
91.50	6.52		6.5	.88	.19	879	315.0	256.1	-18.4
92.00	6.30		6.3	.89	.21	861	314.2	256.9	-16.0
92.50	9.49		9.5	.71	.03	943	313.4	257.7	-13.5
93.00	10.15		10.1	.69	.01	951	312.6	258.3	-10.9
93.50	8.82		8.8	.74	.07	908	311.9	258.8	-8.3
94.00	11.44		11.4	.64	-13.96	960	311.2	259.3	-5.6
94.50	11.57		11.6	.63	.96	960	310.6	259.7	-2.8
95.00	9.24		9.2	.72	-14.07	908	310.1	260.1	-0.1
95.50	8.43		8.4	.76	.11	890	309.7	260.4	2.7
96.00	8.55		8.6	.75	.11	894	309.3	260.8	5.4
96.50	8.81		8.8	.74	.10	895	309.0	261.1	8.2
97.00	9.73		9.7	.70	.06	918	308.9	261.5	10.9
97.50	9.35		9.3	.72	.08	910	308.8	261.9	13.6
98.00	7.77		7.8	.79	.16	868	308.8	262.3	16.3
98.50	7.12		7.1	.83	.20	848	308.9	262.9	18.9
99.00	6.85		6.8	.85	.22	838	309.0	263.5	21.4
99.50	7.14		7.1	.84	.21	849	309.2	264.2	23.8
40500.00	7.48		7.5	.82	.18	860	309.4	265.0	26.1
00.50	7.89		7.9	.80	.16	866	309.7	265.9	28.3
01.00	8.14		8.1	.79	.14	871	309.9	267.0	30.3
01.50	8.14		8.1	.79	.15	876	310.2	268.2	32.2

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40502.00	8.08		8.1	-13.80	-14.15	881	310.5	269.5	33.9
02.50	8.07		8.1	.80	.15	883	310.7	271.0	35.5
03.00	8.09		8.1	.80	.15	881	311.0	272.5	36.8
03.50	8.12		8.1	.80	.15	880	311.2	274.2	38.0
04.00	8.28		8.3	.80	.13	878	311.3	276.0	38.9
04.50	8.55		8.6	.79	.12	879	311.4	277.9	39.6
05.00	8.60		8.6	.79	.12	880	311.5	279.8	40.0
05.50	8.27		8.3	.80	.13	873	311.4	281.7	40.2
06.00	8.16		8.2	.80	.14	871	311.4	283.6	40.1
06.50	8.07		8.1	.81	.15	868	311.2	285.5	39.8
07.00	7.97		8.0	.81	.15	869	311.1	287.3	39.3
07.50	7.92		7.9	.81	.16	868	310.8	289.0	38.5
08.00	7.94		7.9	.81	.16	866	310.6	290.6	37.6
08.50	7.96		8.0	.80	.16	871	310.3	292.0	36.4
09.00	8.11		8.1	.80	.15	873	310.0	293.3	35.0
09.50	7.92		7.9	.81	.16	865	309.7	294.5	33.5
10.00	8.09		8.1	.79	.15	871	309.4	295.6	31.8
10.50	8.25		8.2	.79	.15	872	309.0	296.5	30.0
11.00	8.32		8.3	.78	.14	873	308.8	297.3	28.1
11.50	8.43		8.4	.77	.14	877	308.5	298.0	26.0
12.00	8.83		8.8	.75	.11	886	308.3	298.6	23.9
12.50	9.13		9.1	.74	.10	891	308.1	299.1	21.7
13.00	9.42		9.4	.72	.08	902	308.0	299.5	19.4
13.50	9.78		9.8	.70	.06	910	308.0	299.9	17.1
14.00	10.02		10.0	.70	.05	916	308.1	300.2	14.7
14.50	10.28		10.3	.68	.04	931	308.3	300.6	12.3
15.00	10.60		10.6	.67	.02	941	308.5	300.9	9.9
15.50	10.87		10.9	.67	.00	945	308.8	301.2	7.5
16.00	11.14		11.1	.66	-13.99	951	309.2	301.6	5.1
16.50	11.33		11.3	.66	.98	958	309.7	302.0	2.7
17.00	11.51		11.5	.65	.97	968	310.2	302.4	0.4
17.50	11.74		11.7	.65	.96	982	310.8	302.9	-1.9
18.00	12.09		12.1	.64	.94	990	311.5	303.5	-4.2
18.50	12.59		12.6	.62	.92	996	312.1	304.3	-6.3
19.00	12.67		12.7	.62	.91	1002	312.8	305.1	-8.3
19.50	12.88		12.9	.62	.90	1018	313.5	306.1	-10.3
20.00	13.03		13.0	.62	.89	1026	314.2	307.2	-12.1
20.50	13.20		13.2	.61	.88	1033	314.8	308.5	-13.7
21.00	13.39		13.4	.61	.87	1043	315.4	309.9	-15.2
21.50	13.60		13.6	.60	.86	1047	315.9	311.5	-16.5
22.00	14.00		14.0	.60	.85	1052	316.3	313.2	-17.5
22.50	14.21		14.2	.59	.84	1062	316.7	315.0	-18.4
23.00	14.26		14.3	.58	.83	1070	316.9	317.0	-19.0
23.50	14.35		14.3	.58	.83	1073	317.0	319.0	-19.4
24.00	14.37		14.4	.58	.83	1082	317.0	321.1	-19.5
24.50	13.83		13.8	.59	.84	1070	316.9	323.2	-19.3
25.00	13.66		13.7	.59	.85	1068	316.7	325.3	-18.9
25.50	13.39		13.4	.60	.86	1053	316.4	327.3	-18.2
26.00	13.12		13.1	.61	.87	1044	315.9	329.3	-17.2
26.50	13.31		13.3	.60	.86	1054	315.4	331.1	-16.1
27.00	13.52		13.5	.59	.86	1055	314.5	332.8	-14.7
27.50	13.68		13.7	.58	.86	1050	313.8	334.3	-13.1
28.00	14.06		14.1	.56	.85	1049	313.1	335.7	-11.2
28.50	15.06		15.1	.53	.82	1069	312.3	337.0	-9.3
29.00	14.30		14.3	.55	.84	1049	311.5	338.1	-7.1
29.50	13.37		13.4	.57	.88	1031	310.7	339.1	-4.9
30.00	13.21		13.2	.57	.89	1031	309.8	339.9	-2.5
30.50	13.09		13.1	.57	.89	1025	309.0	340.6	0.0
31.00	13.05		13.0	.57	.90	1022	308.3	341.2	2.6
31.50	13.04		13.0	.57	.90	1026	307.6	341.7	5.2

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40532.00	13.46		13.5	-13.55	-13.89	1031	306.9	342.2	7.9
32.50	13.61		13.6	.55	.89	1022	306.3	342.5	10.6
33.00	14.11		14.1	.54	.88	1029	305.8	342.9	13.3
33.50	13.79		13.8	.54	.89	1021	305.4	343.2	16.1
34.00	13.99		14.0	.54	.88	1018	305.1	343.5	18.9
34.50	14.47		14.5	.53	.87	1014	304.9	343.8	21.6
35.00	14.55		14.5	.53	.87	1016	304.8	344.1	24.3
35.50	14.35		14.4	.53	.88	1015	304.7	344.5	27.0
36.00	14.34		14.3	.53	.88	1014	304.8	344.9	29.6
36.50	12.01		12.0	.61	.96	969	304.9	345.4	32.2
37.00	12.01		12.0	.61	.96	972	305.0	345.9	34.6
37.50	11.91		11.9	.61	.96	975	305.2	346.6	37.0
38.00	11.96		12.0	.61	.96	985	305.5	347.4	39.3
38.50	12.05		12.1	.60	.96	988	305.8	348.3	41.4
39.00	12.11		12.1	.61	.96	989	306.1	349.4	43.4
39.50	12.39		12.4	.60	.95	1004	306.4	350.6	45.2
40.00	12.75		12.7	.59	.93	1018	306.7	351.9	46.9
40.50	12.76		12.8	.59	.93	1022	306.9	353.3	48.4
41.00	12.89		12.9	.59	.93	1025	307.1	354.9	49.6
41.50	13.06		13.1	.58	.92	1030	307.3	356.6	50.6
42.00	13.13		13.1	.58	.92	1027	307.4	358.4	51.4
42.50	13.22		13.2	.58	.91	1030	307.5	0.2	52.0
43.00	13.38		13.4	.58	.91	1035	307.5	2.1	52.3
43.50	13.54		13.5	.58	.90	1035	307.4	4.0	52.3
44.00	13.68		13.7	.57	.90	1041	307.3	5.9	52.1
44.50	13.94		13.9	.57	.89	1044	307.1	7.7	51.7
45.00	14.65		14.6	.55	.87	1054	306.9	9.4	51.0
45.50	15.23		15.2	.53	.85	1072	306.6	11.1	50.0
46.00	15.40		15.4	.52	.85	1088	306.2	12.6	48.9
46.50	15.35		15.3	.53	.85	1085	305.8	13.9	47.5
47.00	15.71		15.7	.52	.84	1089	305.4	15.2	46.0
47.50	16.01		16.0	.51	.83	1088	305.0	16.3	44.3
48.00	17.26		17.3	.48	.80	1119	304.6	17.2	42.5
48.50	17.69		17.7	.46	.79	1134	304.1	18.0	40.5
49.00	17.72		17.7	.46	.79	1134	303.7	18.7	38.4
49.50	17.97		18.0	.46	.79	1136	303.3	19.3	36.1
50.00	18.18		18.2	.45	.78	1140	303.0	19.9	33.8
50.50	18.19		18.2	.45	.78	1141	302.7	20.3	31.5
51.00	18.26		18.3	.44	.78	1139	302.6	20.7	29.0
51.50	18.43		18.4	.44	.78	1144	302.5	21.0	26.5
52.00	18.74		18.7	.43	.77	1151	302.5	21.3	24.0
52.50	18.58		18.6	.43	.77	1137	302.6	21.5	21.5
53.00	18.79		18.8	.43	.77	1143	302.7	21.8	18.9
53.50	17.85		17.8	.45	.79	1136	303.0	22.1	16.4
54.00	17.66		17.7	.45	.79	1142	303.4	22.5	13.8
54.50	17.49		17.5	.46	.79	1134	303.9	22.9	11.3
55.00	17.31		17.3	.46	.80	1123	304.4	23.3	8.9
55.50	16.64		16.6	.48	.81	1110	305.0	23.9	6.5
56.00	15.92		15.9	.50	.83	1107	305.4	24.6	4.2
56.50	15.59		15.6	.51	.84	1112	306.1	25.4	2.0
57.00	15.28		15.3	.52	.84	1115	306.8	26.3	-0.1
57.50	15.02		15.0	.52	.85	1113	307.5	27.4	-2.1
58.00	14.71		14.7	.54	.85	1110	308.2	28.6	-3.9
58.50	14.43		14.4	.55	.86	1111	308.8	30.1	-5.5
59.00	14.62		14.6	.54	.85	1112	309.4	31.6	-7.0
59.50	14.94		14.9	.54	.84	1112	309.9	33.3	-8.2
60.00	14.91		14.9	.54	.84	1117	310.3	35.2	-9.2
60.50	15.12		15.1	.54	.83	1116	310.6	37.2	-9.9
61.00	16.43		16.4	.51	.80	1135	310.8	39.2	-10.4
61.50	15.27		15.3	.54	.83	1108	310.9	41.4	-10.6

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40562.00	14.30		14.3	-13.57	-13.86	1093	310.9	43.5	-10.5
62.50	13.97		14.0	.57	.87	1097	310.7	45.6	-10.2
63.00	13.73		13.7	.58	.88	1091	310.4	47.7	-9.6
63.50	13.30		13.3	.59	.90	1079	310.0	49.6	-8.7
64.00	12.56		12.6	.61	.93	1051	309.5	51.5	-7.5
64.50	12.16		12.2	.63	.95	1032	308.9	53.2	-6.2
65.00	12.43		12.4	.62	.94	1043	308.2	54.8	-4.6
65.50	12.56		12.6	.61	.94	1052	307.5	56.2	-2.8
66.00	12.90		12.9	.60	.94	1045	306.7	57.4	-0.8
66.50	13.28		13.3	.59	.93	1046	305.9	58.5	1.3
67.00	13.62		13.6	.57	.93	1058	305.0	59.4	3.6
67.50	13.87		13.9	.56	.92	1068	304.2	60.2	5.9
68.00	13.80		13.8	.56	.93	1066	303.4	60.8	8.4
68.50	13.83		13.8	.56	.94	1065	302.6	61.4	10.9
69.00	13.80		13.8	.56	.94	1063	301.9	61.8	13.5
69.50	13.88		13.9	.56	.94	1060	301.3	62.2	16.2
70.00	14.05		14.1	.55	.94	1059	300.7	62.6	18.9
70.50	14.34		14.3	.55	.94	1059	300.2	62.9	21.6
71.00	14.80		14.8	.54	.93	1063	299.8	63.2	24.3
71.50	14.89		14.9	.54	.93	1057	299.5	63.4	27.0
72.00	15.01		15.0	.54	.93	1057	299.3	63.7	29.6
72.50	15.14		15.1	.53	.94	1066	299.1	64.1	32.2
73.00	15.31		15.3	.53	.93	1073	299.1	64.4	34.8
73.50	15.40		15.4	.53	.93	1075	299.1	64.9	37.3
74.00	15.48		15.5	.53	.93	1080	299.2	65.4	39.7
74.50	15.60		15.6	.53	.93	1079	299.3	66.1	42.1
75.00	15.70		15.7	.53	.93	1080	299.5	66.8	44.3
75.50	15.75		15.8	.53	.93	1083	299.7	67.7	46.4
76.00	15.75		15.8	.53	.94	1082	299.9	68.7	48.3
76.50	15.80		15.8	.54	.94	1081	300.1	69.8	50.1
77.00	15.79		15.8	.54	.94	1081	300.4	71.1	51.7
77.50	15.82		15.8	.55	.94	1071	300.5	72.6	53.1
78.00	15.88		15.9	.55	.94	1067	300.7	74.1	54.3
78.50	15.89		15.9	.55	.94	1064	300.8	75.8	55.2
79.00	15.78		15.8	.56	.95	1056	300.8	77.6	55.9
79.50	15.72		15.7	.56	.95	1055	300.8	79.4	56.4
80.00	15.44		15.4	.57	.97	1050	300.5	81.3	56.6
80.50	15.14		15.1	.58	.98	1038	300.4	83.2	56.5
81.00	15.10		15.1	.58	.98	1039	300.2	85.1	56.1
81.50	15.31		15.3	.57	.98	1046	299.9	86.9	55.5
82.00	15.82		15.8	.55	.96	1049	299.6	88.7	54.7
82.50	16.00		16.0	.55	.96	1051	299.2	90.3	53.6
83.00	14.31		14.3	.59	-14.02	1023	298.8	91.8	52.3
83.50	13.50		13.5	.61	.04	1007	298.4	93.2	50.8
84.00	12.71		12.7	.64	.07	982	297.9	94.4	49.0
84.50	13.25		13.3	.62	.05	994	297.5	95.5	47.2
85.00	13.86		13.9	.60	.04	1011	297.0	96.4	45.1
85.50	14.11		14.1	.59	.03	1020	296.6	97.2	42.9
86.00	14.00		14.0	.59	.04	1017	296.3	97.9	40.6
86.50	13.91		13.9	.59	.04	1013	296.0	98.5	38.2
87.00	13.84		13.8	.59	.04	1008	295.7	99.0	35.7
87.50	14.41		14.4	.58	.03	1017	295.6	99.4	33.1
40587.80	14.8		14.8	-13.56	-14.01	1024	295.5	99.7	31.5
88.00	16.4		16.4	.52	-13.97	1054	295.5	99.8	30.5
88.20	16.4		16.4	.52	.97	1053	295.5	99.9	29.4
88.40	17.8		17.8	.49	.93	1074	295.5	100.0	28.3
88.60	17.9		17.9	.49	.93	1066	295.5	100.2	27.2
88.80	17.1		17.1	.51	.95	1052	295.5	100.3	26.1
89.00	17.0		17.0	.51	.95	1052	295.6	100.4	25.0

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40589.20	15.9		15.9	-13.54	-13.98	1033	295.7	100.5	23.9
89.40	14.8		14.8	.57	-14.01	1014	295.8	100.6	22.8
40590.00	13.04		13.0	-13.62	-14.07	987	296.1	101.0	19.5
90.50	12.82		12.8	.63	.07	989	296.5	101.3	16.8
91.00	12.59		12.6	.64	.08	986	297.0	101.7	14.1
91.50	12.41		12.4	.65	.08	980	297.6	102.2	11.4
92.00	12.27		12.3	.65	.09	975	298.2	102.7	8.8
92.50	11.89		11.9	.67	.10	968	298.9	103.4	6.2
93.00	11.69		11.7	.68	.10	969	299.6	104.1	3.8
93.50	11.63		11.6	.69	.11	969	300.3	105.0	1.4
94.00	11.68		11.7	.69	.10	970	301.0	106.1	-0.8
94.50	11.83		11.8	.69	.10	972	301.7	107.3	-2.9
95.00	11.98		12.0	.69	.09	975	302.4	108.7	-4.8
95.50	12.23		12.2	.68	.08	980	302.9	110.3	-6.5
96.00	11.82		11.8	.70	.10	972	303.4	112.1	-8.0
96.50	11.82		11.8	.71	.10	974	303.9	114.0	-9.2
97.00	11.76		11.8	.71	.10	978	304.1	116.0	-10.2
97.50	12.17		12.2	.70	.08	988	304.3	118.1	-10.9
98.00	12.97		13.0	.68	.06	1004	304.3	120.3	-11.3
98.50	13.73		13.7	.66	.04	1018	304.2	122.6	-11.5
99.00	13.90		13.9	.66	.03	1021	304.0	124.8	-11.3
99.50	13.92		13.9	.66	.04	1018	303.6	127.0	-10.9
40600.00	14.03		14.0	.65	.04	1017	303.1	129.1	-10.1
00.50	14.33		14.3	.64	.03	1025	302.4	131.0	-9.1
01.00	14.60		14.6	.64	.03	1023	301.7	132.8	-7.9
01.50	14.91		14.9	.63	.03	1022	300.8	134.5	-6.4
40601.80	15.5		15.5	-13.61	-14.02	1035	300.3	135.4	-5.4
02.00	15.9		15.9	.59	.01	1043	299.9	135.9	-4.7
02.20	16.7		16.7	.57	-13.99	1056	299.5	136.5	-4.0
02.40	17.2		17.2	.56	.98	1059	299.1	137.0	-3.3
02.60	18.0		18.0	.55	.96	1067	298.7	137.5	-2.5
02.80	20.0		20.0	.50	.91	1100	298.3	138.0	-1.7
03.00	18.9		18.9	.52	.94	1077	297.9	138.4	-0.8
03.20	19.7		19.7	.51	.93	1090	297.4	138.8	0.0
03.40	21.8		21.8	.46	.89	1125	297.0	139.2	0.9
03.60	17.6		17.6	.55	.98	1052	297.3	139.6	1.8
03.80	17.5		17.5	.55	.99	1057	296.9	139.9	2.7
04.00	17.3		17.3	.55	-14.00	1051	296.5	140.2	3.6
04.20	16.9		16.9	.56	.01	1035	296.0	140.5	4.6
40604.50	16.74		16.7	-13.57	-14.02	1027	295.5	141.0	6.0
05.00	15.96		16.0	.58	.05	1010	294.5	141.6	8.5
05.50	16.29		16.3	.57	.05	1012	293.6	142.1	11.0
06.00	17.11		17.1	.55	.04	1019	292.8	142.5	13.6
06.50	17.80		17.8	.54	.02	1025	292.1	142.9	16.2
07.00	18.04		18.0	.53	.03	1024	291.5	143.3	18.8
07.50	17.80		17.8	.53	.04	1015	291.0	143.6	21.5
08.00	17.55		17.6	.54	.05	1005	290.5	143.9	24.1
08.50	17.27		17.3	.55	.06	1000	290.2	144.3	26.7
09.00	16.92		16.9	.56	.08	991	290.0	144.7	29.2
09.50	16.61		16.6	.57	.09	980	289.9	145.2	31.7
10.00	16.21		16.2	.58	.10	970	289.9	145.7	34.1
10.50	15.78		15.8	.59	.12	957	289.9	146.3	36.4
11.00	15.36		15.4	.61	.13	947	290.0	147.0	38.6
11.50	14.94		14.9	.62	.15	940	290.1	147.9	40.7
12.00	14.47		14.5	.63	.17	933	290.3	148.9	42.6
12.50	14.19		14.2	.64	.18	925	290.4	150.0	44.4
13.00	14.12		14.1	.65	.19	921	290.6	151.3	46.0

Table 4 (Cont)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40613.50	14.23		14.2	-13.66	-14.18	919	290.8	152.7	47.4
14.00	14.39		14.4	.65	.17	920	290.9	154.3	48.6
14.50	14.82		14.8	.64	.17	928	291.0	155.9	49.5
15.00	15.56		15.6	.63	.14	939	291.1	157.7	50.3
15.50	16.08		16.1	.62	.13	944	291.1	159.6	50.7
16.00	16.26		16.3	.61	.13	947	291.0	161.6	50.9
16.50	16.15		16.1	.62	.13	939	290.9	163.5	50.8
17.00	15.84		15.8	.63	.14	928	290.7	165.5	50.5
17.50	15.17		15.2	.64	.16	918	290.5	167.4	49.9
40617.80	13.7		13.7	-13.68	-14.22	893	290.3	168.5	49.4
18.00	13.0		13.0	.71	.24	879	290.2	169.2	49.0
18.20	14.4		14.4	.66	.20	904	290.1	170.0	48.6
18.40	14.6		14.6	.66	.19	903	290.0	170.7	48.1
18.60	11.8		11.8	.75	.29	850	289.8	171.3	47.6
18.80	11.4		11.4	.76	.31	845	289.7	172.0	47.1
19.00	12.5		12.5	.72	.27	863	289.5	172.6	46.5
19.20	15.3		15.3	.64	.17	907	289.3	173.2	45.9
19.40	16.9		16.9	.59	.13	930	289.2	173.8	45.2
19.60	15.8		15.8	.62	.16	911	289.0	174.4	44.6
19.80	15.3		15.3	.63	.18	903	288.8	174.9	43.8
20.00	16.2		16.2	.61	.15	916	288.7	175.4	43.1
20.20	16.7		16.7	.60	.14	921	288.5	175.9	42.3
20.40	16.2		16.2	.61	.16	916	288.3	176.4	41.5
20.60	15.3		15.3	.63	.19	904	288.1	176.9	40.7
20.80	14.1		14.1	.66	.23	884	288.0	177.3	39.9
21.00	13.6		13.6	.67	.25	877	287.8	177.7	39.0
21.20	14.2		14.2	.65	.23	888	287.6	178.1	38.1
21.40	14.3		14.3	.65	.23	886	287.5	178.4	37.2
21.60	15.6		15.6	.61	.19	905	287.3	178.8	36.2
21.80	16.9		16.9	.58	.15	921	287.1	179.1	35.2
22.00	16.6		16.6	.59	.15	913	287.0	179.4	34.2
22.20	17.1		17.1	.57	.14	923	286.8	179.7	33.2
22.40	17.0		17.0	.57	.15	923	286.7	179.9	32.2
22.60	15.8		15.8	.60	.19	904	286.6	180.2	31.2
22.80	15.1		15.1	.62	.21	891	286.5	180.4	30.1
23.00	14.9		14.9	.63	.21	887	286.4	180.7	29.1
23.20	15.5		15.5	.61	.20	898	286.3	180.9	28.0
23.40	15.3		15.3	.61	.21	897	286.2	181.1	26.9
23.60	15.3		15.3	.61	.21	901	286.1	181.2	25.8
23.80	14.8		14.8	.62	.23	894	286.1	181.4	24.7
24.00	14.8		14.8	.62	.23	894	286.0	181.6	23.5
24.20	14.7		14.7	.62	.23	891	286.0	181.8	22.4
24.40	14.7		14.7	.62	.23	893	286.0	181.9	21.3
24.60	14.9		14.9	.62	.23	898	286.0	182.1	20.1
24.80	15.3		15.3	.61	.22	904	286.0	182.2	19.0
25.00	15.6		15.6	.60	.21	910	286.1	182.4	17.8
25.20	15.7		15.7	.60	.20	912	286.1	182.5	16.6
25.40	15.9		15.9	.59	.20	917	286.2	182.7	15.5
25.60	16.1		16.1	.59	.19	920	286.3	182.8	14.3
25.80	16.4		16.4	.58	.18	923	286.3	182.9	13.1
26.00	16.7		16.7	.58	.17	927	286.5	183.1	12.0
40645.50	33.4		33.4	-13.34	-13.99	994	275.7	230.3	22.0
45.75	34.4		34.4	.33	.98	1004	275.6	230.6	23.2
46.00	35.5		35.5	.32	.97	1014	275.5	231.0	24.3
46.25	34.4		34.4	.34	.99	998	275.4	231.3	25.4
46.50	34.5		34.5	.34	.98	990	275.4	231.7	26.5
46.75	34.1		34.1	.35	.99	980	275.3	232.1	27.6

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40647.00	34.2		34.2	-13.35	-13.99	988	275.2	232.5	28.6
47.25	33.6		33.6	.35	-14.01	982	275.2	233.0	29.6
47.50	33.1		33.1	.37	.01	969	275.1	233.5	30.5
47.75	31.8		31.8	.38	.03	957	275.1	234.0	31.4
48.00	32.0		32.0	.38	.04	962	275.0	234.6	32.3
48.25	32.2		32.2	.38	.04	963	275.0	235.2	33.1
48.50	32.6		32.6	.38	.03	962	274.9	235.8	33.9
48.75	33.4		33.4	.37	.02	964	274.8	236.5	34.6
49.00	34.1		34.1	.36	.01	966	274.7	237.2	35.3
49.25	32.8		32.8	.38	.03	953	274.6	237.9	35.9
49.50	31.6		31.6	.40	.06	941	274.5	238.7	36.4
49.75	31.6		31.6	.40	.06	936	274.4	239.5	36.9
50.00	33.5		33.5	.38	.03	950	274.2	240.4	37.4
50.25	36.0		36.0	.35	.01	976	274.1	241.2	37.8
50.50	36.7		36.7	.34	.01	983	273.9	242.1	38.1
50.75	37.4		37.4	.33	.00	986	273.7	243.0	38.4
51.00	38.1		38.1	.33	-13.99	985	273.4	243.9	38.6
51.25	38.4		38.4	.32	.99	980	273.2	244.9	38.7
51.50	38.9		38.9	.32	.98	982	272.9	245.8	38.7
51.75	38.9		38.9	.32	.99	982	272.6	246.8	38.7
52.00	40.2		40.2	.31	.98	984	272.2	247.8	38.7
52.25	42.2		42.2	.29	.95	988	271.9	248.7	38.5
52.50	42.3		42.3	.29	.96	989	271.5	249.7	38.3
52.75	43.1		43.1	.28	.95	994	271.1	250.6	38.0
53.00	43.7		43.7	.28	.95	986	270.6	251.5	37.7
53.25	45.0		45.0	.27	.94	991	270.1	252.5	37.3
53.50	47.4		47.4	.24	.92	1006	269.6	253.3	36.8
53.75	55.3		55.3	.18	.85	1046	269.1	254.2	36.3
54.00	72.8		72.8	.06	.71	1125	268.5	255.0	35.7
54.25	50.8		50.8	.22	.88	984	268.0	255.9	35.0
54.50	41.4		41.4	.30	-14.00	942	267.4	256.6	34.3
54.75	42.3		42.3	.29	.00	952	266.7	257.4	33.5
55.00	42.8		42.8	.28	.00	949	266.4	258.1	32.7
55.25	42.6		42.6	.28	.01	952	265.9	258.7	31.8
55.50	42.0		42.0	.28	.04	954	265.3	259.4	30.9
55.75	41.3		41.3	.29	.06	950	264.8	260.0	29.9
56.00	37.6		37.6	.33	.10	915	264.2	260.5	28.9
56.25	40.3		40.3	.30	.08	936	263.7	261.0	27.8
56.50	41.3		41.3	.28	.08	944	263.1	261.5	26.7
56.75	42.1		42.1	.27	.08	947	262.5	262.0	25.6
57.00	43.2		43.2	.26	.07	946	262.0	262.4	24.4
57.25	47.3		47.3	.23	.03	969	261.5	262.8	23.2
57.50	49.0		49.0	.21	.02	973	260.9	263.1	22.0
57.75	46.1		46.1	.24	.05	947	260.4	263.5	20.7
58.00	45.0		45.0	.25	.07	943	259.9	263.8	19.4
58.25	45.3		45.3	.24	.08	944	259.4	264.0	18.1
58.50	45.7		45.7	.24	.07	934	258.9	264.3	16.7
58.75	46.9		46.9	.23	.05	931	258.4	264.5	15.4
59.00	47.5		47.5	.23	.05	933	258.0	264.7	14.0
59.25	48.2		48.2	.22	.06	939	257.5	264.9	12.6
59.50	49.5		49.5	.21	.06	948	257.1	265.1	11.1
59.75	51.2		51.2	.19	.06	959	256.7	265.3	9.7
60.00	51.4		51.4	.19	.07	958	256.3	265.4	8.3
60.25	51.5		51.5	.19	.06	947	256.0	265.6	6.8
60.50	53.5		53.5	.18	.04	950	255.6	265.8	5.3
60.75	56.1		56.1	.16	.03	964	255.3	265.9	3.9
61.00	55.8		55.8	.16	.04	961	255.0	266.0	2.4
61.25	53.7		53.7	.18	.07	951	254.8	266.2	0.9
61.50	51.3		51.3	.20	.10	932	254.5	266.4	-0.6
61.75	51.1		51.1	.20	.10	923	254.3	266.5	-2.1

Table 4 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
40662.00	50.2		50.2	-13.21	-14.11	913	254.1	266.7	-3.6
62.25	49.8		49.8	.22	.13	909	253.9	266.9	-5.1
62.50	50.3		50.3	.21	.13	908	253.7	267.1	-6.5
62.75	51.3		51.3	.21	.11	903	253.5	267.3	-8.0
63.00	52.4		52.4	.21	.10	903	253.3	267.5	-9.4
63.25	54.2		54.2	.19	.10	914	253.2	267.8	-10.9
63.50	55.5		55.5	.19	.10	919	253.1	268.1	-12.3
63.75	58.0		58.0	.17	.08	928	252.9	268.4	-13.7
64.00	58.1		58.1	.17	.08	922	252.8	268.8	-15.1
64.25	58.4		58.4	.17	.09	922	252.7	269.2	-16.5
64.50	59.7		59.7	.17	.08	928	252.6	269.6	-17.8
64.75	62.8		62.8	.15	.07	943	252.4	270.0	-19.1
65.00	62.2		62.2	.16	.08	934	252.3	270.6	-20.4
65.25	52.5		52.5	.24	.15	873	252.2	271.1	-21.6
65.50	52.9		52.9	.23	.17	876	252.0	271.7	-22.9
65.75	56.6		56.6	.21	.14	893	251.8	272.3	-24.0
66.00	61.9		61.9	.18	.09	912	251.6	273.0	-25.1
66.25	66.4		66.4	.15	.07	933	251.4	273.7	-26.2

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39600.00	1.01	-0.02	0.99	-15.69	-15.98	917	559.8	170.9	20.1
39601.00	1.2	0.0	1.2	-15.61	-15.89	943	560.0	172.6	20.6
02.00	1.1	0.0	1.1	.65	.93	932	560.1	174.4	20.8
03.00	1.1	0.0	1.1	.64	.92	933	560.1	176.2	20.6
04.00	1.5	0.0	1.4	.54	.82	964	560.1	178.0	20.2
05.00	1.2	0.0	1.1	.64	.92	932	560.0	179.8	19.4
06.00	0.9	0.0	0.9	.73	-16.02	911	559.8	181.5	18.4
07.00	0.8	0.0	0.7	.85	.14	882	559.6	183.1	17.0
08.00	0.7	0.0	0.6	.91	.21	863	559.3	184.6	15.4
09.00	0.7	0.0	0.6	.91	.21	863	559.0	185.8	13.5
10.00	0.8	0.0	0.8	.79	.08	898	558.7	186.9	11.4
11.00	0.9	0.0	0.8	.78	.08	897	558.3	187.9	9.1
12.00	0.9	0.0	0.9	.73	.03	909	558.0	188.6	6.7
13.00	1.5	0.0	1.4	.54	-15.83	962	557.7	189.2	4.0
14.00	1.4	0.0	1.3	.57	.87	952	557.4	189.7	1.3
15.00	0.8	0.0	0.8	.79	-16.09	893	557.2	190.0	-1.6
16.00	0.8	0.0	0.8	.79	.10	894	557.1	190.2	-4.6
17.00	0.7	0.0	0.6	.92	.23	859	557.1	190.3	-7.6
39618.00	0.61	-0.01	0.60	-15.92	-16.23	860	557.2	190.3	-10.7
20.00	0.51	0.00	0.51	-16.00	.31	841	557.6	190.2	-17.0
22.00	0.41	0.00	0.41	.10	.40	814	558.5	190.2	-23.2
24.00	0.35	0.01	0.36	.17	.45	800	559.7	190.3	-29.3
26.00	0.52	0.02	0.54	.00	.27	852	561.3	190.7	-35.2
28.00	0.47	0.03	0.50	.04	.29	845	562.9	191.6	-40.5
30.00	0.51	0.04	0.55	.00	.24	863	564.5	193.2	-45.2
39631.00	0.5	0.0	0.5	-16.04	-16.27	854	565.2	194.2	-47.3
32.00	0.4	0.1	0.5	.03	.26	857	565.9	195.4	-49.1
33.00	0.4	0.1	0.5	.03	.25	860	566.4	196.8	-50.7
34.00	0.5	0.1	0.6	-15.94	.16	886	566.9	198.3	-52.0
39635.00	1.5	0.1	2.	-15.41	-15.63	1065	567.2	199.9	-53.0
35.50	2.4	0.1	2.	.41	.62	1062	567.3	200.8	-53.4
36.00	3.0	0.1	3.	.23	.43	1122	567.4	201.7	-53.7
36.50	1.2	0.1	1.	.70	.91	942	567.5	202.6	-53.9
37.00	1.2	0.1	1.	.70	.91	954	567.5	203.5	-54.0
37.50	0.6	0.1	1.	.71	.92	961	567.5	204.4	-54.1
38.00	0.9	0.1	1.	.71	.92	962	567.4	205.3	-54.1
39639.00	0.8	0.1	0.9	-15.75	-15.96	942	567.2	207.0	-53.8
40.00	0.8	0.1	0.9	.75	.97	944	566.9	208.7	-53.2
41.00	1.2	0.1	1.3	.59	.82	998	566.4	210.2	-52.3
42.00	0.7	0.1	0.8	.81	-16.04	929	565.9	211.6	-51.1
43.00	0.6	0.1	0.7	.87	.11	915	565.2	212.8	-49.7
44.00	0.3	0.1	0.4	-16.11	.36	841	564.5	213.8	-48.0
45.00	0.3	0.1	0.4	.12	.37	840	563.7	214.7	-46.1
46.00	0.4	0.1	0.5	.02	.27	867	562.9	215.4	-44.0
47.00	0.7	0.1	0.9	-15.75	.02	942	562.0	215.9	-41.8
48.00	0.5	0.1	0.6	.93	.20	887	561.2	216.3	-39.4
49.00	0.2	0.1	0.3	-16.24	.52	803	560.4	216.5	-36.9
50.00	0.1	0.1	0.2	.42	.70	754	559.6	216.7	-34.3
51.00	0.0	0.1	0.1	.72	-17.01	660	558.9	216.7	-31.6
39652.00	0.10	0.13	0.23	-16.36	-16.66	774	558.3	216.7	-28.9
54.00	0.04	0.14	0.18	.46	.77	750	557.3	216.5	-23.3
56.00	0.03	0.15	0.18	.45	.77	755	556.8	216.3	-17.7
58.00	0.07	0.16	0.23	.33	.66	789	556.7	216.3	-12.2
60.00	0.08	0.16	0.24	.31	.63	800	556.9	216.6	-6.9

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39662.00	0.08	0.17	0.25	-16.28	-16.60	810	557.4	217.4	-2.1
64.00	0.12	0.18	0.30	.20	.51	836	556.0	218.8	2.1
66.00	0.23	0.18	0.41	.05	.36	875	558.6	220.9	5.6
68.00	0.23	0.17	0.40	.06	.36	873	559.1	223.7	8.1
70.00	0.27	0.16	0.43	.03	.33	884	559.4	227.0	9.4
72.00	0.24	0.15	0.39	.07	.37	874	559.4	230.4	9.6
74.00	0.25	0.14	0.39	.08	.38	875	559.1	233.7	8.5
76.00	0.29	0.13	0.42	.05	.36	883	558.5	236.6	6.3
78.00	0.19	0.11	0.30	.20	.51	841	558.0	238.7	3.1
80.00	-0.01	0.10	0.09	.73	-17.05	707	557.4	240.3	-0.8
82.00	-0.02	0.10	0.08	.79	.11	687	556.9	241.1	-5.4
84.00	0.05	0.10	0.15	.52	-16.84	755	556.6	241.5	-10.4
86.00	0.06	0.10	0.16	.49	.82	762	556.7	241.5	-15.7
88.00	0.14	0.11	0.25	.30	.62	812	557.2	241.4	-21.1
90.00	0.13	0.12	0.25	.31	.61	812	558.1	241.3	-26.5
92.00	0.17	0.14	0.31	.22	.52	838	559.4	241.3	-31.8
94.00	0.24	0.15	0.39	.12	.40	868	561.0	241.7	-36.7
96.00	0.23	0.16	0.39	.12	.38	870	562.7	242.7	-41.2
98.00	0.23	0.17	0.40	.10	.35	879	564.3	244.2	-45.0
39700.00	0.26	0.18	0.44	.06	.29	893	565.7	246.5	-48.0
02.00	0.21	0.19	0.40	.11	.33	883	566.8	249.5	-49.9
04.00	0.18	0.20	0.38	.14	.37	876	567.3	253.0	-50.7
06.00	0.16	0.21	0.37	.16	.38	868	567.4	256.6	-50.2
08.00	0.12	0.22	0.34	.20	.43	853	566.9	260.1	-48.5
10.00	0.12	0.22	0.34	.19	.43	852	565.9	263.1	-45.5
12.00	0.11	0.23	0.34	.19	.44	848	564.5	265.5	-41.5
14.00	0.08	0.23	0.31	.22	.49	835	562.9	267.2	-36.7
16.00	0.12	0.24	0.36	.15	.43	852	561.3	268.3	-31.2
18.00	0.16	0.24	0.40	.11	.40	861	559.8	268.8	-25.3
20.00	0.20	0.24	0.44	.06	.36	871	558.5	269.0	-19.1
22.00	0.27	0.24	0.51	-15.98	.29	890	557.6	269.0	-12.7
24.00	0.34	0.24	0.58	.93	.23	907	557.2	269.1	-6.3
26.00	0.42	0.24	0.66	.87	.17	923	557.1	269.3	-0.1
28.00	0.51	0.24	0.75	.81	.12	936	557.4	269.8	5.9
30.00	0.61	0.24	0.85	.76	.06	953	557.9	270.9	11.4
32.00	0.70	0.24	0.94	.72	.01	965	558.6	272.6	16.4
34.00	0.82	0.24	1.06	.67	-15.95	977	559.3	275.1	20.5
36.00	0.75	0.24	0.99	.70	.98	966	559.8	278.1	23.6
38.00	0.65	0.23	0.88	.76	-16.04	948	560.1	281.7	25.6
40.00	0.71	0.23	0.94	.73	.01	952	560.1	285.4	26.3
42.00	0.75	0.23	0.98	.71	.00	952	559.8	288.9	25.8
44.00	0.71	0.22	0.93	.73	.02	943	559.3	292.0	24.2
46.00	0.75	0.22	0.97	.71	.00	942	558.6	294.4	21.5
48.00	0.80	0.21	1.01	.69	-15.99	940	558.0	296.2	18.1
50.00	0.71	0.20	0.91	.74	-16.03	924	557.5	297.3	14.0
39751.00	0.9	0.2	1.1	-15.66	-15.96	949	557.4	297.7	11.8
52.00	0.9	0.2	1.1	.65	.95	945	557.3	297.9	9.5
53.00	1.2	0.2	1.4	.55	.84	974	557.4	298.1	7.1
54.00	1.5	0.2	1.7	.46	.75	997	557.5	298.2	4.7
55.00	1.2	0.2	1.4	.54	.83	969	557.7	298.2	2.2
56.00	0.8	0.2	1.0	.70	.99	928	558.1	298.3	-0.3
57.00	0.8	0.2	1.0	.70	.99	929	558.5	298.3	-2.7
58.00	0.8	0.2	1.0	.70	.99	928	559.0	298.4	-5.2
59.00	0.8	0.2	1.0	.70	.98	929	559.7	298.5	-7.6
60.00	0.8	0.2	1.0	.70	.97	928	560.4	298.6	-10.0
61.00	1.8	0.2	2.0	.40	.66	1024	561.2	298.9	-12.3
62.00	1.8	0.2	2.0	.40	.65	1020	562.0	299.2	-14.6
63.00	1.5	0.2	1.7	.47	.72	993	562.8	299.7	-16.7
64.00	1.2	0.2	1.4	.55	.80	968	563.7	300.4	-18.6

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39765.00	0.9	0.2	1.0	-15.70	-15.95	928	564.6	301.2	-20.5
66.00	0.9	0.2	1.1	.66	.90	943	565.4	302.7	-22.1
67.00	0.9	0.2	1.0	.71	.94	930	566.1	303.3	-23.5
68.00	0.8	0.2	1.0	.71	.93	929	566.8	304.6	-24.7
69.00	1.0	0.2	1.2	.63	.85	953	567.4	306.1	-25.7
70.00	1.0	0.2	1.2	.63	.85	953	567.9	307.8	-26.4
71.00	1.2	0.2	1.4	.56	.77	975	568.2	309.5	-26.7
72.00	1.4	0.2	1.6	.50	.71	992	568.5	311.4	-26.8
73.00	1.9	0.2	2.1	.38	.59	1028	568.5	313.2	-26.6
74.00	1.8	0.2	1.9	.42	.63	1012	568.5	315.1	-26.0
75.00	1.3	0.2	1.5	.53	.73	980	568.3	317.0	-25.2
76.00	1.2	0.2	1.4	.55	.76	971	568.0	318.7	-24.0
39778.00	1.47	0.18	1.65	-15.48	-15.70	993	567.0	321.8	-20.8
80.00	1.48	0.16	1.64	.48	.70	989	565.7	324.2	-16.6
82.00	1.64	0.15	1.79	.44	.68	999	564.1	325.9	-11.6
84.00	1.70	0.13	1.83	.42	.67	1002	562.5	326.9	-6.0
86.00	2.08	0.12	2.20	.34	.60	1027	561.0	327.4	0.0
39788.00	2.2	0.1	2.3	-15.32	-15.58	1032	559.8	327.6	6.3
89.00	2.4	0.1	2.5	.28	.55	1045	559.3	327.6	9.5
90.00	2.8	0.1	2.9	.22	.48	1067	558.9	327.5	12.7
91.00	2.9	0.1	2.9	.22	.48	1062	558.6	327.5	16.0
92.00	3.3	0.1	3.3	.17	.42	1080	558.5	327.5	19.1
93.00	3.1	0.1	3.1	.20	.45	1070	558.4	327.5	22.3
94.00	3.0	0.1	3.1	.20	.45	1074	558.4	327.6	25.4
95.00	3.0	0.0	3.1	.20	.46	1078	558.6	327.8	28.4
96.00	2.0	0.0	2.0	.39	.65	1005	558.8	328.1	31.3
97.00	2.0	0.0	2.0	.39	.65	1001	559.0	328.5	34.1
98.00	2.9	0.0	2.9	.23	.48	1058	559.3	329.1	36.8
99.00	2.7	0.0	2.7	.26	.52	1048	559.7	329.8	39.3
39800.00	1.6	0.0	1.6	.49	.75	970	560.0	330.7	41.6
01.00	1.3	0.0	1.3	.58	.84	942	560.4	331.7	43.6
02.00	1.3	0.0	1.3	.58	.84	941	560.7	332.9	45.5
03.00	1.2	0.0	1.2	.62	.87	928	561.0	334.3	47.1
04.00	1.5	0.0	1.5	.52	.77	961	561.2	335.8	48.4
05.00	1.5	0.0	1.5	.52	.77	965	561.4	337.5	49.5
06.00	1.6	0.0	1.6	.49	.74	973	561.5	339.2	50.2
07.00	1.6	0.0	1.6	.49	.73	971	561.6	340.9	50.6
08.00	1.6	0.0	1.6	.49	.73	974	561.5	342.7	50.7
39810.00	2.13	0.03	2.16	-15.36	-15.60	1027	561.3	346.0	49.9
12.00	2.32	0.06	2.38	.32	.56	1050	560.8	348.7	48.0
14.00	2.70	0.08	2.78	.25	.49	1083	560.2	350.9	45.0
16.00	2.98	0.09	3.07	.20	.44	1102	559.5	352.3	41.2
18.00	3.54	0.10	3.64	.13	.37	1132	559.1	353.1	36.8
20.00	3.32	0.10	3.42	.15	.40	1125	558.8	353.4	31.9
22.00	3.10	0.10	3.20	.18	.42	1118	558.9	353.3	26.6
24.00	3.05	0.18	3.23	.17	.41	1125	559.5	353.0	21.3
26.00	2.74	0.17	2.91	.21	.45	1113	560.4	352.7	15.9
28.00	2.36	0.16	2.52	.27	.50	1097	561.8	352.7	10.6
30.00	2.33	0.14	2.47	.28	.50	1099	563.3	352.9	5.5
32.00	1.98	0.13	2.11	.35	.56	1077	565.0	353.7	0.9
34.00	2.16	0.12	2.28	.31	.52	1104	566.6	355.1	-3.1
36.00	2.42	0.00	2.42	.28	.48	1126	568.0	357.3	-6.2
38.00	2.93	-0.01	2.92	.20	.39	1169	569.0	0.1	-8.4
40.00	3.98	-0.02	3.96	.08	.26	1236	569.5	3.3	-9.5
39842.00	4.7	0.0	4.6	-15.02	-15.19	1270	569.4	6.7	-9.3
43.00	5.7	0.0	5.7	-14.93	.10	1322	569.2	8.3	-8.8

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39844.00	6.5	0.0	6.5	-14.88	-15.04	1350	568.8	9.8	-7.9
45.00	5.4	0.0	5.4	.96	.13	1304	568.4	11.3	-6.8
46.00	5.0	0.0	5.0	.99	.16	1293	567.8	12.5	-5.4
47.00	4.5	-0.1	4.5	-15.03	.21	1268	567.1	13.6	-3.8
48.00	4.4	-0.1	4.4	.04	.22	1265	566.4	14.5	-1.9
39850.00	4.27	-0.07	4.20	-15.05	-15.25	1257	564.7	15.9	2.3
52.00	4.11	-0.08	4.03	.07	.28	1247	563.1	16.5	7.2
54.00	4.23	-0.09	4.14	.06	.28	1247	561.5	16.7	12.4
56.00	4.89	-0.10	4.79	-14.99	.22	1268	560.3	16.5	17.9
58.00	4.84	-0.11	4.73	-15.00	.23	1268	559.4	16.2	23.5
60.00	4.68	-0.12	4.56	.02	.25	1264	558.9	15.9	29.0
62.00	4.97	-0.13	4.84	.00	.23	1279	558.8	15.8	34.4
64.00	5.48	-0.14	5.34	-14.96	.18	1310	559.1	16.0	39.4
66.00	5.71	-0.14	5.57	.94	.16	1321	559.6	16.8	43.9
68.00	5.58	-0.12	5.46	.95	.17	1312	560.3	18.3	47.7
70.00	5.40	-0.09	5.31	.96	.18	1305	560.9	20.4	50.7
72.00	4.20	-0.04	4.16	-15.06	.29	1244	561.3	23.2	52.6
74.00	3.34	0.00	3.34	.16	.38	1194	561.6	26.5	53.3
76.00	2.93	0.00	2.93	.21	.44	1167	561.5	29.9	52.8
78.00	2.72	0.00	2.72	.24	.48	1152	561.2	33.1	51.0
80.00	3.57	0.00	3.57	.12	.36	1208	560.6	35.8	48.0
82.00	4.22	0.00	4.22	.05	.29	1246	559.9	37.9	44.0
84.00	5.46	0.00	5.46	-14.95	.17	1304	559.3	39.3	39.2
86.00	6.16	0.00	6.16	.90	.12	1335	558.7	40.1	33.8
39888.00	7.3	0.0	7.3	-14.83	-15.05	1379	558.4	40.4	27.9
89.00	7.9	0.0	7.9	.80	.01	1395	558.4	40.4	24.8
90.00	7.9	-0.1	7.8	.80	.02	1390	558.5	40.4	21.7
91.00	7.1	-0.1	7.1	.84	.06	1371	558.7	40.3	18.6
92.00	6.5	-0.1	6.4	.88	.10	1350	559.0	40.2	15.4
93.00	6.2	-0.1	6.1	.89	.12	1340	559.5	40.2	12.2
94.00	5.9	-0.1	5.8	.91	.14	1322	560.0	40.1	9.0
95.00	5.2	-0.1	5.1	.97	.19	1280	560.6	40.2	5.9
96.00	6.3	-0.1	6.2	.88	.10	1328	561.3	40.2	2.8
97.00	5.9	-0.1	5.7	.92	.14	1299	562.0	40.4	-0.2
98.00	4.6	-0.1	4.4	-15.04	.24	1239	562.8	40.7	-3.1
99.00	3.5	-0.2	3.3	.16	.37	1186	563.6	41.2	-5.9
39900.00	3.68	-0.16	3.52	-15.13	-15.33	1203	564.4	41.8	-8.6
02.00	3.68	-0.17	3.51	.13	.33	1202	565.9	43.5	-13.4
04.00	3.75	-0.18	3.57	.12	.31	1202	567.2	45.9	-17.4
06.00	3.91	-0.20	3.71	.11	.29	1208	568.1	49.0	-20.4
08.00	3.94	-0.20	3.74	.10	.29	1210	568.4	52.6	-22.2
10.00	4.06	-0.21	3.85	.09	.28	1218	568.3	56.3	-22.7
12.00	4.73	-0.22	4.51	.03	.21	1250	567.5	59.8	-22.1
14.00	5.20	-0.22	4.98	-14.99	.18	1259	566.4	62.7	-20.2
16.00	5.68	-0.22	5.46	.95	.15	1269	564.8	65.0	-17.4
18.00	5.61	-0.21	5.40	.95	.16	1260	563.1	66.6	-13.8
20.00	4.59	-0.21	4.38	-15.04	.26	1203	561.4	67.6	-9.7
22.00	4.01	-0.21	3.80	.09	.34	1169	559.8	68.1	-5.1
24.00	3.93	-0.22	3.71	.10	.36	1159	558.5	68.3	-0.2
26.00	3.64	-0.22	3.42	.14	.40	1136	557.5	68.3	4.8
28.00	3.45	-0.22	3.23	.17	.43	1119	557.0	68.4	9.7
30.00	3.30	-0.22	3.08	.19	.45	1102	556.9	68.7	14.5
32.00	3.30	-0.23	3.07	.19	.45	1098	557.2	69.3	18.9
34.00	3.27	-0.24	3.03	.20	.45	1097	557.7	70.5	22.9
36.00	3.33	-0.24	3.09	.19	.45	1100	558.3	72.4	26.2
38.00	3.54	-0.25	3.29	.17	.42	1111	558.9	74.9	28.6
40.00	3.79	-0.25	3.54	.14	.38	1121	559.3	78.1	30.0

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39942.00	4.43	-0.25	4.18	-15.07	-15.31	1150	559.4	81.7	30.3
44.00	4.63	-0.25	4.38	.05	.29	1157	559.3	85.4	29.3
46.00	4.96	-0.24	4.72	.02	.26	1169	559.0	88.8	27.0
48.00	4.30	-0.24	4.06	.08	.33	1138	558.4	91.8	23.7
50.00	3.48	-0.24	3.24	.17	.44	1097	557.7	94.1	19.3
52.00	3.15	-0.24	2.91	.22	.49	1073	557.0	95.7	14.2
54.00	2.91	-0.24	2.67	.25	.53	1060	556.5	96.7	8.5
56.00	2.76	-0.23	2.53	.28	.56	1056	556.2	97.2	2.4
58.00	2.59	-0.22	2.37	.31	.58	1042	556.4	97.3	-3.9
60.00	2.44	-0.22	2.22	.34	.61	1030	556.9	97.4	-10.4
62.00	2.31	-0.22	2.09	.36	.63	1022	557.9	97.4	-16.9
64.00	2.18	-0.22	1.96	.40	.65	1018	559.2	97.7	-23.1
66.00	2.02	-0.22	1.80	.44	.69	1010	560.8	98.3	-29.1
68.00	1.85	-0.22	1.63	.48	.73	996	562.4	99.5	-34.5
70.00	1.69	-0.22	1.47	.53	.77	981	564.0	101.4	-39.3
72.00	1.59	-0.22	1.37	.57	.80	972	565.3	103.9	-43.1
74.00	1.51	-0.22	1.29	.60	.82	963	566.2	107.1	-46.0
76.00	1.51	-0.21	1.30	.60	.81	969	566.7	110.7	-47.6
78.00	1.83	-0.18	1.65	.49	.71	1007	567.0	114.4	-47.9
80.00	1.85	-0.18	1.67	.49	.70	1013	566.4	117.8	-46.9
82.00	1.91	-0.18	1.73	.47	.69	1020	565.3	120.7	-44.9
84.00	1.55	-0.18	1.38	.56	.80	984	563.8	122.9	-41.8
86.00	1.50	-0.16	1.34	.57	.82	979	562.2	124.3	-37.9
88.00	1.17	-0.14	1.03	.68	.94	941	560.6	125.2	-33.4
90.00	1.15	-0.13	1.02	.68	.96	941	559.1	125.5	-28.5
92.00	1.05	-0.12	0.94	.71	-16.00	934	557.9	125.6	-23.3
94.00	1.20	-0.10	1.10	.64	-15.93	959	557.1	125.5	-18.0
96.00	1.44	-0.10	1.34	.55	.83	990	556.7	125.4	-12.7
98.00	1.43	-0.10	1.33	.56	.83	994	556.7	125.5	-7.6
40000.00	1.69	-0.10	1.59	.48	.76	1026	557.0	126.0	-2.8
02.00	1.74	-0.10	1.63	.47	.75	1037	557.6	127.1	1.5
04.00	1.65	-0.11	1.54	.49	.77	1033	558.3	128.8	5.2
06.00	1.59	-0.12	1.47	.51	.79	1026	558.9	131.2	8.1
08.00	1.52	-0.14	1.38	.54	.81	1017	559.4	134.1	9.9
10.00	1.45	-0.14	1.30	.56	.84	1010	559.6	137.5	10.5
12.00	1.30	-0.16	1.14	.62	.90	994	559.5	141.0	10.0
14.00	1.17	-0.17	1.00	.68	.96	977	559.2	144.2	8.2
16.00	1.21	-0.17	1.04	.66	.95	982	558.6	146.8	5.3
18.00	1.30	-0.14	1.16	.61	.90	992	557.9	148.8	1.5
20.00	1.09	-0.11	0.97	.69	.98	964	557.3	150.1	-3.0
22.00	1.05	-0.10	0.95	.70	-16.00	965	556.8	150.8	-8.1
24.00	0.94	-0.13	0.81	.77	.08	945	556.7	151.0	-13.6
26.00	0.88	-0.16	0.72	.83	.13	929	556.9	150.9	-19.3
28.00	0.60	-0.16	0.44	-16.05	.35	870	557.5	150.7	-25.1
30.00	0.51	-0.12	0.39	.10	.39	858	558.5	150.5	-30.8
32.00	0.54	-0.11	0.43	.06	.34	872	559.9	150.6	-36.3
34.00	0.61	-0.10	0.51	.00	.27	893	561.5	151.1	-41.4
36.00	0.61	-0.09	0.52	.00	.25	896	563.2	152.2	-46.0
38.00	0.51	-0.08	0.43	.09	.33	871	564.7	153.9	-49.9
40.00	0.44	-0.07	0.36	.17	.41	847	566.0	156.3	-52.9
42.00	0.41	-0.06	0.35	.19	.42	844	566.9	159.4	-54.8
44.00	0.40	-0.05	0.35	.20	.42	847	567.3	162.9	-55.5
46.00	0.33	-0.04	0.28	.29	.51	820	567.1	166.4	-54.8
48.00	0.44	-0.04	0.40	.12	.35	869	566.4	169.6	-52.9
50.00	0.41	-0.05	0.36	.16	.40	857	565.2	172.4	-49.9
52.00	0.36	-0.04	0.32	.21	.46	842	563.8	174.4	-45.9
54.00	0.46	-0.02	0.44	.07	.33	883	562.1	175.7	-41.1
56.00	0.40	0.01	0.41	.09	.38	873	560.5	176.5	-35.7
58.00	0.44	0.02	0.46	.04	.33	887	559.0	176.8	-29.9
60.00	0.44	0.03	0.47	.02	.33	890	557.9	176.7	-23.8

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	$-10^7 \dot{P}$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40062.00	0.40	0.04	0.43	-16.05	-16.36	882	557.1	176.6	-17.6
64.00	0.45	0.04	0.49	-15.99	.30	900	556.7	176.6	-11.5
66.00	0.41	0.04	0.45	-16.03	.34	890	556.8	176.8	-5.5
68.00	0.35	0.04	0.39	.09	.40	875	557.3	177.4	0.1
70.00	0.33	0.04	0.37	.11	.42	870	557.9	178.6	5.3
72.00	0.33	0.04	0.37	.11	.41	871	558.5	180.5	9.7
74.00	0.34	0.04	0.38	.09	.39	874	559.1	183.0	13.3
76.00	0.28	0.04	0.32	.17	.46	854	559.6	186.2	15.9
78.00	0.30	0.04	0.34	.14	.43	861	559.7	189.8	17.2
80.00	0.30	0.04	0.34	.14	.44	861	559.6	193.4	17.4
40082.00	0.6	0.0	0.6	-15.89	-16.18	927	559.3	196.7	16.3
83.00	0.7	0.0	0.8	.77	.06	962	559.0	198.2	15.3
84.00	1.3	0.0	1.3	.56	-15.84	1032	558.7	199.5	14.1
85.00	0.8	0.0	0.9	.72	-16.01	973	558.3	200.6	12.7
86.00	0.6	0.0	0.6	.89	.19	916	558.0	201.6	11.0
87.00	0.6	0.0	0.6	.90	.20	917	557.7	202.4	9.2
88.00	0.5	0.0	0.5	.98	.28	893	557.4	203.0	7.2
40090.00	0.31	0.03	0.33	-16.16	-16.47	841	556.9	203.9	2.8
92.00	0.30	0.03	0.33	.16	.48	835	556.7	204.3	-1.9
94.00	0.28	0.04	0.32	.19	.50	826	557.0	204.5	-6.9
96.00	0.34	0.05	0.38	.13	.43	843	557.6	204.5	-12.0
98.00	0.39	0.06	0.45	.05	.35	862	558.7	204.6	-17.0
40100.00	0.44	0.08	0.52	-15.99	.28	879	560.1	205.0	-21.8
02.00	0.47	0.10	0.57	.94	.22	889	561.6	205.8	-26.2
04.00	0.55	0.11	0.66	.88	.14	908	563.3	207.2	-30.1
06.00	0.55	0.12	0.67	.87	.12	908	564.8	209.2	-33.3
08.00	0.65	0.13	0.77	.81	.05	927	566.0	212.0	-35.6
10.00	0.71	0.14	0.85	.77	.00	943	566.8	215.4	-36.8
12.00	0.70	0.14	0.84	.77	.00	937	567.1	219.1	-36.7
14.00	0.55	0.14	0.69	.85	.08	905	566.9	222.9	-35.4
16.00	0.48	0.14	0.62	.91	.14	889	566.1	226.4	-32.9
18.00	0.41	0.14	0.54	.97	.22	867	564.9	229.3	-29.2
20.00	0.39	0.14	0.53	.98	.24	858	563.3	231.4	-24.7
22.00	0.39	0.15	0.54	.96	.24	855	561.6	232.9	-19.3
24.00	0.52	0.15	0.67	.87	.16	876	560.0	233.8	-13.5
26.00	0.37	0.15	0.52	.97	.27	844	558.5	234.3	-7.2
40128.00	0.3	0.1	0.5	-15.99	-16.29	833	557.3	234.4	-0.7
29.00	0.3	0.1	0.5	.99	.29	831	556.9	234.5	2.5
30.00	1.2	0.2	1.3	.57	-15.88	947	556.5	234.5	5.8
31.00	1.2	0.2	1.3	.57	.88	940	556.3	234.5	9.0
32.00	0.4	0.2	0.6	.91	-16.21	840	556.2	234.6	12.3
40134.00	0.47	0.16	0.63	-15.89	-16.20	849	556.2	235.0	18.5
36.00	0.45	0.17	0.62	.90	.21	845	556.6	235.8	24.4
38.00	0.51	0.18	0.69	.86	.16	855	557.2	237.2	29.7
40.00	0.63	0.19	0.83	.78	.08	875	557.8	239.2	34.4
42.00	0.82	0.20	1.02	.69	-15.98	897	558.3	241.9	38.1
44.00	0.75	0.21	0.96	.73	-16.01	887	558.7	245.2	40.7
46.00	0.53	0.21	0.74	.84	.12	856	558.8	248.8	42.1
48.00	0.35	0.22	0.57	.95	.24	822	558.6	252.4	42.2
50.00	0.42	0.22	0.64	.90	.19	838	558.2	255.7	41.1
52.00	0.68	0.23	0.91	.75	.04	882	557.7	258.4	38.9
54.00	1.13	0.22	1.35	.58	-15.87	932	557.0	260.4	35.8
56.00	1.14	0.22	1.36	.57	.86	932	556.4	261.7	31.9
40157.00	1.3	0.2	1.5	-15.52	-15.82	946	556.2	262.1	29.8
58.00	1.4	0.2	1.7	.47	.76	962	556.0	262.4	27.5

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40159.00	1.7	0.2	2.0	-15.39	-15.69	983	555.9	262.6	25.2
60.00	1.6	0.2	1.8	.44	.73	966	555.9	262.7	22.7
61.00	2.2	0.2	2.4	.31	.60	1004	556.0	262.7	20.2
62.00	2.2	0.2	2.5	.29	.58	1008	556.2	262.7	17.7
63.00	2.0	0.2	2.2	.35	.64	992	556.6	262.6	15.1
64.00	1.3	0.2	1.5	.52	.81	944	557.0	262.6	12.5
65.00	0.8	0.2	1.0	.69	.99	896	557.5	262.6	10.0
66.00	0.6	0.2	0.9	.74	-16.04	887	558.1	262.6	7.5
67.00	0.5	0.2	0.7	.85	.14	858	558.8	262.6	5.0
68.00	0.4	0.2	0.6	.92	.20	842	559.6	262.8	2.6
40170.00	0.85	0.24	1.09	-15.66	-15.93	920	561.2	263.4	-2.0
72.00	0.82	0.24	1.06	.67	.93	924	562.9	264.7	-6.0
74.00	0.85	0.24	1.09	.66	.91	934	564.5	266.6	-9.3
76.00	0.92	0.24	1.16	.63	.87	946	565.7	269.2	-11.7
78.00	0.98	0.24	1.22	.61	.84	955	566.5	272.3	-13.1
80.00	0.97	0.23	1.20	.61	.84	958	566.8	275.8	-13.2
82.00	1.04	0.22	1.26	.59	.82	968	566.6	279.3	-12.1
40184.00	1.4	0.2	1.6	-15.49	-15.73	1003	565.8	282.3	-9.8
85.00	1.4	0.2	1.6	.49	.73	1003	565.3	283.7	-8.2
86.00	1.3	0.2	1.5	.52	.76	993	564.6	284.8	-6.4
87.00	1.1	0.2	1.3	.58	.82	973	563.9	285.8	-4.4
88.00	0.8	0.2	1.0	.69	.94	937	563.1	286.6	-2.2
89.00	0.5	0.2	0.7	.84	-16.10	892	562.3	287.2	0.2
90.00	0.7	0.2	0.8	.79	.06	909	561.5	287.7	2.8
91.00	0.9	0.1	1.0	.69	-15.96	936	560.7	288.0	5.4
92.00	1.3	0.1	1.4	.54	.82	980	560.0	288.2	8.2
93.00	1.4	0.1	1.5	.51	.79	990	559.2	288.2	11.1
94.00	1.7	0.1	1.8	.43	.71	1015	558.6	288.2	14.0
95.00	1.9	0.0	2.0	.39	.67	1029	558.0	288.1	17.0
96.00	1.5	0.0	1.5	.51	.80	987	557.5	288.0	20.0
97.00	1.0	0.0	1.0	.69	.99	933	557.2	287.8	23.0
40198.00	0.82	0.00	0.82	-15.78	-16.08	906	556.9	287.7	26.0
40200.00	0.80	0.00	0.80	.80	.09	902	556.7	287.4	31.8
02.00	0.81	0.00	0.81	.79	.09	905	556.9	287.5	37.4
04.00	0.79	0.00	0.79	.81	.10	902	557.4	287.9	42.6
06.00	0.70	0.03	0.73	.85	.14	892	558.0	289.0	47.3
08.00	0.50	0.10	0.60	.94	.22	866	558.7	290.7	51.1
10.00	0.56	0.15	0.71	.87	.14	891	559.4	293.1	54.0
12.00	0.72	0.18	0.90	.77	.03	925	559.8	296.1	55.8
14.00	1.05	0.21	1.26	.62	-15.88	975	560.0	299.4	56.3
16.00	1.31	0.22	1.53	.53	.79	1010	559.9	302.6	55.5
18.00	1.12	0.23	1.35	.59	.85	995	559.5	305.5	53.5
20.00	1.02	0.23	1.25	.62	.89	985	559.0	307.8	50.4
22.00	1.01	0.23	1.24	.61	.89	986	558.4	309.5	46.3
24.00	1.03	0.22	1.25	.61	.89	992	557.9	310.4	41.6
26.00	1.09	0.22	1.31	.58	.87	1004	557.5	310.8	36.2
28.00	1.14	0.21	1.35	.56	.84	1012	557.5	310.8	30.5
30.00	1.20	0.21	1.41	.54	.81	1023	557.9	310.5	24.5
32.00	1.24	0.20	1.44	.53	.80	1030	558.7	310.2	18.5
34.00	1.27	0.20	1.47	.52	.78	1037	560.0	310.0	12.5
36.00	1.32	0.19	1.51	.51	.76	1043	561.5	310.2	6.7
38.00	1.38	0.18	1.56	.50	.73	1049	563.2	310.7	1.2
40.00	1.23	0.18	1.41	.54	.77	1037	564.9	311.9	-3.7
42.00	1.04	0.17	1.21	.60	.83	1018	566.4	313.8	-7.9
44.00	1.10	0.16	1.26	.59	.80	1030	567.7	316.4	-11.2
46.00	1.57	0.15	1.72	.45	.66	1077	568.4	319.6	-13.3
48.00	1.52	0.14	1.66	.47	.67	1071	568.7	323.1	-14.3

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T'_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40250.00	1.14	0.14	1.28	-15.58	-15.78	1033	568.4	326.6	-14.0
52.00	1.35	0.13	1.48	.51	.72	1055	567.6	329.7	-12.6
40253.00	1.6	0.1	1.7	-15.45	-15.67	1077	567.1	331.0	-11.4
54.00	1.7	0.1	1.8	.43	.64	1084	566.4	332.2	-10.1
55.00	2.9	0.1	3.0	.21	.42	1165	565.7	333.2	-8.5
56.00	2.7	0.1	2.8	.24	.45	1146	564.9	334.0	-6.7
57.00	2.2	0.1	2.3	.32	.54	1114	564.1	334.6	-4.7
58.00	2.0	0.1	2.1	.36	.59	1097	563.3	335.1	-2.6
59.00	2.0	0.1	2.1	.36	.59	1095	562.5	335.5	-0.3
60.00	1.9	0.1	2.0	.38	.62	1085	561.7	335.7	2.0
61.00	2.0	0.1	2.1	.35	.60	1092	561.0	335.9	4.4
62.00	1.9	0.1	2.0	.37	.63	1082	560.4	335.9	6.9
63.00	2.7	0.1	2.7	.25	.50	1126	559.8	335.9	9.4
64.00	2.8	0.1	2.8	.23	.48	1127	559.4	335.9	11.9
65.00	2.5	0.1	2.6	.26	.52	1116	559.0	335.8	14.5
66.00	2.1	0.0	2.1	.35	.62	1077	558.8	335.8	17.0
67.00	1.5	0.0	1.5	.50	.76	1019	558.6	335.8	19.5
40268.00	1.75	0.03	1.78	-15.43	-15.69	1046	558.6	335.8	22.0
70.00	1.75	0.02	1.77	.43	.69	1046	558.8	336.2	26.7
72.00	2.36	0.02	2.38	.30	.56	1095	559.3	337.0	31.0
74.00	2.86	0.01	2.87	.23	.47	1128	559.9	338.4	34.8
76.00	3.31	0.00	3.31	.17	.40	1157	560.6	340.5	37.7
40278.00	4.0	0.0	4.0	-15.09	-15.31	1193	561.2	343.3	39.7
79.00	4.6	0.0	4.6	.03	.25	1217	561.4	344.9	40.3
80.00	5.6	0.0	5.6	-14.95	.17	1258	561.6	346.7	40.6
81.00	4.1	0.0	4.1	-15.08	.30	1191	561.7	348.5	40.5
82.00	3.5	0.0	3.6	.13	.36	1164	561.7	350.3	40.2
83.00	3.1	0.0	3.1	.19	.42	1137	561.6	352.1	39.5
84.00	3.0	0.0	3.0	.21	.44	1133	561.5	353.9	38.6
85.00	2.7	0.0	2.7	.25	.49	1108	561.3	355.6	37.3
86.00	3.0	0.1	3.1	.19	.42	1127	561.1	357.1	35.7
87.00	3.4	0.1	3.4	.15	.39	1142	560.8	358.5	33.9
88.00	3.9	0.1	3.9	.09	.33	1166	560.5	359.7	31.8
89.00	3.6	0.1	3.6	.12	.36	1151	560.1	0.7	29.6
90.00	3.5	0.0	3.6	.12	.36	1152	559.8	1.6	27.1
91.00	3.4	0.0	3.4	.15	.39	1140	559.5	2.3	24.4
92.00	3.2	0.0	3.2	.17	.41	1119	559.2	2.9	21.6
93.00	3.2	0.0	3.2	.17	.41	1118	559.0	3.3	18.7
94.00	3.3	0.0	3.3	.16	.40	1130	558.9	3.6	15.6
95.00	3.8	0.0	3.8	.09	.34	1154	558.8	3.8	12.5
96.00	4.1	0.0	4.1	.06	.30	1165	558.8	3.9	9.3
97.00	5.8	0.0	5.8	-14.92	.15	1237	559.0	4.0	6.1
98.00	5.8	0.0	5.8	.92	.15	1238	559.2	4.0	2.8
99.00	4.7	0.0	4.7	-15.01	.23	1198	559.6	4.0	-0.5
40300.00	7.1	0.0	7.1	-14.84	.05	1290	560.0	4.0	-3.7
01.00	7.7	0.0	7.7	.80	.01	1306	560.6	4.1	-7.0
02.00	7.3	0.0	7.3	.83	.03	1297	561.2	4.2	-10.2
03.00	6.7	0.0	6.7	.87	.07	1280	561.9	4.4	-13.4
04.00	8.7	0.0	8.6	.76	-14.95	1330	562.7	4.7	-16.4
05.00	6.4	-0.1	6.3	.89	-15.09	1251	563.5	5.1	-19.4
06.00	5.1	-0.1	5.1	.98	.17	1217	564.3	5.7	-22.2
07.00	5.1	-0.1	5.0	.98	.18	1217	565.1	6.4	-24.9
40308.00	5.09	-0.07	5.02	-14.98	-15.17	1221	565.9	7.3	-27.4
10.00	5.09	-0.08	5.01	.98	.17	1221	567.4	9.6	-31.9
12.00	4.90	-0.07	4.83	-15.00	.18	1211	568.5	12.5	-35.4
14.00	4.97	-0.07	4.90	.00	.17	1215	569.2	16.1	-37.7

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	-10^7 P	10^7 P_r	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40316.00	3.97	-0.06	3.91	-15.09	-15.26	1170	569.3	19.8	-38.8
18.00	4.22	-0.05	4.17	.06	.24	1182	568.8	23.5	-38.6
20.00	3.79	-0.04	3.75	.11	.29	1158	567.9	26.8	-37.2
22.00	4.16	-0.04	4.12	.06	.26	1178	566.6	29.4	-34.7
24.00	5.11	-0.04	5.07	-14.97	.17	1216	565.0	31.3	-31.3
26.00	5.51	-0.05	5.46	.95	.15	1226	563.3	32.6	-27.3
28.00	5.60	-0.06	5.54	.94	.15	1228	561.7	33.2	-22.8
30.00	5.33	-0.07	5.26	.95	.18	1219	560.2	33.5	-17.9
32.00	4.71	-0.08	4.63	-15.01	.24	1195	559.1	33.6	-12.9
34.00	4.45	-0.10	4.35	.03	.27	1183	558.4	33.6	-7.8
36.00	4.36	-0.11	4.25	.04	.28	1180	558.2	33.7	-2.8
38.00	4.38	-0.12	4.26	.04	.28	1179	558.3	34.1	1.9
40.00	4.34	-0.13	4.21	.05	.29	1176	558.7	35.1	6.3
42.00	4.74	-0.14	4.60	.01	.25	1202	559.2	36.6	10.0
44.00	4.76	-0.15	4.61	.00	.24	1208	559.8	38.8	13.0
46.00	4.70	-0.16	4.54	.01	.25	1210	560.3	41.7	15.0
48.00	4.38	-0.17	4.21	.05	.28	1203	560.5	45.0	15.9
50.00	3.96	-0.18	3.78	.09	.33	1182	560.5	48.6	15.6
52.00	3.68	-0.18	3.50	.12	.36	1170	560.2	52.1	14.0
54.00	3.98	-0.19	3.79	.09	.33	1183	559.6	55.1	11.3
40355.00	4.8	-0.2	4.6	-15.01	-15.25	1216	559.3	56.4	9.5
56.00	5.7	-0.2	5.5	-14.94	.17	1248	558.9	57.5	7.5
57.00	5.1	-0.2	4.9	.99	.22	1218	558.6	58.4	5.3
58.00	4.4	-0.2	4.2	-15.05	.29	1200	558.2	59.2	3.0
59.00	4.2	-0.2	4.0	.07	.32	1198	557.9	59.8	0.4
40360.00	3.79	-0.20	3.59	-15.12	-15.37	1177	557.6	60.2	-2.2
62.00	3.33	-0.20	3.13	.18	.43	1152	557.3	60.7	-7.9
64.00	3.22	-0.21	3.01	.20	.45	1148	557.2	60.8	-13.9
66.00	3.01	-0.22	2.80	.23	.48	1139	557.6	60.7	-20.0
68.00	2.75	-0.22	2.53	.27	.52	1126	558.5	60.5	-26.1
70.00	2.29	-0.22	2.07	.36	.61	1092	559.7	60.5	-32.1
72.00	1.93	-0.23	1.70	.45	.69	1058	561.2	60.9	-37.7
74.00	1.63	-0.23	1.40	.54	.77	1030	562.8	61.7	-43.0
76.00	1.98	-0.23	1.75	.44	.67	1073	564.4	63.2	-47.6
78.00	2.21	-0.23	1.98	.39	.60	1102	565.9	65.3	-51.3
80.00	2.44	-0.22	2.22	.35	.55	1128	566.9	68.1	-54.1
82.00	2.73	-0.22	2.51	.30	.49	1155	567.5	71.5	-55.6
84.00	2.70	-0.21	2.49	.31	.49	1155	567.6	75.0	-55.9
86.00	2.91	-0.20	2.71	.27	.46	1171	567.1	78.4	-54.9
88.00	2.67	-0.18	2.48	.30	.50	1153	566.2	81.3	-52.7
90.00	2.27	-0.16	2.11	.36	.58	1124	564.9	83.6	-49.4
92.00	1.66	-0.14	1.52	.50	.74	1066	563.2	85.2	-45.2
94.00	1.54	-0.08	1.46	.52	.76	1060	561.5	86.1	-40.4
96.00	1.36	0.00	1.36	.54	.80	1047	560.0	86.5	-35.1
98.00	1.33	0.00	1.33	.55	.82	1043	558.6	86.5	-29.4
40400.00	1.35	0.00	1.35	.54	.82	1048	557.7	86.3	-23.6
02.00	1.51	0.00	1.51	.49	.77	1069	557.1	86.1	-17.7
04.00	1.79	0.00	1.79	.41	.69	1101	557.0	86.1	-12.0
06.00	2.11	-0.05	2.06	.36	.63	1134	557.2	86.4	-6.5
08.00	2.54	-0.07	2.47	.28	.55	1173	557.7	87.2	-1.5
10.00	2.85	-0.16	2.69	.24	.51	1191	558.4	88.7	3.0
12.00	2.67	-0.19	2.48	.28	.54	1176	559.0	90.9	6.7
14.00	2.37	-0.20	2.17	.34	.60	1149	559.5	93.7	9.4
16.00	2.14	-0.21	1.93	.39	.65	1125	559.7	97.0	10.9
18.00	1.85	-0.22	1.63	.46	.73	1095	559.7	100.6	11.3
20.00	1.46	-0.23	1.23	.58	.86	1049	559.4	103.9	10.4
22.00	1.23	-0.23	1.00	.67	.96	1016	558.9	106.8	8.4
24.00	1.09	-0.23	0.86	.74	-16.03	990	558.3	109.1	5.4

Table 4 (Cont.)

1959 α1 (Vanguard 2)

MJD	$-10^7 \dot{P}$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40426.00	0.90	-0.23	0.67	-15.84	-16.14	952	557.6	110.7	1.6
28.00	0.94	-0.22	0.72	.81	.11	958	557.0	111.6	-2.8
30.00	1.18	-0.22	0.96	.69	-15.99	998	556.7	112.1	-7.7
32.00	1.17	-0.21	0.96	.69	.99	1000	556.8	112.2	-12.8
34.00	1.24	-0.21	1.03	.67	.96	1012	557.3	112.1	-18.1
36.00	1.28	-0.20	1.08	.65	.92	1020	558.2	112.0	-23.3
38.00	1.54	-0.20	1.34	.56	.82	1054	559.5	112.2	-28.4
40.00	1.54	-0.19	1.35	.56	.82	1057	561.0	112.7	-33.2
42.00	1.44	-0.19	1.25	.60	.85	1041	562.7	113.8	-37.5
44.00	1.22	-0.19	1.03	.69	.93	1009	564.3	115.5	-41.2
46.00	0.99	-0.18	0.81	.80	-16.03	972	565.8	117.9	-44.0
48.00	0.84	-0.18	0.66	.89	.12	942	566.8	121.0	-45.7
50.00	0.72	-0.18	0.54	.99	.21	913	567.3	124.6	-46.3
52.00	0.60	-0.17	0.43	-16.09	.31	879	567.3	128.3	-45.6
54.00	0.59	-0.16	0.43	.09	.32	876	566.8	131.9	-43.6
56.00	0.53	-0.15	0.37	.14	.38	856	565.7	135.0	-40.5
58.00	0.54	-0.14	0.40	.10	.35	864	564.3	137.4	-36.3
60.00	1.13	-0.13	0.99	-15.70	-15.96	983	562.7	139.1	-31.3
62.00	1.09	-0.13	0.97	.70	.97	977	561.0	140.2	-25.7
64.00	1.09	-0.11	0.98	.70	.97	976	559.5	140.7	-19.6
66.00	1.17	-0.11	1.06	.66	.95	982	558.3	141.0	-13.2
68.00	1.17	-0.10	1.07	.66	.95	977	557.4	141.1	-6.7
70.00	1.25	-0.09	1.16	.62	.92	980	556.9	141.1	-0.3
72.00	0.93	-0.09	0.84	.76	-16.06	929	556.9	141.4	6.1
74.00	0.65	-0.09	0.56	.94	.24	875	557.2	142.1	12.1
76.00	0.61	-0.09	0.52	.98	.28	865	557.8	143.3	17.7
78.00	0.76	-0.09	0.67	.87	.16	894	558.4	145.1	22.6
80.00	0.95	-0.09	0.86	.76	.04	923	559.1	147.7	26.6
82.00	0.96	-0.09	0.87	.76	.04	921	559.6	150.8	29.7
84.00	0.86	-0.09	0.76	.82	.09	900	559.8	154.4	31.5
86.00	0.84	-0.09	0.75	.82	.11	897	559.8	158.2	32.1
88.00	0.83	-0.09	0.74	.83	.11	891	559.5	161.7	31.5
90.00	0.82	-0.08	0.74	.83	.11	889	558.9	164.7	29.7
40491.00	1.0	-0.1	0.9	-15.74	-16.03	913	558.6	166.0	28.5
92.00	1.1	-0.1	1.1	.65	-15.94	933	558.3	167.1	27.0
93.00	1.5	-0.1	1.4	.55	.83	957	558.0	168.0	25.3
94.00	2.1	-0.1	2.1	.37	.65	1009	557.6	168.7	23.4
95.00	1.5	-0.1	1.5	.52	.80	959	557.4	169.3	21.4
96.00	1.2	-0.1	1.1	.65	.95	918	557.1	169.7	19.3
97.00	1.0	0.0	1.0	.69	.99	905	557.0	170.1	17.0
98.00	0.6	0.0	0.6	.92	-16.21	844	556.9	170.3	14.7
40500.00	0.74	-0.03	0.71	-15.84	-16.14	863	557.1	170.5	9.8
02.00	0.75	-0.02	0.73	.83	.12	868	557.6	170.5	4.8
04.00	0.96	0.00	0.96	.71	.00	902	558.6	170.6	-0.1
06.00	0.90	0.01	0.90	.74	.02	893	560.0	170.9	-5.0
08.00	0.84	0.01	0.85	.77	.04	890	561.7	171.6	-9.5
10.00	0.79	0.02	0.81	.79	.05	886	563.4	172.8	-13.5
12.00	0.69	0.02	0.71	.85	.09	871	564.9	174.6	-16.9
14.00	0.73	0.03	0.76	.81	.05	883	566.3	177.2	-19.4
16.00	0.96	0.02	0.98	.70	-15.92	921	567.2	180.4	-20.9
18.00	1.23	0.02	1.25	.59	.80	955	567.7	184.0	-21.2
20.00	1.38	0.01	1.39	.55	.76	971	567.5	187.7	-20.3
22.00	1.35	0.01	1.36	.55	.77	967	566.9	191.1	-18.1
24.00	1.33	0.00	1.33	.56	.79	961	565.8	194.0	-14.7
26.00	1.06	0.00	1.06	.66	.91	926	564.3	196.2	-10.4
28.00	0.99	0.00	0.99	.69	.95	910	562.6	197.6	-5.4
30.00	0.85	0.00	0.85	.76	-16.04	887	561.0	198.5	0.3
32.00	0.85	0.00	0.85	.76	.05	884	559.5	198.8	6.3

Table 4 (Cont)

1959 α1 (Vanguard 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40534.00	0.88	0.00	0.88	-15.75	-16.03	883	558.3	198.8	12.5
36.00	0.77	0.00	0.77	.81	.10	864	557.4	198.7	18.9
38.00	0.65	0.00	0.65	.89	.19	845	557.0	198.5	25.1
40.00	0.62	0.00	0.62	.92	.21	842	557.0	198.6	31.2
42.00	0.64	0.03	0.67	.88	.17	853	557.4	199.1	36.9
44.00	0.64	0.06	0.70	.86	.14	861	557.9	200.1	42.1
46.00	0.70	0.08	0.78	.81	.08	878	558.6	201.8	46.6
48.00	0.77	0.09	0.86	.77	.03	894	559.2	204.1	50.1
50.00	0.83	0.10	0.93	.73	-15.99	907	559.6	207.1	52.6
52.00	0.89	0.10	0.99	.71	.97	913	559.8	210.4	53.9
54.00	0.92	0.11	1.03	.69	.95	919	559.7	213.8	53.9
56.00	0.89	0.12	1.01	.71	.98	917	559.3	216.9	52.6
58.00	0.80	0.12	0.92	.75	-16.03	908	558.7	219.4	50.2
60.00	0.50	0.13	0.63	.91	.19	859	558.0	221.3	46.8
62.00	0.50	0.13	0.63	.90	.20	862	557.3	222.5	42.6
64.00	0.46	0.14	0.60	.93	.23	860	556.8	223.0	37.8
66.00	0.41	0.15	0.56	.95	.26	855	556.6	223.1	32.6
68.00	0.39	0.15	0.54	.96	.27	857	556.8	222.9	27.1
70.00	0.39	0.16	0.55	.95	.25	866	557.4	222.6	21.4
72.00	0.41	0.18	0.59	.91	.20	883	558.4	222.3	15.8
74.00	0.46	0.18	0.64	.87	.16	902	559.8	222.2	10.3
76.00	0.51	0.19	0.70	.83	.10	921	561.4	222.6	5.1
78.00	0.57	0.20	0.77	.78	.04	939	563.0	223.5	0.5
80.00	0.63	0.20	0.83	.75	-15.99	953	564.6	225.2	-3.6
82.00	0.57	0.20	0.77	.78	-16.02	949	565.8	227.5	-6.7
84.00	0.54	0.20	0.74	.80	.03	949	566.7	230.4	-8.8
86.00	0.51	0.19	0.70	.82	.05	945	567.0	233.8	-9.7
88.00	0.56	0.18	0.74	.80	.03	949	566.8	237.1	-9.4
90.00	0.51	0.16	0.67	.85	.08	934	566.1	240.2	-7.9
92.00	0.42	0.14	0.56	.93	.18	910	564.9	242.7	-5.3
94.00	0.36	0.12	0.48	-16.00	.26	885	563.4	244.6	-1.7
96.00	0.34	0.11	0.45	.03	.30	873	561.7	245.7	2.5
98.00	0.31	0.11	0.42	.06	.34	864	560.1	246.3	7.3
40600.00	0.34	0.11	0.45	.03	.31	870	558.6	246.4	12.4

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39600.00	6.0	-0.1	6.0	-14.56	-14.75	978	426.9	115.8	-38.5
01.00	6.2	-0.1	6.1	.55	.74	987	427.7	113.9	-40.8
02.00	5.5	-0.1	5.4	.61	.78	964	428.5	112.0	-43.1
39602.50	5.7	-0.1	6.	-14.57	-14.74	983	429.0	111.1	-44.2
03.00	5.9	-0.1	6.	.57	.73	985	429.4	110.2	-45.2
03.50	8.1	-0.1	8.	.44	.61	1050	429.8	109.3	-46.3
04.00	8.0	-0.1	8.	.45	.60	1045	430.2	108.5	-47.4
04.50	7.3	-0.1	7.	.50	.66	1014	430.6	107.7	-48.4
05.00	6.1	-0.1	6.	.57	.72	988	431.0	106.9	-49.4
05.50	5.8	-0.1	6.	.57	.72	995	431.4	106.2	-50.4
06.00	5.5	-0.1	5.	.65	.80	968	431.8	105.5	-51.4
06.50	5.3	-0.1	5.	.65	.80	971	432.2	104.8	-52.4
39607.00	5.2	-0.1	5.1	-14.64	-14.79	976	432.6	104.1	-53.4
08.00	5.3	-0.1	5.2	.63	.77	983	433.3	103.0	-55.2
09.00	5.3	-0.1	5.3	.62	.76	989	434.0	101.9	-56.9
39610.00	5.3	-0.1	5.	-14.65	-14.78	977	434.6	101.0	-58.6
10.50	5.3	-0.1	5.	.65	.78	980	434.9	100.6	-59.3
11.00	5.8	-0.1	6.	.57	.70	1019	435.2	100.3	-60.1
11.50	6.2	-0.1	6.	.57	.70	1017	435.5	100.0	-60.8
12.00	6.2	-0.1	6.	.58	.70	1013	435.7	99.7	-61.5
12.50	6.4	-0.1	6.	.58	.70	1010	436.0	99.5	-62.1
13.00	7.1	-0.1	7.	.51	.63	1038	436.2	99.3	-62.7
13.50	9.6	-0.1	10.	.36	.47	1111	436.1	99.1	-63.3
14.00	7.5	-0.1	7.	.51	.63	1034	436.3	99.0	-63.9
14.50	4.7	-0.1	5.	.66	.77	979	436.4	98.9	-64.4
39615.00	3.6	-0.1	3.5	-14.81	-14.92	918	436.5	98.8	-64.8
16.00	3.2	-0.1	3.1	.86	.97	903	436.7	98.7	-65.6
17.00	4.2	-0.1	4.1	.74	.85	951	436.8	98.6	-66.3
18.00	4.0	-0.1	3.9	.76	.87	945	436.9	98.7	-66.8
19.00	2.8	-0.1	2.7	.91	-15.03	887	436.9	98.7	-67.1
20.00	2.9	-0.1	2.8	.90	.01	893	436.8	98.8	-67.2
21.00	3.3	-0.1	3.2	.84	-14.96	914	436.6	98.7	-67.1
22.00	2.7	-0.1	2.6	.93	-15.05	880	436.4	98.7	-66.9
23.00	2.8	-0.1	2.7	.91	.03	885	436.1	98.5	-66.6
24.00	2.8	-0.1	2.7	.91	.03	886	435.7	98.2	-66.0
25.00	2.8	-0.1	2.7	.90	.04	888	435.2	97.8	-65.4
26.00	3.3	-0.1	3.2	.83	-14.96	918	434.7	97.2	-64.5
27.00	3.4	-0.1	3.4	.80	.94	927	434.2	96.5	-63.6
28.00	3.6	-0.1	3.5	.79	.93	932	433.6	95.6	-62.5
29.00	3.7	-0.1	3.6	.78	.92	937	432.9	94.5	-61.4
30.00	4.2	-0.1	4.1	.72	.87	964	432.2	93.4	-60.1
31.00	4.2	-0.1	4.1	.72	.87	966	431.5	92.0	-58.7
32.00	3.9	0.0	3.8	.75	.91	952	430.7	90.6	-57.3
33.00	5.8	0.0	5.8	.57	.73	1037	429.9	89.0	-55.8
34.00	7.4	0.0	7.4	.47	.63	1091	429.1	87.3	-54.2
39634.50	6.2	0.0	6.	-14.56	-14.73	1038	428.7	86.3	-53.4
35.00	6.3	0.0	6.	.57	.73	1038	428.2	85.4	-52.6
35.50	6.8	0.0	7.	.50	.67	1063	427.8	84.5	-51.7
36.00	13.1	0.0	13.	.24	.40	1197	427.4	83.5	-50.9
36.50	11.0	0.0	11.	.32	.48	1140	427.0	82.5	-50.0
37.00	10.3	0.0	10.	.35	.52	1141	426.6	81.4	-49.1
37.50	10.0	0.0	10.	.35	.52	1156	426.2	80.4	-48.2
38.00	9.1	0.0	9.	.39	.57	1130	425.8	79.3	-47.3
38.50	8.9	0.0	9.	.40	.57	1120	425.4	78.2	-46.4
39.00	8.9	0.0	9.	.40	.57	1109	425.0	77.1	-45.5

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39639.50	8.7	0.0	9.	-14.39	-14.57	1112	424.6	76.0	-44.5
40.00	8.0	0.0	8.	.44	.63	1097	424.2	74.9	-43.6
40.50	7.5	0.0	8.	.44	.63	1100	423.8	73.7	-42.6
41.00	10.9	0.0	11.	.30	.49	1168	423.4	72.5	-41.7
41.50	9.5	0.0	9.	.39	.58	1116	423.0	71.3	-40.7
42.00	8.8	0.0	9.	.38	.58	1132	422.7	70.1	-39.7
42.50	8.3	0.0	8.	.43	.63	1109	422.3	68.9	-38.8
39643.00	8.3	0.0	8.3	-14.41	-14.62	1118	422.0	67.7	-37.8
44.00	7.3	0.0	7.3	.47	.68	1084	421.3	65.2	-35.8
45.00	6.7	0.0	6.7	.50	.72	1062	420.7	62.7	-33.8
46.00	6.1	0.0	6.1	.54	.76	1038	420.1	60.1	-31.7
47.00	7.3	0.0	7.3	.46	.69	1072	419.6	57.6	-29.7
48.00	8.2	0.0	8.2	.41	.64	1099	419.1	55.0	-27.6
49.00	5.4	0.0	5.4	.59	.82	1010	418.7	52.4	-25.6
50.00	5.3	0.0	5.3	.59	.83	1008	418.4	49.7	-23.5
51.00	5.0	0.0	5.0	.61	.86	995	418.1	47.1	-21.4
52.00	4.2	0.0	4.2	.68	.94	966	417.9	44.5	-19.3
53.00	3.6	0.0	3.6	.75	-15.01	939	417.7	41.9	-17.2
54.00	3.3	0.0	3.3	.79	.04	922	417.6	39.3	-15.1
55.00	3.1	0.0	3.1	.82	.07	910	417.6	36.7	-13.0
56.00	4.4	0.0	4.4	.67	-14.92	975	417.6	34.2	-10.9
57.00	5.6	0.0	5.6	.56	.81	1030	417.6	31.6	-8.9
58.00	5.3	0.0	5.3	.59	.84	1022	417.8	29.1	-6.8
59.00	4.1	0.0	4.1	.70	.95	970	417.9	26.7	-4.7
60.00	4.5	0.0	4.5	.66	.91	993	418.1	24.3	-2.7
61.00	5.3	0.0	5.3	.59	.83	1031	418.4	21.9	-0.7
62.00	5.5	0.0	5.5	.57	.82	1042	418.7	19.7	1.3
63.00	5.5	0.0	5.4	.58	.82	1039	419.0	17.5	3.3
64.00	5.4	0.0	5.4	.58	.82	1042	419.3	15.3	5.3
65.00	5.5	0.0	5.5	.57	.81	1050	419.7	13.3	7.2
66.00	5.7	0.0	5.6	.57	.80	1052	420.1	11.3	9.0
67.00	7.4	0.0	7.4	.45	.68	1112	420.5	9.5	10.9
68.00	7.0	0.0	6.9	.48	.71	1093	420.9	7.7	12.6
69.00	6.2	0.0	6.2	.53	.75	1075	421.3	6.1	14.4
70.00	5.3	0.0	5.3	.60	.81	1045	421.7	4.6	16.0
71.00	5.3	0.0	5.3	.60	.81	1046	422.1	3.3	17.6
72.00	5.9	0.0	5.8	.56	.77	1065	422.5	2.1	19.1
73.00	5.8	0.0	5.8	.56	.77	1070	422.9	1.0	20.5
74.00	5.0	0.0	5.0	.62	.83	1045	423.2	0.1	21.8
75.00	4.7	0.0	4.7	.64	.86	1035	423.5	359.3	23.0
76.00	4.5	0.0	4.5	.67	.87	1020	423.8	358.7	24.1
77.00	4.4	0.0	4.4	.68	.88	1016	424.1	358.2	25.1
78.00	4.3	0.0	4.3	.68	.89	1013	424.3	357.9	25.9
79.00	4.0	0.0	4.0	.71	.92	1000	424.5	357.6	26.6
80.00	3.5	0.0	3.5	.77	.98	980	424.7	357.5	27.1
81.00	3.5	0.0	3.5	.77	.98	982	424.8	357.4	27.5
82.00	3.5	0.0	3.5	.77	.98	976	424.8	357.3	27.7
83.00	4.0	0.0	4.0	.72	.92	998	424.9	357.2	27.8
84.00	4.0	0.0	4.0	.71	.92	1003	424.9	357.1	27.7
85.00	3.9	0.0	4.0	.72	.92	1004	424.7	357.0	27.4
86.00	4.2	0.0	4.2	.70	.90	1014	424.5	356.8	27.1
87.00	4.8	0.0	4.8	.64	.85	1045	424.3	356.5	26.5
88.00	5.0	0.0	5.1	.61	.82	1060	424.0	356.1	25.8
39690.00	5.21	0.02	5.23	-14.61	-14.82	1063	423.4	354.8	24.1
92.00	5.95	0.02	5.97	.55	.77	1093	422.6	353.0	21.9
94.00	6.64	0.03	6.66	.50	.73	1116	421.8	350.5	19.4
96.00	7.07	0.03	7.10	.48	.70	1126	421.0	347.6	16.6
98.00	7.17	0.03	7.21	.48	.70	1128	420.2	344.2	13.5

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39700.00	7.38	0.03	7.41	-14.47	-14.70	1130	419.4	340.3	10.2
02.00	6.92	0.03	6.95	.50	.73	1113	418.7	336.1	6.8
04.00	5.48	0.03	5.51	.59	.83	1059	418.1	331.7	3.2
06.00	4.60	0.03	4.63	.66	.91	1013	417.7	327.0	-0.4
08.00	4.30	0.03	4.32	.68	.95	993	417.5	322.1	-4.1
10.00	4.07	0.02	4.09	.70	.97	979	417.5	317.2	-7.9
12.00	3.53	0.02	3.55	.76	-15.03	946	417.7	312.1	-11.6
14.00	3.12	0.01	3.13	.81	.09	923	418.2	307.1	-15.4
16.00	2.81	0.00	2.82	.86	.13	906	418.9	302.0	-19.1
18.00	2.66	0.00	2.66	.88	.15	895	419.8	297.0	-22.8
20.00	2.79	0.00	2.79	.87	.12	902	421.0	292.1	-26.5
22.00	2.84	0.00	2.84	.87	.11	908	422.3	287.4	-30.1
24.00	2.82	0.00	2.82	.87	.10	911	423.8	282.8	-33.6
26.00	2.90	0.01	2.91	.86	.08	917	425.3	278.5	-37.0
28.00	3.01	0.04	3.05	.84	.05	924	427.0	274.5	-40.2
30.00	3.04	0.06	3.10	.84	.03	929	428.6	270.9	-43.3
32.00	3.13	0.07	3.19	.83	.01	935	430.2	267.7	-46.1
34.00	2.91	0.07	2.98	.86	.02	920	431.7	265.0	-48.6
36.00	2.70	0.08	2.77	.90	.05	910	433.1	262.9	-50.8
38.00	2.53	0.08	2.61	.92	.06	905	434.2	261.4	-52.6
40.00	2.50	0.08	2.58	.92	.06	902	435.2	260.5	-53.9
42.00	2.48	0.08	2.56	.93	.06	897	435.8	260.2	-54.6
44.00	2.50	0.08	2.58	.92	.05	899	436.2	260.2	-54.7
46.00	2.53	0.08	2.61	.92	.05	895	436.3	260.5	-54.1
48.00	2.53	0.08	2.61	.92	.05	888	436.1	260.6	-52.8
50.00	2.59	0.08	2.67	.91	.04	890	435.6	260.5	-50.9
39751.50	2.1	0.1	2.	-15.03	-15.17	844	435.1	260.1	-49.1
52.00	2.8	0.1	3.	-14.85	-14.99	900	434.9	259.9	-48.4
52.50	3.1	0.1	3.	.86	.99	898	434.6	259.7	-47.7
53.00	3.1	0.1	3.	.85	-15.00	897	434.4	259.4	-46.9
53.50	3.6	0.1	4.	.73	-14.87	939	434.1	259.1	-46.1
54.00	4.6	0.1	5.	.64	.78	971	433.8	258.8	-45.3
54.50	4.2	0.1	4.	.74	.88	927	433.6	258.4	-44.5
55.00	3.5	0.1	4.	.73	.88	929	433.3	257.9	-43.6
55.50	3.0	0.1	3.	.85	-15.01	889	432.9	257.5	-42.7
56.00	3.0	0.1	3.	.85	.01	895	432.6	257.0	-41.8
56.50	2.8	0.1	3.	.85	.01	894	432.3	256.4	-40.9
39757.00	2.8	0.1	2.8	-14.87	-15.04	881	431.9	255.9	-39.9
58.00	2.8	0.1	2.9	.86	.03	883	431.2	254.6	-38.0
59.00	3.0	0.1	3.0	.84	.02	885	430.5	253.2	-35.9
60.00	3.0	0.1	3.1	.83	.01	886	429.7	251.7	-33.8
61.00	4.2	0.1	4.2	.70	-14.89	929	428.9	250.1	-31.6
62.00	5.2	0.1	5.3	.60	.79	959	428.1	248.3	-29.4
63.00	4.4	0.1	4.4	.68	.88	918	427.2	246.5	-27.1
64.00	3.7	0.0	3.7	.75	.96	890	426.4	244.5	-24.8
39766.00	2.89	0.04	2.93	-14.85	-15.07	856	424.8	240.4	-20.0
68.00	3.00	0.04	3.04	.83	.07	855	423.3	236.0	-15.1
70.00	3.61	0.04	3.65	.75	.00	876	421.7	231.4	-10.1
72.00	3.85	0.03	3.88	.72	-14.98	877	420.5	226.6	-5.1
74.00	4.14	0.03	4.17	.69	.96	881	419.5	221.6	0.0
76.00	4.14	0.02	4.16	.69	.96	879	418.7	216.6	5.1
78.00	4.19	0.02	4.21	.69	.96	880	418.1	211.6	10.2
80.00	3.99	0.02	4.00	.71	.99	869	417.8	206.6	15.3
82.00	3.67	0.02	3.69	.74	-15.03	856	417.6	201.6	20.3
84.00	4.18	0.02	4.20	.69	-14.97	878	417.8	196.7	25.3
86.00	4.37	0.02	4.38	.67	.95	884	418.1	192.0	30.2
88.00	4.40	0.02	4.42	.68	.95	885	418.6	187.5	35.0

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39790.00	4.9	0.0	4.9	-14.63	-14.90	904	419.2	183.2	39.7
91.00	5.7	0.0	5.7	.58	.83	926	419.6	181.1	41.9
92.00	7.1	0.0	7.2	.48	.72	965	419.9	179.2	44.2
93.00	7.2	0.0	7.3	.48	.71	970	420.3	177.3	46.3
94.00	5.5	0.0	5.5	.60	.84	924	420.7	175.5	48.5
95.00	4.7	0.0	4.7	.66	.90	902	421.1	173.9	50.5
96.00	4.8	0.0	4.8	.65	.89	905	421.5	172.4	52.5
97.00	6.4	0.0	6.4	.53	.76	953	421.9	171.0	54.4
98.00	5.6	0.0	5.6	.59	.82	927	422.3	169.7	56.2
99.00	4.7	0.0	4.7	.67	.89	900	422.7	168.6	58.0
39800.00	3.9	0.0	3.9	.75	.97	873	423.0	167.6	59.6
39802.00	3.50	0.00	3.50	-14.79	-15.02	858	423.7	166.0	62.5
04.00	3.69	0.00	3.69	.77	-14.99	868	424.2	165.0	64.9
06.00	3.39	-0.01	3.38	.81	-15.03	855	424.5	164.5	66.7
08.00	3.84	-0.02	3.82	.76	-14.97	874	424.7	164.3	67.9
10.00	3.37	-0.02	3.35	.82	-15.03	859	424.7	164.2	68.4
12.00	3.79	-0.03	3.76	.77	-14.98	882	424.6	163.9	68.2
14.00	4.25	-0.03	4.22	.72	.93	906	424.2	163.3	67.3
39816.00	4.7	0.0	4.6	-14.69	-14.90	918	423.8	162.1	65.9
17.00	4.8	0.0	4.8	.67	.88	922	423.5	161.3	65.0
18.00	5.4	0.0	5.3	.62	.84	940	423.2	160.4	64.0
19.00	6.0	0.0	6.0	.57	.79	962	422.8	159.3	62.8
20.00	5.9	0.0	5.8	.58	.80	959	422.5	158.1	61.6
21.00	5.1	0.0	5.1	.64	.86	937	422.1	156.7	60.2
22.00	5.0	0.0	4.9	.65	.88	929	421.7	155.2	58.8
23.00	5.0	0.0	5.0	.64	.87	931	421.3	153.5	57.3
24.00	4.5	0.0	4.5	.69	.92	915	420.9	151.8	55.7
25.00	4.6	0.0	4.6	.68	.91	918	420.6	149.9	54.1
26.00	5.2	0.0	5.2	.62	.86	937	420.2	147.9	52.4
27.00	5.0	0.0	5.0	.63	.88	936	419.8	145.8	50.7
28.00	4.2	0.0	4.2	.70	.96	909	419.5	143.6	48.9
29.00	3.6	0.0	3.6	.77	-15.03	885	419.2	141.3	47.0
30.00	4.4	0.0	4.4	.68	-14.94	917	418.9	139.0	45.1
31.00	4.9	0.0	4.8	.65	.90	929	418.7	136.6	43.2
32.00	5.1	0.0	5.1	.62	.87	942	418.5	134.2	41.2
33.00	4.6	0.0	4.6	.66	.92	927	418.3	131.7	39.3
34.00	7.9	0.0	7.9	.43	.68	1042	418.2	129.1	37.2
35.00	3.7	0.0	3.7	.75	-15.01	900	418.1	126.5	35.2
36.00	4.6	0.0	4.6	.66	-14.92	943	418.1	123.9	33.2
37.00	4.9	0.0	4.9	.63	.89	956	418.1	121.2	31.1
38.00	5.5	0.0	5.5	.59	.84	981	418.2	118.6	29.0
39.00	6.2	0.0	6.2	.54	.78	1007	418.4	115.9	26.9
40.00	6.6	0.0	6.6	.51	.75	1021	418.6	113.2	24.8
41.00	7.6	0.0	7.6	.46	.69	1053	418.8	110.5	22.6
42.00	8.8	0.0	8.7	.41	.63	1087	419.2	107.8	20.5
43.00	11.0	0.0	11.0	.31	.52	1150	419.5	105.1	18.3
44.00	11.0	0.0	11.0	.31	.52	1147	420.0	102.4	16.2
45.00	10.6	0.0	10.6	.33	.53	1141	420.5	99.8	14.0
46.00	10.5	0.0	10.5	.33	.53	1151	421.0	97.1	11.9
47.00	10.7	0.0	10.7	.32	.52	1160	421.6	94.5	9.8
48.00	10.5	0.0	10.5	.33	.52	1163	422.2	92.0	7.6
49.00	9.7	0.0	9.7	.36	.55	1153	422.9	89.4	5.5
50.00	10.7	0.0	10.7	.31	.50	1187	423.6	87.0	3.4
51.00	10.8	0.0	10.8	.31	.50	1190	424.3	84.5	1.3
52.00	10.3	0.0	10.3	.34	.51	1182	424.9	82.2	-0.8
53.00	9.9	0.0	9.9	.36	.53	1176	425.6	79.9	-2.8
54.00	9.7	0.0	9.7	.37	.53	1171	426.4	77.7	-4.9
55.00	11.3	0.0	11.3	.30	.46	1209	427.2	75.5	-6.9

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39856.00	12.6	0.0	12.6	-14.26	-14.41	1234	427.9	73.5	-8.8
57.00	11.4	0.0	11.4	.30	.45	1210	428.7	71.6	-10.7
58.00	11.1	0.0	11.1	.31	.46	1215	429.5	69.8	-12.6
59.00	9.9	0.0	9.8	.37	.51	1193	430.2	68.1	-14.4
60.00	11.0	-0.1	10.9	.32	.46	1229	430.9	66.6	-16.2
61.00	12.5	-0.1	12.4	.27	.40	1266	431.6	65.1	-17.8
62.00	12.4	-0.1	12.3	.28	.40	1267	432.2	63.9	-19.4
63.00	12.0	-0.1	11.9	.29	.41	1266	432.8	62.8	-20.9
64.00	12.1	-0.1	12.0	.29	.41	1279	433.4	61.8	-22.4
65.00	12.1	-0.1	12.1	.29	.40	1286	433.9	61.0	-23.7
66.00	12.5	-0.1	12.5	.27	.38	1296	434.3	60.3	-24.8
67.00	13.0	-0.1	12.9	.26	.36	1302	434.7	59.6	-25.9
68.00	13.1	-0.1	13.0	.25	.36	1301	435.1	59.5	-26.8
69.00	12.4	-0.1	12.4	.27	.38	1289	435.3	59.2	-27.6
70.00	11.9	-0.1	11.8	.29	.40	1276	435.5	59.0	-28.2
71.00	10.7	-0.1	10.6	.34	.44	1242	435.6	58.9	-28.7
72.00	10.2	-0.1	10.2	.35	.45	1228	435.7	58.9	-29.0
73.00	10.2	-0.1	10.1	.35	.46	1224	435.6	58.8	-29.1
74.00	9.6	-0.1	9.5	.38	.48	1210	435.5	58.7	-29.1
75.00	8.5	-0.1	8.5	.42	.53	1175	435.4	58.6	-28.9
76.00	8.5	-0.1	8.4	.42	.54	1170	435.1	58.4	-28.6
77.00	8.5	-0.1	8.4	.42	.54	1173	434.8	58.1	-28.1
78.00	8.7	-0.1	8.7	.41	.52	1182	434.4	57.7	-27.5
79.00	9.3	-0.1	9.2	.38	.50	1194	434.0	57.1	-26.7
80.00	9.2	-0.1	9.1	.39	.51	1190	433.5	56.4	-25.8
81.00	9.1	-0.1	9.1	.39	.51	1189	432.9	55.6	-24.8
82.00	10.9	0.0	10.9	.31	.44	1237	432.3	54.6	-23.7
83.00	12.0	0.0	12.0	.28	.40	1264	431.6	53.4	-22.6
84.00	12.6	0.0	12.5	.26	.39	1270	430.9	52.1	-21.3
85.00	13.2	0.0	13.2	.25	.38	1282	430.2	50.7	-19.9
86.00	14.4	0.0	14.4	.21	.34	1311	429.4	49.1	-18.5
87.00	15.4	0.0	15.3	.18	.32	1333	428.6	47.4	-17.0
88.00	15.9	0.0	15.9	.17	.31	1337	427.8	45.6	-15.5
89.00	17.0	0.0	16.9	.15	.29	1346	427.0	43.7	-13.9
90.00	18.5	0.0	18.5	.11	.25	1375	426.2	41.7	-12.3
91.00	17.0	0.0	17.0	.14	.29	1349	425.4	39.7	-10.6
92.00	15.1	0.0	15.1	.18	.35	1312	424.6	37.5	-8.9
93.00	15.4	0.0	15.3	.17	.34	1317	423.8	35.3	-7.2
94.00	15.3	0.0	15.3	.16	.35	1305	423.0	33.0	-5.4
95.00	14.4	0.0	14.3	.19	.38	1263	422.3	30.6	-3.7
96.00	14.0	0.0	14.0	.20	.39	1249	421.6	28.2	-1.9
97.00	16.3	0.0	16.2	.14	.33	1282	420.9	25.8	-0.1
98.00	14.5	0.0	14.5	.19	.39	1240	420.2	23.3	1.8
99.00	12.0	0.0	12.0	.27	.47	1190	419.6	20.8	3.6
39900.00	10.8	0.0	10.7	.31	.52	1161	419.1	18.3	5.4
01.00	10.1	0.0	10.1	.34	.55	1141	418.6	15.7	7.2
02.00	11.1	0.0	11.1	.30	.51	1157	418.2	13.2	9.1
03.00	10.4	0.0	10.4	.32	.54	1135	417.9	10.6	10.9
04.00	10.8	0.0	10.8	.31	.53	1140	417.6	8.1	12.7
05.00	10.8	0.0	10.8	.30	.53	1138	417.3	5.5	14.6
06.00	11.2	0.0	11.2	.29	.52	1147	417.1	2.9	16.4
07.00	12.0	0.0	12.0	.26	.49	1161	417.0	0.4	18.2
08.00	11.1	0.0	11.1	.29	.52	1137	416.9	357.9	20.0
09.00	10.7	0.0	10.7	.31	.54	1135	416.9	355.4	21.8
10.00	10.4	0.0	10.4	.32	.55	1129	417.0	352.9	23.6
11.00	11.6	0.0	11.5	.28	.51	1156	417.1	350.5	25.3
12.00	11.8	0.0	11.8	.27	.50	1165	417.2	348.1	27.1
13.00	12.6	0.0	12.6	.24	.47	1180	417.4	345.8	28.8
14.00	12.9	0.0	12.9	.24	.46	1175	417.7	343.5	30.5
15.00	13.9	0.0	13.9	.21	.43	1185	417.9	341.3	32.1

Table 4 (Cont.)

1960 $\xi 1$ (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39916.00	12.8	0.0	12.8	-14.24	-14.46	1162	418.2	339.2	33.7
17.00	11.1	0.0	11.1	.30	.52	1129	418.6	337.1	35.3
18.00	10.7	0.0	10.7	.32	.54	1119	418.9	335.2	36.9
19.00	11.8	0.0	11.8	.27	.50	1140	419.3	333.3	38.4
20.00	11.9	0.0	11.9	.27	.49	1137	419.7	331.5	39.8
21.00	9.5	0.0	9.5	.37	.59	1081	420.1	329.8	41.2
22.00	8.6	0.0	8.6	.41	.63	1062	420.5	328.3	42.5
23.00	7.6	0.0	7.6	.46	.68	1035	420.8	326.9	43.7
24.00	6.9	0.0	6.9	.50	.72	1015	421.2	325.6	44.9
25.00	6.7	0.0	6.7	.51	.74	1003	421.6	324.4	46.0
26.00	6.8	0.0	6.8	.51	.73	1002	421.9	323.4	47.0
27.00	6.8	0.0	6.8	.51	.73	1004	422.2	322.6	47.9
28.00	6.3	0.0	6.3	.55	.76	989	422.5	321.9	48.6
29.00	6.1	0.0	6.1	.56	.77	978	422.8	321.4	49.3
30.00	6.2	0.0	6.2	.56	.77	974	423.0	321.0	49.8
31.00	6.5	0.0	6.6	.54	.74	983	423.2	320.7	50.2
32.00	6.5	0.0	6.6	.54	.74	985	423.4	320.5	50.4
33.00	6.4	0.1	6.4	.55	.75	982	423.5	320.4	50.5
34.00	6.3	0.1	6.4	.55	.75	982	423.6	320.4	50.4
35.00	6.3	0.1	6.4	.55	.75	979	423.6	320.5	50.1
36.00	6.4	0.1	6.4	.55	.75	979	423.6	320.5	49.7
37.00	6.9	0.1	6.9	.52	.72	996	423.5	320.6	49.2
38.00	7.1	0.1	7.2	.50	.71	1006	423.4	320.6	48.4
39.00	7.9	0.1	8.0	.46	.66	1022	423.2	320.5	47.5
40.00	8.7	0.1	8.7	.43	.62	1033	423.0	320.3	46.4
41.00	8.9	0.1	9.0	.41	.61	1041	422.8	320.0	45.2
42.00	9.5	0.1	9.6	.38	.59	1056	422.5	319.6	43.9
43.00	9.6	0.1	9.6	.38	.58	1055	422.6	319.0	42.4
44.00	9.7	0.1	9.7	.38	.58	1057	422.2	318.3	40.8
45.00	10.1	0.1	10.1	.36	.57	1062	421.9	317.4	39.2
46.00	11.1	0.1	11.2	.31	.52	1086	421.5	316.4	37.4
47.00	10.5	0.1	10.6	.34	.55	1070	421.2	315.2	35.5
48.00	9.5	0.1	9.6	.38	.59	1045	420.8	313.9	33.5
49.00	8.6	0.1	8.7	.41	.64	1026	420.4	312.5	31.5
50.00	7.4	0.1	7.5	.48	.70	995	420.0	310.9	29.4
39951.00	8.1	0.1	8.	-14.44	-14.68	1011	419.6	309.3	27.2
51.50	7.5	0.1	8.	.44	.68	1009	419.4	308.4	26.1
52.00	9.7	0.1	10.	.35	.58	1048	419.2	307.5	25.0
52.50	9.3	0.1	9.	.40	.63	1016	419.0	306.5	23.9
53.00	6.3	0.1	6.	.57	.81	941	418.9	305.6	22.7
39954.00	5.7	0.1	5.7	-14.58	-14.83	940	418.5	303.6	20.4
55.00	4.7	0.1	4.8	.65	.91	915	418.2	301.5	18.1
56.00	5.0	0.1	5.0	.63	.89	921	417.9	299.4	15.7
57.00	4.9	0.1	4.9	.65	.90	913	417.7	297.2	13.3
58.00	5.1	0.1	5.1	.63	.89	918	417.4	294.9	10.8
59.00	5.4	0.1	5.4	.60	.86	926	417.3	292.6	8.4
60.00	5.5	0.1	5.5	.60	.85	924	417.1	290.3	5.9
61.00	5.8	0.0	5.9	.56	.82	938	417.1	287.8	3.4
62.00	5.0	0.0	5.0	.63	.90	912	417.0	285.4	0.9
63.00	4.4	0.0	4.4	.68	.95	892	417.1	282.9	-1.6
39964.00	4.09	0.00	4.09	-14.71	-14.99	882	417.2	280.4	-4.1
66.00	3.75	0.00	3.75	.74	-15.02	874	417.5	275.4	-9.2
68.00	3.22	0.01	3.23	.81	.08	853	418.1	270.4	-14.2
70.00	3.32	0.02	3.34	.79	.06	859	418.9	265.3	-19.3
72.00	3.27	0.04	3.31	.80	.06	859	420.0	260.3	-24.2
74.00	3.24	0.04	3.28	.80	.05	860	421.2	255.4	-29.2
76.00	2.87	0.05	2.92	.86	.09	850	422.6	250.7	-34.0

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39978.00	3.03	0.05	3.08	-14.83	-15.06	864	424.2	246.2	-38.8
80.00	3.11	0.05	3.16	.83	.04	877	425.8	241.9	-43.4
39982.00	3.2	0.1	3.3	-14.81	-15.01	894	427.4	238.0	-47.8
83.00	4.0	0.1	4.1	.72	-14.91	928	428.2	236.2	-50.0
84.00	4.3	0.1	4.4	.69	.87	940	429.0	234.5	-52.0
85.00	3.8	0.1	3.9	.74	.92	925	429.8	232.9	-54.0
86.00	3.6	0.1	3.7	.76	.93	919	430.5	231.4	-56.0
87.00	2.7	0.1	2.8	.88	-15.05	876	431.2	230.0	-57.8
88.00	2.8	0.1	2.8	.88	.04	876	431.9	228.9	-59.6
89.00	3.0	0.1	3.0	.85	.01	890	432.6	227.8	-61.3
90.00	2.5	0.1	2.5	.93	.08	866	433.2	226.9	-62.8
91.00	2.4	0.1	2.5	.93	.08	870	433.7	226.2	-64.3
92.00	2.2	0.1	2.3	.97	.11	860	434.2	225.6	-65.6
93.00	2.5	0.1	2.5	.93	.07	876	434.7	225.1	-66.8
94.00	2.4	0.1	2.4	.95	.09	871	435.0	224.8	-67.8
95.00	2.4	0.1	2.4	.96	.09	872	435.3	224.6	-68.7
96.00	2.9	0.1	2.9	.88	.00	904	435.5	224.5	-69.4
97.00	3.1	0.1	3.1	.85	-14.97	915	435.7	224.4	-69.9
98.00	3.6	0.1	3.6	.79	.91	943	435.8	224.5	-70.3
99.00	3.1	0.1	3.2	.84	.96	926	435.8	224.5	-70.5
40000.00	2.8	0.1	2.8	.89	-15.02	905	435.7	224.5	-70.5
01.00	2.8	0.1	2.8	.89	.02	906	435.5	224.4	-70.3
02.00	2.8	0.0	2.8	.89	.02	911	435.3	224.3	-70.0
03.00	2.7	0.0	2.8	.89	.02	913	435.0	224.1	-69.5
04.00	2.7	0.0	2.8	.88	.02	913	434.6	223.7	-68.9
05.00	2.7	0.0	2.7	.90	.04	903	434.2	223.2	-68.1
06.00	2.6	0.0	2.6	.91	.06	895	433.7	222.6	-67.1
07.00	2.7	0.0	2.7	.90	.05	900	433.2	221.8	-66.1
08.00	2.6	0.0	2.6	.91	.07	892	432.6	220.9	-64.9
09.00	2.5	0.0	2.6	.91	.08	890	431.9	219.8	-63.6
10.00	2.5	0.0	2.5	.93	.10	882	431.2	218.5	-62.2
11.00	2.5	0.0	2.5	.93	.10	883	430.5	217.1	-60.7
12.00	2.4	0.0	2.5	.92	.11	884	429.7	215.6	-59.1
13.00	2.4	0.0	2.5	.92	.12	885	429.0	213.9	-57.5
14.00	2.4	0.0	2.4	.94	.14	877	428.2	212.1	-55.8
15.00	2.4	0.0	2.5	.92	.13	881	427.3	210.2	-54.0
16.00	2.6	0.0	2.6	.91	.12	886	426.5	208.2	-52.2
17.00	3.0	0.0	3.0	.84	.06	905	425.7	206.1	-50.3
40017.50	3.3	0.0	3.	-14.84	-15.06	901	425.3	205.1	-49.4
18.00	3.5	0.0	4.	.72	-14.94	946	424.9	204.0	-48.4
18.50	4.2	0.0	4.	.72	.94	939	424.5	202.8	-47.4
19.00	4.2	0.0	4.	.72	.94	941	424.1	201.7	-46.5
19.50	4.0	0.0	4.	.72	.95	946	423.7	200.6	-45.5
20.00	3.7	0.0	4.	.72	.95	946	423.3	199.4	-44.5
20.50	3.3	0.0	3.	.84	-15.08	893	423.0	198.2	-43.4
21.00	3.3	0.0	3.	.84	.08	895	422.6	197.0	-42.4
21.50	3.0	0.0	3.	.84	.08	896	422.2	195.8	-41.4
40022.00	2.7	0.0	2.7	-14.88	-15.13	882	421.9	194.6	-40.4
23.00	2.8	0.0	2.8	.86	.12	891	421.2	192.1	-38.3
24.00	2.8	0.0	2.9	.85	.11	894	420.6	189.6	-36.2
25.00	2.8	0.0	2.8	.86	.13	887	420.0	187.0	-34.0
26.00	2.6	0.0	2.6	.89	.17	876	419.4	184.4	-31.9
27.00	2.6	0.0	2.6	.90	.17	877	418.9	181.8	-29.7
28.00	2.6	0.0	2.6	.89	.18	880	418.5	179.2	-27.6
29.00	2.6	0.0	2.6	.89	.18	881	418.1	176.6	-25.4
30.00	2.5	0.0	2.5	.91	.20	873	417.8	173.9	-23.2
31.00	2.6	0.0	2.6	.89	.18	882	417.5	171.3	-21.0

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40032.00	2.6	0.0	2.6	-14.89	-15.18	885	417.3	168.7	-18.8
33.00	2.5	0.0	2.5	.91	.20	876	417.2	166.1	-16.6
34.00	2.4	0.0	2.5	.91	.20	873	417.1	163.5	-14.4
35.00	2.3	0.0	2.3	.95	.24	861	417.0	160.9	-12.2
36.00	2.4	0.0	2.4	.93	.22	871	417.1	158.3	-10.0
37.00	2.4	0.0	2.4	.93	.22	870	417.2	155.8	-7.8
38.00	2.8	0.0	2.8	.86	.15	895	417.3	153.3	-5.6
39.00	2.9	0.0	2.9	.85	.13	903	417.6	150.9	-3.5
40.00	3.2	0.0	3.2	.81	.09	921	417.8	148.5	-1.3
41.00	2.3	0.0	2.3	.95	.23	867	418.1	146.2	0.8
42.00	1.9	0.0	1.9	-15.03	.31	841	418.4	144.0	2.9
43.00	2.5	0.0	2.5	-14.91	.19	886	418.7	141.8	5.0
44.00	2.7	0.0	2.7	.88	.15	901	419.1	139.7	7.0
45.00	2.9	0.0	2.9	.85	.12	916	419.5	137.7	9.0
46.00	3.2	0.0	3.2	.81	.07	937	419.8	135.8	11.0
47.00	3.4	0.0	3.4	.79	.04	946	420.2	134.1	12.9
48.00	3.4	0.0	3.4	.80	.04	944	420.6	132.4	14.7
49.00	3.7	0.0	3.7	.76	.00	965	421.0	130.9	16.5
50.00	4.0	0.0	4.0	.73	-14.96	985	421.4	129.5	18.2
51.00	4.1	0.0	4.1	.72	.95	986	421.8	128.2	19.9
52.00	4.0	0.0	4.0	.73	.96	982	422.1	127.1	21.4
53.00	3.9	0.0	3.9	.74	.97	983	422.4	126.1	22.9
54.00	3.9	0.0	3.9	.74	.97	985	422.7	125.3	24.2
55.00	4.4	0.0	4.3	.70	.92	1005	423.0	124.7	25.5
56.00	4.5	0.0	4.5	.68	.90	1015	423.2	124.1	26.6
57.00	4.6	0.0	4.5	.68	.90	1018	423.4	123.8	27.6
58.00	4.8	-0.1	4.7	.66	.88	1029	423.6	123.5	28.4
59.00	4.7	-0.1	4.6	.67	.89	1019	423.7	123.3	29.1
60.00	4.2	-0.1	4.1	.72	.94	992	423.7	123.2	29.6
61.00	4.2	-0.1	4.1	.72	.94	999	423.8	123.2	30.0
62.00	4.2	-0.1	4.1	.72	.94	1002	423.8	123.2	30.2
63.00	4.2	-0.1	4.1	.72	.94	999	423.7	123.1	30.3
64.00	4.4	-0.1	4.3	.71	.92	1004	423.6	123.1	30.2
65.00	4.3	-0.1	4.2	.71	.93	1001	423.4	122.9	29.9
66.00	4.1	-0.1	4.0	.73	.95	993	423.2	122.7	29.5
67.00	3.9	-0.1	3.9	.74	.97	988	423.0	122.3	29.0
68.00	3.7	-0.1	3.6	.77	-15.00	971	422.7	121.8	28.3
69.00	3.4	-0.1	3.3	.81	.04	954	422.4	121.2	27.5
70.00	3.3	-0.1	3.2	.82	.06	949	422.1	120.5	26.6
71.00	3.7	-0.1	3.6	.77	.01	968	421.8	119.6	25.5
72.00	4.0	-0.1	3.9	.74	-14.97	980	421.4	118.5	24.4
73.00	4.1	-0.1	4.0	.72	.96	985	421.0	117.3	23.2
74.00	4.2	-0.1	4.1	.71	.96	984	420.6	116.0	21.9
75.00	4.9	-0.1	4.8	.65	.89	1013	420.2	114.5	20.5
76.00	4.5	-0.1	4.5	.67	.92	998	419.8	112.9	19.1
77.00	4.4	-0.1	4.4	.68	.93	994	419.3	111.2	17.6
78.00	4.5	-0.1	4.4	.68	.93	993	418.9	109.4	16.0
79.00	4.7	-0.1	4.7	.65	.91	1007	418.5	107.5	14.5
80.00	5.3	-0.1	5.2	.61	.86	1031	418.2	105.5	12.8
81.00	5.4	-0.1	5.3	.60	.86	1034	417.8	103.4	11.2
82.00	6.0	-0.1	5.9	.56	.81	1049	417.5	101.3	9.5
83.00	6.8	-0.1	6.7	.51	.75	1069	417.2	99.1	7.7
84.00	7.9	-0.1	7.8	.44	.69	1106	417.0	96.8	6.0
85.00	7.9	-0.1	7.8	.45	.69	1100	416.8	94.4	4.2
86.00	7.2	-0.1	7.1	.48	.73	1076	416.6	92.1	2.4
87.00	7.0	-0.1	7.0	.49	.74	1078	416.5	89.7	0.6
88.00	6.7	-0.1	6.6	.51	.76	1069	416.5	87.2	-1.2
89.00	6.2	-0.1	6.1	.54	.80	1054	416.5	84.8	-3.0
90.00	6.6	-0.1	6.6	.50	.76	1074	416.6	82.3	-4.9
91.00	7.0	-0.1	6.9	.49	.74	1081	416.7	79.8	-6.7

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40092.00	7.0	-0.1	6.9	-14.49	-14.74	1072	416.9	77.2	-8.5
93.00	7.0	-0.1	7.0	.48	.73	1079	417.1	74.7	-10.4
94.00	6.5	-0.1	6.4	.51	.77	1063	417.4	72.2	-12.2
95.00	6.4	-0.1	6.3	.52	.77	1056	417.8	69.7	-14.1
96.00	6.0	-0.1	5.9	.55	.80	1044	418.2	67.2	-15.9
97.00	5.9	-0.1	5.8	.55	.80	1042	418.7	64.7	-17.7
98.00	6.0	-0.1	6.0	.54	.78	1051	419.3	62.3	-19.5
99.00	6.6	-0.1	6.5	.51	.74	1065	419.9	59.8	-21.3
40100.00	7.8	-0.1	7.7	.44	.66	1099	420.5	57.4	-23.1
01.00	8.0	-0.1	8.0	.42	.64	1111	421.2	55.1	-24.9
02.00	8.3	-0.1	8.3	.41	.62	1120	422.1	52.8	-26.6
03.00	8.2	-0.1	8.2	.42	.62	1112	422.9	50.5	-28.3
04.00	8.4	-0.1	8.3	.42	.61	1116	423.6	48.3	-30.0
05.00	8.6	-0.1	8.5	.41	.60	1124	424.4	46.2	-31.7
40106.00	8.6	-0.1	9.	-14.38	-14.57	1136	425.2	44.2	-33.3
06.50	9.5	-0.1	9.	.38	.56	1137	425.6	43.2	-34.1
07.00	12.1	-0.1	12.	.26	.44	1215	426.0	42.2	-34.9
07.50	10.6	-0.1	11.	.30	.47	1177	426.4	41.3	-35.7
08.00	9.8	-0.1	10.	.34	.51	1156	426.8	40.3	-36.4
08.50	9.3	-0.1	9.	.39	.56	1138	427.2	39.4	-37.2
09.00	9.0	-0.1	9.	.39	.55	1142	427.6	38.6	-37.9
40110.00	8.6	-0.1	8.5	-14.41	-14.57	1133	428.4	36.9	-39.4
11.00	8.3	-0.1	8.3	.42	.58	1126	429.2	35.4	-40.7
40111.50	7.7	-0.1	8.	-14.44	-14.59	1112	429.6	34.6	-41.4
12.00	9.8	-0.1	10.	.35	.49	1159	429.9	34.0	-42.0
12.50	11.4	-0.1	11.	.31	.45	1180	430.3	33.3	-42.7
13.00	11.7	-0.1	12.	.27	.41	1205	430.7	32.7	-43.3
13.50	10.7	-0.1	11.	.31	.45	1182	431.0	32.1	-43.9
14.00	9.9	-0.1	10.	.35	.48	1157	431.3	31.5	-44.4
40115.00	7.9	-0.1	7.9	-14.45	-14.58	1101	432.0	30.6	-45.5
16.00	7.2	-0.1	7.1	.49	.62	1082	432.6	29.7	-46.4
17.00	7.2	-0.1	7.1	.48	.62	1088	433.1	29.1	-47.2
18.00	7.7	-0.1	7.7	.45	.58	1106	433.6	28.5	-48.0
19.00	7.8	-0.1	7.8	.44	.57	1106	434.0	28.2	-48.5
20.00	6.5	0.0	6.5	.52	.64	1062	434.4	27.9	-49.0
21.00	6.3	0.0	6.2	.54	.66	1047	434.7	27.8	-49.3
22.00	7.0	0.0	7.0	.49	.61	1069	434.9	27.8	-49.4
23.00	7.4	0.0	7.4	.47	.58	1084	435.0	27.9	-49.3
24.00	6.7	0.0	6.7	.51	.63	1068	435.1	28.0	-49.1
25.00	6.8	0.0	6.8	.51	.62	1068	435.1	28.1	-48.8
26.00	7.6	0.0	7.6	.46	.58	1092	435.0	28.2	-48.2
27.00	8.2	0.0	8.2	.43	.54	1106	434.9	28.3	-47.5
28.00	8.4	0.0	8.4	.42	.54	1104	434.7	28.3	-46.6
29.00	8.7	0.0	8.7	.41	.52	1109	434.4	28.2	-45.6
40130.00	10.1	0.0	10.	-14.35	-14.47	1137	434.0	28.0	-44.4
30.50	10.7	0.0	11.	.31	.43	1156	433.8	27.8	-43.7
31.00	10.5	0.0	10.	.35	.47	1127	433.5	27.6	-43.0
31.50	10.8	0.0	11.	.31	.43	1139	433.3	27.4	-42.3
32.00	10.4	0.0	10.	.35	.47	1111	433.1	27.1	-41.6
32.50	10.2	0.0	10.	.35	.47	1115	432.8	26.8	-40.8
33.00	9.8	0.0	10.	.34	.47	1128	432.5	26.4	-40.0
40134.00	9.3	0.0	9.3	-14.37	-14.51	1113	431.9	25.6	-38.3
35.00	9.2	0.0	9.2	.38	.52	1105	431.2	24.6	-36.5
36.00	8.9	0.0	8.9	.40	.54	1088	430.5	23.5	-34.6

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40136.50	9.3	0.0	9.	-14.39	-14.54	1085	430.2	22.9	-33.6
37.00	10.5	0.0	10.	.35	.49	1105	429.8	22.2	-32.6
37.50	10.7	0.0	11.	.31	.45	1130	429.4	21.5	-31.6
38.00	10.6	0.0	11.	.31	.46	1131	429.0	20.8	-30.5
38.50	10.8	0.0	11.	.31	.46	1127	428.6	20.1	-29.5
39.00	10.2	0.0	10.	.35	.50	1102	428.2	19.3	-28.4
39.50	9.9	0.0	10.	.34	.50	1102	427.8	18.5	-27.3
40.00	9.8	0.0	10.	.34	.51	1106	427.4	17.6	-26.2
40.50	8.8	0.0	9.	.39	.55	1080	427.0	16.7	-25.1
41.00	9.2	0.0	9.	.39	.56	1069	426.6	15.8	-24.0
41.50	11.2	0.0	11.	.31	.47	1101	426.2	14.9	-22.8
42.00	14.2	0.0	14.	.21	.37	1152	425.7	14.0	-21.7
42.50	11.9	0.0	12.	.27	.44	1113	425.3	13.0	-20.5
43.00	10.1	0.0	10.	.35	.52	1072	424.9	12.0	-19.4
43.50	10.2	0.0	10.	.34	.52	1075	424.5	11.0	-18.2
40144.00	10.2	0.0	10.2	-14.33	-14.52	1083	424.1	9.9	-17.0
45.00	10.2	0.0	10.2	.33	.52	1085	423.3	7.8	-14.6
46.00	10.2	0.0	10.2	.33	.53	1081	422.5	5.6	-12.2
47.00	10.5	0.0	10.5	.32	.52	1081	421.7	3.3	-9.7
48.00	10.8	0.0	10.8	.31	.51	1086	421.0	0.9	-7.2
49.00	11.2	0.0	11.2	.29	.50	1091	420.3	358.6	-4.7
50.00	11.2	0.0	11.2	.29	.50	1092	419.6	356.1	-2.2
51.00	11.0	0.0	11.0	.30	.52	1092	419.0	353.7	0.3
52.00	10.9	0.0	10.9	.30	.52	1087	418.5	351.2	2.8
53.00	10.7	0.0	10.7	.31	.54	1077	417.9	348.7	5.3
54.00	11.6	0.0	11.6	.28	.50	1089	417.5	346.1	7.9
55.00	11.5	0.0	11.5	.28	.51	1086	417.1	343.6	10.4
56.00	11.4	0.0	11.4	.29	.52	1082	416.8	341.0	12.9
57.00	11.2	0.0	11.2	.29	.53	1077	416.5	338.5	15.5
40158.00	10.3	0.0	10.	-14.34	-14.58	1046	416.3	335.9	18.0
58.50	14.3	0.0	14.	.20	.43	1118	416.2	334.6	19.2
59.00	15.4	0.0	15.	.17	.41	1131	416.1	333.3	20.5
59.50	11.0	0.0	11.	.31	.54	1056	416.1	332.1	21.7
60.00	11.6	0.0	12.	.27	.50	1078	416.1	330.8	23.0
60.50	16.0	0.0	16.	.15	.38	1136	416.0	329.5	24.2
61.00	16.4	0.0	16.	.15	.38	1127	416.0	328.3	25.5
61.50	12.2	0.0	12.	.27	.51	1059	416.0	327.0	26.7
62.00	14.2	0.0	14.	.21	.44	1085	416.1	325.8	28.0
62.50	16.5	0.0	16.	.15	.38	1124	416.1	324.5	29.2
63.00	11.8	0.0	12.	.27	.51	1062	416.1	323.3	30.4
63.50	9.4	0.0	9.	.39	.63	1002	416.2	322.1	31.6
40164.00	9.6	0.0	9.6	-14.36	-14.61	1019	416.3	320.9	32.8
65.00	6.3	0.0	6.3	.54	.79	941	416.5	318.5	35.2
66.00	6.1	0.0	6.1	.55	.81	942	416.7	316.1	37.6
67.00	6.7	0.0	6.7	.51	.77	957	417.0	313.9	40.0
68.00	6.9	0.0	6.9	.50	.75	962	417.3	311.6	42.3
69.00	6.7	0.0	6.7	.51	.77	956	417.6	309.5	44.5
70.00	6.6	0.0	6.6	.52	.77	953	418.0	307.4	46.8
71.00	6.1	0.0	6.1	.55	.81	941	418.4	305.5	48.9
72.00	5.8	0.0	5.8	.56	.83	936	418.8	303.6	51.0
73.00	5.0	0.0	5.0	.64	.89	915	419.2	301.8	53.1
74.00	4.7	0.0	4.7	.67	.92	905	419.6	300.1	55.1
75.00	4.4	0.0	4.4	.70	.95	894	420.0	298.6	57.0
76.00	4.1	0.0	4.1	.73	.98	882	420.3	297.2	58.8
77.00	5.9	0.0	5.9	.58	.82	942	420.7	295.9	60.6
78.00	7.6	0.0	7.6	.47	.70	988	421.0	294.8	62.2
79.00	5.2	0.0	5.2	.64	.87	920	421.4	293.8	63.7

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40180.00	3.8	0.1	3.9	-14.76	-14.99	877	421.6	293.0	65.2
81.00	3.8	0.1	3.9	.76	.99	879	421.9	292.3	66.5
82.00	3.9	0.1	4.0	.75	.98	885	422.1	291.7	67.6
83.00	3.9	0.1	4.0	.75	.98	886	422.3	291.3	68.6
84.00	4.7	0.1	4.7	.68	.91	915	422.5	291.0	69.5
85.00	4.5	0.1	4.6	.69	.92	913	422.6	290.8	70.2
86.00	4.3	0.1	4.4	.71	.94	905	422.6	290.6	70.7
87.00	4.1	0.1	4.2	.73	.96	898	422.6	290.5	71.0
88.00	3.8	0.1	3.9	.77	.99	886	422.6	290.4	71.2
89.00	3.7	0.1	3.8	.78	-15.00	884	422.5	290.3	71.2
90.00	4.0	0.1	4.0	.75	-14.98	897	422.4	290.1	71.0
91.00	4.2	0.1	4.2	.73	.96	905	422.3	289.9	70.7
92.00	4.2	0.1	4.3	.72	.95	908	422.1	289.5	70.2
93.00	4.7	0.1	4.7	.68	.92	924	421.8	289.1	69.5
94.00	4.9	0.1	4.9	.67	.90	928	421.5	288.5	68.7
95.00	4.8	0.1	4.9	.67	.90	927	421.2	287.7	67.8
96.00	4.1	0.1	4.2	.73	.97	903	420.9	286.8	66.7
97.00	3.5	0.1	3.6	.79	-15.04	883	420.5	285.8	65.6
98.00	3.4	0.1	3.5	.80	.05	879	420.2	284.6	64.3
99.00	3.5	0.1	3.6	.79	.04	884	419.8	283.3	62.9
40200.00	3.6	0.1	3.6	.79	.04	883	419.3	281.8	61.4
01.00	3.6	0.1	3.7	.77	.03	888	418.9	280.1	59.8
02.00	3.6	0.1	3.7	.77	.04	890	418.5	278.4	58.2
03.00	3.1	0.1	3.2	.83	.10	868	418.1	276.5	56.4
04.00	2.7	0.1	2.8	.89	.16	849	417.7	274.6	54.7
05.00	2.6	0.1	2.7	.90	.18	844	417.3	272.5	52.8
06.00	2.9	0.1	2.9	.87	.15	854	416.9	270.3	50.9
07.00	3.0	0.1	3.1	.83	.12	864	416.6	268.1	49.0
08.00	3.0	0.1	3.1	.83	.13	866	416.2	265.7	47.0
40210.00	3.55	0.08	3.63	-14.76	-15.06	892	415.7	260.9	42.9
12.00	3.89	0.08	3.97	.72	.02	908	415.4	255.8	38.7
14.00	4.04	0.07	4.11	.71	.00	914	415.2	250.6	34.4
16.00	3.44	0.07	3.51	.78	.07	892	415.3	245.2	30.0
18.00	3.65	0.07	3.72	.75	.04	908	415.6	239.8	25.6
20.00	3.62	0.07	3.69	.75	.04	910	416.2	234.4	21.1
22.00	3.54	0.07	3.61	.76	.04	910	417.0	229.0	16.6
24.00	3.10	0.07	3.17	.81	.09	896	418.0	223.7	12.0
26.00	2.91	0.07	2.98	.84	.11	894	419.3	218.5	7.5
28.00	3.37	0.06	3.43	.79	.03	921	420.7	213.5	3.0
30.00	3.73	0.06	3.79	.75	-14.98	944	422.3	208.7	-1.4
32.00	3.55	0.06	3.61	.77	.99	942	423.9	204.1	-5.7
34.00	3.53	0.06	3.59	.77	.98	946	425.6	200.0	-9.9
36.00	3.66	0.06	3.72	.76	.95	955	427.3	196.2	-13.9
40237.00	4.5	0.1	4.5	-14.68	-14.85	993	428.9	194.5	-15.8
38.00	4.2	0.1	4.2	.71	.88	980	429.6	192.9	-17.7
39.00	3.9	0.1	4.0	.73	.90	971	430.3	191.5	-19.5
40.00	3.5	0.1	3.6	.78	.94	954	430.9	190.3	-21.2
41.00	3.2	0.1	3.2	.83	.98	937	431.5	189.1	-22.8
42.00	2.9	0.0	2.9	.87	-15.02	923	432.1	188.2	-24.4
43.00	2.6	0.0	2.6	.91	.06	909	432.6	187.4	-25.8
44.00	2.4	0.0	2.4	.95	.09	899	433.0	186.7	-27.1
45.00	2.2	0.0	2.2	.99	.13	885	433.4	186.2	-28.3
46.00	3.3	0.0	3.3	.81	-14.95	946	433.8	185.9	-29.3
47.00	3.8	0.0	3.8	.76	.89	967	434.0	185.6	-30.2
48.00	3.1	0.0	3.1	.85	.98	934	434.2	185.5	-30.9
49.00	3.1	0.0	3.1	.84	.98	939	434.3	185.4	-31.5
50.00	3.1	0.0	3.1	.84	.98	943	434.4	185.4	-31.9
51.00	2.6	0.0	2.6	.92	-15.05	912	434.3	185.4	-32.1

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40252.00	2.5	0.0	2.5	-14.93	-15.07	903	434.2	185.4	-32.2
53.00	2.3	0.0	2.3	.97	.11	890	434.1	185.3	-32.1
40254.00	1.7	0.0	2.	-15.03	-15.17	868	433.8	185.2	-31.9
54.50	4.4	0.0	4.	-14.73	-14.87	982	433.7	185.1	-31.7
55.00	8.2	0.0	8.	.44	.58	1116	433.5	184.9	-31.5
55.50	7.3	0.0	7.	.50	.64	1073	433.3	184.8	-31.2
56.00	4.7	0.0	5.	.64	.78	1007	433.2	184.6	-31.0
56.50	3.8	0.0	4.	.74	.88	968	432.9	184.4	-30.6
40257.00	3.7	0.0	3.6	-14.78	-14.93	950	432.7	184.1	-30.3
58.00	3.6	0.0	3.6	.78	.93	949	432.2	183.4	-29.5
59.00	3.6	0.0	3.6	.78	.94	948	431.7	182.7	-28.5
60.00	3.7	0.0	3.6	.78	.94	946	431.1	181.7	-27.5
61.00	3.7	0.0	3.7	.77	.93	949	430.4	180.6	-26.4
62.00	3.8	0.0	3.7	.76	.94	947	429.7	179.4	-25.2
63.00	5.1	0.0	5.1	.63	.81	996	429.0	178.0	-23.9
64.00	5.7	0.0	5.7	.58	.76	1013	428.2	176.5	-22.5
65.00	3.9	0.0	3.8	.75	.94	937	427.5	174.8	-21.1
66.00	3.4	0.0	3.3	.81	-15.01	911	426.7	173.1	-19.6
67.00	3.3	0.0	3.2	.83	.03	901	425.9	171.2	-18.1
68.00	3.4	0.0	3.4	.80	.01	906	425.1	169.3	-16.5
69.00	3.5	0.0	3.4	.80	.02	907	424.3	167.2	-14.8
70.00	3.5	0.0	3.5	.78	.01	914	423.5	165.1	-13.2
71.00	4.1	0.0	4.0	.72	-14.96	933	422.7	162.9	-11.5
72.00	4.3	0.0	4.3	.70	.93	940	422.0	160.7	-9.8
73.00	4.9	0.0	4.9	.64	.88	960	421.3	158.3	-8.0
74.00	5.4	0.0	5.4	.60	.84	979	420.6	156.0	-6.3
75.00	5.7	0.0	5.7	.58	.82	987	419.9	153.6	-4.5
76.00	5.9	0.0	5.8	.58	.81	985	419.3	151.1	-2.7
77.00	6.0	0.0	6.0	.57	.80	991	418.8	148.6	-0.9
78.00	6.2	0.0	6.1	.56	.80	990	418.3	146.1	0.9
79.00	6.8	0.0	6.8	.51	.75	1005	417.8	143.6	2.7
80.00	8.1	0.0	8.1	.44	.68	1038	417.4	141.1	4.5
81.00	8.0	0.0	7.9	.45	.69	1034	417.1	138.6	6.3
82.00	7.1	0.0	7.1	.49	.74	1010	416.8	136.0	8.1
83.00	6.5	0.0	6.5	.52	.78	993	416.6	133.5	9.9
84.00	6.1	0.0	6.0	.55	.82	980	416.4	131.0	11.8
85.00	6.1	0.0	6.0	.55	.82	974	416.3	128.4	13.6
86.00	6.1	0.0	6.1	.55	.81	970	416.3	125.9	15.3
87.00	6.1	0.0	6.1	.55	.81	967	416.3	123.5	17.1
88.00	6.2	-0.1	6.2	.55	.80	969	416.4	121.0	18.9
89.00	6.4	-0.1	6.3	.54	.80	973	416.5	118.6	20.6
90.00	6.8	-0.1	6.7	.51	.77	987	416.7	116.3	22.4
40291.00	7.0	-0.1	7.	-14.49	-14.75	999	417.0	114.0	24.1
91.50	7.3	-0.1	7.	.50	.75	995	417.1	112.8	24.9
92.00	7.6	-0.1	8.	.44	.69	1013	417.2	111.7	25.7
92.50	7.9	-0.1	8.	.45	.69	1007	417.4	110.6	26.6
93.00	8.2	-0.1	8.	.44	.69	1014	417.5	109.5	27.4
93.50	8.3	-0.1	8.	.44	.69	1023	417.6	108.5	28.2
94.00	8.6	-0.1	9.	.39	.63	1051	417.8	107.4	29.0
94.50	8.6	-0.1	9.	.39	.63	1051	418.0	106.4	29.8
95.00	8.2	-0.1	8.	.44	.68	1022	418.1	105.4	30.6
95.50	7.8	-0.1	8.	.45	.68	1016	418.3	104.4	31.3
96.00	8.1	-0.1	8.	.45	.68	1017	418.5	103.4	32.1
40297.00	11.4	-0.1	11.4	-14.30	-14.52	1097	418.9	101.6	33.6
98.00	12.4	-0.1	12.3	.28	.49	1117	419.3	99.8	35.0
99.00	12.9	-0.1	12.8	.26	.47	1135	419.6	98.2	36.4

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40300.00	15.3	-0.1	15.2	-14.19	-14.39	1180	420.0	96.7	37.7
01.00	14.6	-0.1	14.5	.22	.41	1162	420.4	95.3	38.9
02.00	15.3	-0.1	15.2	.20	.39	1179	420.8	94.0	40.1
03.00	15.2	-0.1	15.2	.20	.39	1183	421.2	92.9	41.2
04.00	19.0	-0.1	18.9	.11	.29	1232	421.5	91.9	42.2
05.00	15.5	-0.1	15.4	.19	.38	1167	421.8	91.1	43.0
06.00	12.8	-0.1	12.7	.27	.46	1129	422.1	90.5	43.8
07.00	12.7	-0.1	12.6	.27	.46	1132	422.4	90.0	44.4
08.00	12.6	-0.1	12.5	.28	.46	1134	422.6	89.6	44.9
09.00	12.4	-0.1	12.3	.28	.47	1130	422.8	89.3	45.3
10.00	12.0	-0.1	11.9	.30	.48	1117	423.0	89.2	45.5
11.00	11.9	-0.1	11.8	.30	.49	1111	423.1	89.2	45.5
12.00	11.8	-0.1	11.7	.31	.49	1109	423.2	89.2	45.4
13.00	11.9	-0.1	11.8	.30	.48	1111	423.2	89.2	45.2
14.00	11.8	-0.1	11.8	.30	.48	1110	423.2	89.3	44.7
15.00	11.8	-0.1	11.7	.31	.49	1109	423.1	89.3	44.1
16.00	11.5	-0.1	11.4	.31	.50	1105	423.0	89.3	43.4
17.00	11.0	-0.1	10.9	.33	.52	1096	422.9	89.2	42.4
18.00	10.3	-0.1	10.2	.36	.55	1076	422.7	89.0	41.3
19.00	10.3	-0.1	10.2	.35	.55	1076	422.5	88.6	40.1
20.00	10.2	-0.1	10.1	.35	.55	1077	422.2	88.2	38.8
21.00	10.2	-0.1	10.1	.35	.55	1078	421.9	87.6	37.3
22.00	10.6	-0.1	10.5	.33	.54	1087	421.6	86.8	35.7
23.00	11.1	-0.1	11.0	.31	.52	1103	421.3	85.9	34.0
24.00	11.6	-0.1	11.5	.29	.50	1110	420.9	84.8	32.2
25.00	12.3	-0.1	12.2	.27	.47	1117	420.5	83.6	30.3
26.00	13.0	-0.1	12.9	.25	.45	1132	420.1	82.2	28.3
27.00	13.0	-0.1	12.9	.25	.45	1133	419.7	80.7	26.3
28.00	13.6	-0.1	13.6	.23	.43	1146	419.2	79.1	24.2
29.00	13.8	-0.1	13.7	.22	.43	1146	418.8	77.4	22.0
30.00	13.1	-0.1	13.1	.23	.45	1143	418.4	75.5	19.8
31.00	12.5	-0.1	12.4	.25	.48	1135	418.0	73.6	17.5
32.00	12.6	-0.1	12.5	.25	.47	1136	417.6	71.6	15.2
33.00	13.5	-0.1	13.4	.22	.44	1152	417.3	69.5	12.9
34.00	13.8	-0.1	13.7	.21	.44	1160	416.9	67.3	10.5
35.00	12.9	-0.1	12.9	.23	.46	1146	416.7	65.0	8.1
36.00	11.9	-0.1	11.8	.27	.50	1120	416.4	62.7	5.7
37.00	11.6	-0.1	11.6	.28	.51	1118	416.2	60.3	3.3
38.00	11.6	-0.1	11.6	.28	.51	1119	416.1	57.9	0.8
39.00	12.6	-0.1	12.5	.25	.48	1128	416.0	55.5	-1.6
40.00	12.7	0.0	12.7	.24	.47	1134	415.9	53.0	-4.1
41.00	11.7	0.0	11.6	.28	.51	1114	415.9	50.5	-6.6
42.00	10.7	0.0	10.7	.31	.54	1095	416.0	48.0	-9.1
43.00	10.1	0.0	10.1	.33	.57	1087	416.2	45.4	-11.6
44.00	10.9	0.0	10.8	.31	.54	1103	416.3	42.8	-14.1
45.00	10.1	0.0	10.0	.34	.57	1088	416.6	40.3	-16.6
46.00	9.6	0.0	9.6	.36	.59	1085	416.9	37.7	-19.1
47.00	9.6	0.0	9.6	.36	.58	1088	417.3	35.1	-21.5
48.00	9.8	0.0	9.8	.35	.57	1098	417.7	32.6	-24.0
49.00	9.9	0.0	9.9	.34	.56	1109	418.2	30.1	-26.5
50.00	9.9	0.0	9.8	.34	.57	1108	418.8	27.6	-28.9
51.00	10.0	0.0	9.9	.34	.56	1108	419.3	25.1	-31.4
52.00	10.1	0.0	10.1	.33	.55	1119	420.0	22.6	-33.8
53.00	10.3	0.0	10.2	.33	.54	1133	420.7	20.2	-36.1
40354.00	10.9	0.0	11.	-14.30	-14.50	1148	421.4	17.9	-38.5
54.50	11.8	0.0	12.	.27	.46	1160	421.7	16.7	-39.7
55.00	12.9	0.0	13.	.24	.43	1181	422.1	15.6	-40.8
55.50	12.5	0.0	12.	.27	.46	1164	422.5	14.4	-42.0
56.00	12.6	0.0	13.	.24	.42	1181	422.9	13.3	-43.1

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40356.50	14.9	0.0	15.	-14.18	-14.36	1206	423.3	12.2	-44.3
57.00	12.9	0.0	13.	.24	.42	1168	423.7	11.1	-45.4
40358.00	9.3	0.0	9.3	-14.38	-14.56	1109	424.5	9.1	-47.6
59.00	8.6	0.0	8.6	.41	.59	1102	425.3	7.0	-49.8
60.00	8.2	0.0	8.2	.43	.60	1094	426.1	5.1	-51.9
61.00	7.8	0.0	7.8	.45	.62	1089	426.9	3.3	-54.0
62.00	7.1	0.0	7.1	.49	.66	1071	427.7	1.6	-56.0
63.00	6.8	0.0	6.8	.51	.67	1063	428.4	0.1	-57.9
64.00	6.5	0.0	6.4	.54	.70	1053	429.2	358.6	-59.7
65.00	5.9	0.0	5.9	.58	.73	1039	429.9	357.3	-61.5
66.00	5.4	0.0	5.4	.62	.76	1025	430.5	356.2	-63.1
67.00	4.9	0.0	4.9	.66	.80	1010	431.2	355.2	-64.7
68.00	4.6	0.0	4.6	.68	.82	1003	431.7	354.4	-66.1
69.00	4.5	0.0	4.5	.69	.83	999	432.3	353.7	-67.4
70.00	4.4	0.0	4.4	.70	.84	996	432.7	353.1	-68.6
71.00	4.2	0.0	4.2	.72	.85	988	433.2	352.7	-69.6
72.00	3.9	0.0	3.9	.75	.88	971	433.5	352.4	-70.5
73.00	3.5	0.0	3.5	.79	.93	953	433.7	352.3	-71.2
74.00	3.3	0.0	3.3	.82	.95	946	433.9	352.2	-71.8
75.00	3.4	0.0	3.4	.81	.94	954	434.0	352.2	-72.1
76.00	3.7	0.0	3.7	.77	.91	971	434.0	352.2	-72.3
77.00	4.2	0.0	4.2	.72	.85	996	434.0	352.2	-72.3
78.00	4.9	0.0	4.9	.66	.79	1032	433.9	352.1	-72.2
79.00	5.5	0.0	5.5	.62	.74	1057	433.7	352.0	-71.8
80.00	6.0	0.0	6.0	.58	.71	1073	433.4	351.8	-71.3
81.00	6.6	0.0	6.6	.55	.67	1095	433.1	351.5	-70.6
82.00	7.2	0.0	7.2	.51	.64	1113	432.6	351.1	-69.8
83.00	7.6	0.0	7.6	.49	.62	1129	432.2	350.5	-68.8
84.00	7.9	0.0	7.9	.48	.61	1139	431.6	349.7	-67.7
85.00	8.1	0.0	8.2	.46	.60	1144	431.0	348.8	-66.5
86.00	8.2	0.0	8.2	.46	.60	1139	430.4	347.8	-65.2
87.00	9.4	0.1	9.4	.40	.54	1177	429.7	346.5	-63.7
88.00	7.7	0.1	7.8	.47	.63	1128	429.0	345.2	-62.2
89.00	7.5	0.1	7.6	.48	.64	1117	428.2	343.7	-60.5
90.00	5.9	0.1	6.0	.58	.75	1063	427.4	342.0	-58.8
91.00	5.7	0.1	5.8	.58	.77	1059	426.6	340.3	-57.0
92.00	5.6	0.1	5.6	.60	.79	1046	425.8	338.4	-55.2
93.00	5.2	0.1	5.3	.62	.82	1032	424.9	336.4	-53.3
94.00	4.9	0.1	4.9	.65	.86	1018	424.1	334.3	-51.3
95.00	4.4	0.1	4.5	.68	.90	1000	423.3	332.2	-49.3
96.00	4.0	0.1	4.0	.73	.96	970	422.5	329.9	-47.3
97.00	3.9	0.1	4.0	.73	.96	966	421.7	327.6	-45.2
98.00	4.0	0.1	4.1	.72	.96	970	420.9	325.3	-43.1
99.00	3.9	0.1	4.0	.73	.98	965	420.1	322.8	-40.9
40400.00	3.7	0.1	3.8	.74	-15.00	957	419.4	320.3	-38.7
01.00	3.5	0.1	3.5	.78	.05	941	418.8	317.8	-36.5
02.00	3.3	0.1	3.4	.79	.06	935	418.1	315.3	-34.3
03.00	3.8	0.1	3.9	.73	.01	956	417.6	312.7	-32.1
04.00	3.9	0.1	3.9	.74	.01	953	417.1	310.1	-29.8
05.00	4.2	0.1	4.3	.69	-14.97	976	416.6	307.5	-27.6
06.00	4.3	0.1	4.3	.69	.97	979	416.2	304.8	-25.3
07.00	4.6	0.1	4.7	.65	.94	998	415.8	302.2	-23.0
08.00	4.9	0.1	5.0	.63	.91	1010	415.5	299.6	-20.7
09.00	5.0	0.1	5.1	.62	.91	1011	415.3	296.9	-18.4
10.00	5.1	0.1	5.1	.62	.91	1010	415.2	294.3	-16.1
11.00	5.2	0.1	5.3	.60	.89	1018	415.0	291.7	-13.8
12.00	5.2	0.1	5.3	.60	.89	1019	415.6	289.1	-11.5
13.00	5.1	0.1	5.1	.62	.91	1013	415.7	286.6	-9.2
14.00	5.0	0.1	5.0	.62	.91	1008	415.8	284.0	-7.0

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40415.00	4.9	0.1	5.0	-14.62	-14.91	1005	416.0	281.6	-4.7
16.00	4.3	0.1	4.4	.68	.97	977	416.2	279.1	-2.4
17.00	3.5	0.1	3.6	.76	-15.05	943	416.5	276.8	-0.2
18.00	3.4	0.1	3.5	.77	.07	941	416.8	274.5	2.0
19.00	3.0	0.1	3.1	.82	.12	920	417.1	272.2	4.2
20.00	2.6	0.1	2.7	.88	.17	900	417.5	270.0	6.4
21.00	2.3	0.1	2.3	.95	.24	877	417.9	268.0	8.5
22.00	2.1	0.1	2.1	.99	.28	864	418.3	266.0	10.6
23.00	2.1	0.1	2.2	.97	.26	872	418.7	264.1	12.6
24.00	2.1	0.1	2.2	.97	.25	871	419.1	262.3	14.6
25.00	2.2	0.1	2.2	.97	.25	872	419.6	260.7	16.6
26.00	2.1	0.1	2.2	.97	.24	874	420.0	259.1	18.4
27.00	2.0	0.1	2.1	.99	.26	869	420.4	257.8	20.2
28.00	2.1	0.1	2.2	.97	.24	876	420.8	256.5	22.0
29.00	2.6	0.1	2.7	.89	.14	904	421.2	255.4	23.6
30.00	2.3	0.1	2.4	.94	.19	887	421.5	254.5	25.1
31.00	1.9	0.1	2.0	-15.02	.27	867	421.9	253.7	26.6
32.00	2.3	0.1	2.4	-14.94	.19	898	422.2	253.1	27.9
33.00	2.7	0.1	2.8	.87	.12	921	422.4	252.6	29.1
34.00	3.1	0.1	3.1	.83	.07	941	422.6	252.2	30.1
35.00	3.1	0.1	3.2	.82	.05	951	422.8	252.0	31.0
36.00	3.7	0.1	3.8	.75	-14.98	981	423.0	251.9	31.8
37.00	4.1	0.1	4.2	.71	.93	995	423.1	251.8	32.4
38.00	4.3	0.1	4.3	.70	.92	1001	423.1	251.8	32.8
39.00	4.6	0.1	4.6	.67	.89	1020	423.1	251.8	33.1
40.00	4.4	0.1	4.5	.68	.90	1016	423.1	251.8	33.2
41.00	4.2	0.1	4.3	.69	.92	1003	423.0	251.8	33.2
42.00	4.1	0.1	4.2	.70	.93	994	422.9	251.7	33.0
43.00	3.8	0.1	3.8	.74	.98	973	422.7	251.4	32.6
44.00	3.6	0.1	3.7	.75	.99	971	422.5	251.1	32.1
45.00	3.4	0.1	3.5	.77	-15.02	956	422.2	250.7	31.5
46.00	3.1	0.1	3.2	.81	.06	934	422.0	250.1	30.7
47.00	2.8	0.1	2.9	.85	.10	918	421.6	249.3	29.8
48.00	2.2	0.1	2.2	.97	.23	873	421.3	248.5	28.8
49.00	2.0	0.0	2.1	.98	.25	864	420.9	247.4	27.7
50.00	2.0	0.0	2.0	-15.00	.28	853	420.5	246.2	26.5
51.00	2.0	0.0	2.0	.00	.28	850	420.2	244.9	25.2
52.00	1.9	0.0	1.9	.02	.30	839	419.8	243.5	23.9
53.00	1.9	0.0	1.9	.02	.31	836	419.3	241.9	22.5
54.00	1.6	0.0	1.6	.10	.39	811	418.9	240.2	21.0
55.00	1.8	0.0	1.8	.05	.34	827	418.5	238.4	19.5
56.00	1.9	0.0	1.9	.02	.32	831	418.2	236.5	17.9
57.00	1.9	0.0	2.0	.00	.30	835	417.8	234.5	16.3
58.00	2.4	0.0	2.4	-14.93	.22	864	417.5	232.4	14.7
59.00	2.7	0.0	2.7	.88	.17	881	417.1	230.3	13.0
60.00	3.6	0.0	3.7	.74	.03	928	416.9	228.1	11.3
61.00	3.5	0.0	3.6	.76	.05	921	416.6	225.8	9.6
62.00	3.3	0.0	3.3	.79	.09	909	416.4	223.5	7.8
63.00	3.3	0.0	3.3	.79	.09	909	416.3	221.1	6.0
64.00	3.2	0.0	3.2	.81	.10	901	416.2	218.7	4.2
65.00	3.3	0.0	3.3	.79	.09	905	416.2	216.2	2.4
66.00	3.6	0.0	3.6	.75	.05	919	416.2	213.8	0.6
67.00	3.8	0.0	3.8	.73	.03	928	416.2	211.3	-1.2
68.00	3.7	0.0	3.7	.74	.04	920	416.4	208.8	-3.0
69.00	3.6	0.0	3.6	.75	.05	911	416.6	206.3	-4.9
70.00	4.4	0.0	4.4	.67	-14.96	941	416.8	203.8	-6.7
71.00	3.8	0.0	3.8	.73	-15.02	911	417.1	201.3	-8.5
72.00	3.9	0.0	3.9	.72	.01	916	417.5	198.8	-10.3
73.00	3.5	0.0	3.5	.76	.05	897	417.9	196.3	-12.2
74.00	3.2	0.0	3.2	.80	.09	885	418.4	193.8	-14.0

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40475.00	2.9	0.0	2.9	-14.84	-15.13	868	418.9	191.4	-15.8
76.00	2.6	0.0	2.6	.89	.17	852	419.5	189.0	-17.6
77.00	2.4	0.0	2.5	.91	.18	849	420.2	186.6	-19.3
78.00	2.6	0.0	2.6	.90	.16	856	420.9	184.2	-21.1
79.00	3.0	0.0	3.1	.83	.08	878	421.6	181.9	-22.8
80.00	3.3	0.0	3.3	.80	.04	886	422.3	179.7	-24.5
81.00	3.4	0.0	3.4	.79	.03	896	423.1	177.5	-26.2
82.00	3.9	0.0	3.9	.73	-14.96	917	423.9	175.4	-27.9
83.00	3.3	0.0	3.3	.81	-15.03	887	424.7	173.4	-29.5
84.00	2.8	0.0	2.8	.88	.09	864	425.5	171.5	-31.1
85.00	2.8	0.0	2.8	.88	.09	867	426.3	169.6	-32.6
86.00	2.9	0.0	2.9	.87	.07	876	427.1	167.9	-34.1
87.00	3.2	0.0	3.2	.82	.02	893	427.9	166.3	-35.5
88.00	3.4	0.0	3.4	.80	-14.99	901	428.7	164.8	-36.8
89.00	3.6	0.0	3.6	.78	.96	909	429.4	163.4	-38.1
90.00	3.6	0.0	3.6	.79	.95	911	430.2	162.2	-39.3
91.00	3.8	0.0	3.8	.76	.92	924	430.9	161.1	-40.4
40492.00	4.1	0.0	4.	-14.74	-14.90	929	431.5	160.2	-41.4
92.50	4.6	0.0	5.	.65	.80	958	431.8	159.8	-41.9
93.00	5.3	0.0	5.	.65	.80	955	432.1	159.4	-42.3
93.50	4.4	0.0	4.	.75	.89	914	432.4	159.1	-42.8
94.00	5.8	0.0	6.	.58	.72	977	432.6	158.8	-43.1
94.50	7.0	0.0	7.	.51	.65	1007	432.9	158.6	-43.5
95.00	6.4	0.0	6.	.57	.71	987	433.1	158.3	-43.8
95.50	4.4	0.0	4.	.75	.89	919	433.5	158.2	-44.1
96.00	4.7	0.0	5.	.65	.79	958	433.7	158.1	-44.3
96.50	4.6	0.0	5.	.65	.79	956	433.9	157.9	-44.5
97.00	3.7	0.0	4.	.75	.88	918	434.0	157.9	-44.7
97.50	3.3	0.0	3.	.87	-15.01	874	434.2	157.8	-44.8
98.00	2.9	0.0	3.	.87	.01	876	434.3	157.8	-44.9
98.50	2.9	0.0	3.	.87	.00	877	434.4	157.8	-45.0
99.00	3.7	0.0	4.	.75	-14.88	923	434.5	157.8	-45.0
99.50	4.0	0.0	4.	.74	.88	925	434.5	157.8	-45.0
40500.00	4.1	0.0	4.	.75	.88	924	434.6	157.9	-44.9
00.50	5.1	0.0	5.	.65	.78	959	434.6	157.9	-44.8
01.00	4.9	0.0	5.	.65	.78	957	434.6	158.0	-44.6
01.50	4.3	0.0	4.	.75	.88	922	434.6	158.1	-44.4
02.00	2.7	0.0	3.	.87	-15.00	879	434.6	158.1	-44.2
02.50	2.5	0.0	2.	-15.05	.18	822	434.6	158.2	-43.9
03.00	3.3	0.0	3.	-14.87	.00	878	434.5	158.2	-43.5
03.50	4.1	0.0	4.	.75	-14.88	924	434.4	158.2	-43.2
04.00	5.1	0.0	5.	.65	.79	956	434.3	158.2	-42.7
04.50	4.9	0.0	5.	.66	.79	949	434.2	158.2	-42.3
05.00	4.0	0.0	4.	.75	.88	911	434.0	158.2	-41.8
05.50	3.6	0.0	4.	.75	.88	912	433.9	158.1	-41.3
06.00	3.7	0.0	4.	.75	.89	913	433.7	158.0	-40.7
06.50	3.8	0.0	4.	.75	.89	912	433.5	157.9	-40.1
40507.00	3.4	0.0	3.3	-14.83	-14.97	883	433.3	157.7	-39.4
08.00	3.2	-0.1	3.2	.84	.99	879	432.9	157.2	-38.0
09.00	3.5	-0.1	3.4	.81	.96	887	432.4	156.6	-36.5
10.00	3.7	-0.1	3.7	.77	.93	897	431.8	155.9	-34.9
11.00	3.3	-0.1	3.2	.83	-15.00	872	431.1	154.9	-33.1
12.00	3.0	-0.1	3.0	.86	.03	859	430.5	153.9	-31.3
13.00	3.8	-0.1	3.7	.77	-14.94	887	429.8	152.6	-29.3
14.00	5.2	-0.1	5.1	.64	.81	940	429.0	151.2	-27.3
15.00	5.3	-0.1	5.2	.63	.81	942	428.2	149.7	-25.3
16.00	4.9	-0.1	4.8	.67	.85	924	427.4	148.1	-23.1
17.00	5.1	-0.1	5.1	.65	.83	935	426.6	146.3	-20.9

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40518.00	6.1	-0.1	6.0	-14.58	-14.76	961	425.8	144.5	-18.6
19.00	6.9	-0.1	6.8	.52	.71	981	425.0	142.5	-16.4
20.00	7.2	-0.1	7.1	.51	.70	991	424.2	140.4	-14.0
21.00	7.7	-0.1	7.7	.47	.67	1006	423.4	138.3	-11.6
22.00	7.8	-0.1	7.8	.46	.66	1005	422.6	136.1	-9.2
23.00	7.8	-0.1	7.8	.46	.67	1004	421.8	133.8	-6.8
24.00	7.5	-0.1	7.4	.48	.70	994	421.1	131.4	-4.4
25.00	7.1	-0.1	7.1	.49	.72	984	420.4	129.0	-1.9
26.00	6.7	-0.1	6.6	.52	.75	968	419.8	126.6	0.6
27.00	6.5	-0.1	6.4	.53	.77	959	419.1	124.1	3.0
28.00	6.8	-0.1	6.7	.51	.75	960	418.6	121.5	5.5
29.00	7.0	-0.1	7.0	.49	.74	967	418.1	119.0	8.0
30.00	6.6	-0.1	6.5	.52	.77	956	417.6	116.4	10.6
31.00	6.6	-0.1	6.5	.52	.77	959	417.2	113.8	13.1
32.00	6.6	-0.1	6.5	.52	.78	957	416.9	111.2	15.6
33.00	6.9	-0.1	6.9	.50	.75	964	416.6	108.6	18.1
34.00	7.6	-0.1	7.5	.47	.72	975	416.4	106.0	20.6
35.00	8.4	-0.1	8.3	.43	.67	990	416.2	103.4	23.0
36.00	7.2	-0.1	7.1	.49	.74	964	416.1	100.8	25.5
37.00	7.1	-0.1	7.0	.49	.75	968	416.1	98.2	28.0
38.00	6.8	-0.1	6.8	.51	.76	967	416.1	95.7	30.4
39.00	6.9	-0.1	6.9	.50	.76	974	416.1	93.1	32.8
40.00	6.8	-0.1	6.8	.51	.76	975	416.3	90.6	35.2
41.00	7.1	-0.1	7.0	.50	.75	984	416.4	88.2	37.6
42.00	7.7	-0.1	7.6	.46	.71	1001	416.6	85.8	39.9
43.00	8.5	-0.1	8.5	.42	.66	1025	416.9	83.4	42.2
44.00	9.0	-0.1	9.0	.40	.64	1039	417.1	81.1	44.5
45.00	9.2	-0.1	9.1	.40	.63	1042	417.4	78.9	46.7
46.00	9.2	-0.1	9.2	.40	.62	1049	417.8	76.8	48.9
47.00	9.6	-0.1	9.5	.39	.61	1059	418.1	74.7	51.1
48.00	10.1	-0.1	10.0	.37	.58	1072	418.5	72.8	53.1
49.00	10.3	-0.1	10.2	.36	.57	1080	418.9	70.9	55.2
50.00	10.3	-0.1	10.3	.36	.57	1084	419.3	69.2	57.1
51.00	10.3	-0.1	10.2	.36	.57	1083	419.7	67.6	59.0
52.00	11.0	-0.1	10.9	.33	.54	1097	420.1	66.1	60.8
53.00	10.7	-0.1	10.6	.34	.55	1092	420.4	64.8	62.5
54.00	10.1	-0.1	10.0	.36	.57	1083	420.8	63.5	64.1
55.00	10.0	-0.1	9.9	.36	.57	1080	421.1	62.5	65.6
56.00	8.6	-0.1	8.5	.43	.64	1049	421.5	61.6	67.0
57.00	7.6	-0.1	7.5	.48	.69	1031	421.7	60.8	68.2
58.00	6.5	-0.1	6.5	.53	.75	1006	422.0	60.2	69.3
59.00	7.0	-0.1	6.9	.51	.72	1019	422.2	59.7	70.3
60.00	7.3	-0.1	7.2	.49	.70	1025	422.4	59.4	71.1
61.00	7.4	-0.1	7.4	.48	.69	1028	422.5	59.1	71.8
62.00	7.2	-0.1	7.1	.50	.70	1024	422.6	58.9	72.3
63.00	6.7	-0.1	6.6	.52	.73	1017	422.7	58.8	72.6
64.00	5.5	-0.1	5.4	.61	.82	975	422.7	58.6	72.7
65.00	4.8	-0.1	4.7	.67	.88	950	422.6	58.5	72.7
66.00	5.0	-0.1	5.0	.64	.85	963	422.5	58.3	72.4
67.00	5.3	0.0	5.3	.62	.83	975	422.4	58.1	72.1
68.00	5.4	0.0	5.4	.61	.82	985	422.2	57.7	71.5
69.00	5.4	0.0	5.4	.61	.82	988	422.0	57.3	70.8
70.00	5.5	0.0	5.5	.60	.81	992	421.8	56.7	69.9
71.00	5.9	0.0	5.9	.57	.79	1004	421.5	55.9	68.9
72.00	6.4	0.0	6.4	.54	.75	1021	421.2	55.1	67.8
73.00	6.7	0.0	6.7	.51	.73	1036	420.8	54.0	66.5
74.00	7.1	0.0	7.1	.49	.71	1052	420.5	52.8	65.2
75.00	7.6	0.0	7.6	.46	.68	1070	420.1	51.5	63.7
76.00	7.8	0.0	7.8	.45	.67	1077	419.7	50.0	62.1
77.00	9.7	0.0	9.7	.36	.58	1131	419.3	48.4	60.5

Table 4 (Cont.)

1960 ξ1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40578.00	10.3	0.0	10.3	-14.33	-14.56	1143	418.9	46.6	58.7
79.00	11.1	0.0	11.1	.30	.53	1161	418.5	44.8	56.9
80.00	10.8	0.0	10.8	.31	.54	1153	418.1	42.8	55.1
81.00	10.6	0.0	10.6	.32	.55	1150	417.7	40.7	53.1
82.00	10.6	0.0	10.6	.32	.55	1150	417.3	38.5	51.1
83.00	10.3	0.0	10.3	.33	.57	1147	416.9	36.3	49.1
84.00	9.8	0.0	9.8	.35	.59	1138	416.6	34.0	47.0
85.00	9.7	0.0	9.7	.35	.59	1136	416.3	31.6	44.9
86.00	9.6	0.0	9.6	.36	.60	1137	416.1	29.1	42.8
40586.50	9.5	0.0	10.	-14.34	-14.58	1149	416.0	27.8	41.7
87.00	9.9	0.0	10.	.34	.58	1147	415.9	26.6	40.6
87.50	10.6	0.0	11.	.30	.54	1170	415.8	25.3	39.5
88.00	12.0	0.0	12.	.26	.50	1189	415.7	24.0	38.4
88.50	14.1	0.0	14.	.20	.44	1226	415.7	22.7	37.2
89.00	11.2	0.0	11.	.30	.54	1151	415.6	21.4	36.1
89.50	10.4	0.0	10.	.34	.58	1134	415.6	20.1	35.0
90.00	8.0	0.0	8.	.43	.68	1086	415.6	18.8	33.9
90.50	6.5	0.0	7.	.49	.74	1058	415.6	17.5	32.7
91.00	6.5	0.0	7.	.49	.74	1058	415.6	16.1	31.6
91.50	7.9	0.0	8.	.43	.68	1090	415.6	14.8	30.4
92.00	8.6	0.0	9.	.38	.63	1118	415.7	13.5	29.3
92.50	8.7	0.0	9.	.38	.63	1119	415.8	12.1	28.1
93.00	8.0	0.0	8.	.43	.68	1093	415.8	10.8	27.0
93.50	7.5	0.0	7.	.48	.73	1061	415.9	9.4	25.8
94.00	6.9	0.0	7.	.48	.73	1060	416.0	8.1	24.6
94.50	7.1	0.0	7.	.48	.73	1058	416.2	6.7	23.5
95.00	7.1	0.0	7.	.48	.73	1057	416.3	5.4	22.3
95.50	7.3	0.0	7.	.48	.73	1057	416.5	4.0	21.1
96.00	7.2	0.0	7.	.48	.73	1059	416.6	2.7	19.9
96.50	7.7	0.0	8.	.43	.67	1094	416.8	1.3	18.8
97.00	7.9	0.0	8.	.43	.67	1099	417.0	360.0	17.6
97.50	8.1	0.0	8.	.43	.67	1101	417.2	358.6	16.4
98.00	8.5	0.0	9.	.38	.62	1130	417.5	357.3	15.2
98.50	8.5	0.0	8.	.44	.67	1099	417.7	356.0	14.0
99.00	8.9	0.0	9.	.39	.61	1132	418.0	354.6	12.9
99.50	9.1	0.0	9.	.39	.61	1133	418.2	353.3	11.7
40600.00	9.0	0.0	9.	.39	.61	1134	418.5	352.0	10.5

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
38390.00	-0.31	8.50	8.19	-16.77	-17.18	704	601.1	329.1	55.8
92.00	-0.52	8.73	8.21	.78	.17	700	603.3	323.8	59.5
94.00	-0.91	8.85	7.94	.81	.17	693	605.6	318.4	63.1
38395.00	-1.6	8.9	7.3	-16.86	-17.20	678	606.8	315.7	65.0
96.00	0.2	8.8	9.1	.75	.10	718	608.0	312.9	66.8
97.00	1.6	8.8	10.4	.69	.03	738	609.2	310.1	68.5
98.00	-0.5	8.7	8.3	.79	.13	691	610.4	307.2	70.3
99.00	-0.5	8.6	8.1	.81	.13	690	611.6	304.2	72.1
38400.00	-1.2	8.5	7.3	.87	.17	670	612.8	301.2	73.8
01.00	-0.5	8.3	7.8	.85	.14	691	613.9	298.1	75.6
38402.00	-0.21	8.13	7.92	-16.84	-17.12	693	615.1	294.9	77.3
04.00	0.27	7.63	7.90	.84	.12	688	617.3	288.7	80.7
06.00	0.83	6.97	7.80	.85	.11	688	619.3	280.9	84.0
08.00	1.40	6.19	7.59	.88	.12	692	621.2	272.8	87.2
10.00	2.05	5.32	7.37	.88	.12	680	622.8	263.4	90.2
12.00	2.83	4.40	7.23	.88	.12	675	624.2	252.1	93.0
14.00	3.07	3.42	6.49	.93	.17	654	625.3	238.1	95.4
16.00	4.18	2.43	6.61	.93	.16	665	626.1	220.2	97.2
18.00	5.40	1.49	6.89	.91	.14	675	626.6	198.2	97.9
20.00	6.42	0.52	6.94	.90	.14	676	626.7	174.4	97.4
22.00	7.50	-0.31	7.19	.88	.13	684	626.6	152.6	95.6
24.00	8.55	-1.10	7.45	.86	.12	691	626.1	135.1	92.8
26.00	9.11	-1.86	7.25	.87	.13	686	625.4	121.4	89.5
28.00	9.27	-2.49	6.78	.91	.17	674	624.3	110.4	85.7
30.00	10.71	-3.10	7.61	.85	.13	704	623.0	101.3	81.7
32.00	11.95	-3.65	8.30	.79	.10	721	621.4	93.3	77.6
34.00	13.05	-4.22	8.83	.75	.08	735	619.6	86.3	73.3
36.00	13.92	-4.82	9.10	.73	.08	745	617.7	79.8	69.0
38.00	15.17	-5.40	9.77	.68	.06	757	615.6	73.8	64.7
40.00	16.12	-5.90	10.22	.65	.05	765	613.4	68.1	60.3
38441.00	16.4	-6.1	10.3	-16.65	-17.05	771	612.6	65.3	58.1
42.00	15.6	-6.3	9.3	.68	.10	753	611.6	62.6	55.8
43.00	16.3	-6.5	9.8	.65	.08	762	610.6	60.0	53.6
44.00	16.8	-6.5	10.2	.63	.07	771	609.5	57.4	51.4
45.00	17.5	-6.6	10.9	.59	.04	781	608.5	54.8	49.1
46.00	19.2	-6.6	12.6	.50	-16.98	798	607.5	52.3	46.9
47.00	20.0	-6.6	13.4	.46	.96	807	606.6	49.8	44.7
48.00	20.2	-6.5	13.7	.45	.96	813	605.6	47.3	42.4
49.00	20.3	-6.4	13.9	.44	.95	814	604.7	44.9	40.2
50.00	21.8	-6.2	15.6	.37	.91	829	603.8	42.4	37.9
51.00	26.8	-6.0	20.8	.23	.78	865	603.0	40.0	35.6
52.00	25.7	-5.8	19.9	.24	.81	858	602.2	37.7	33.4
53.00	25.1	-5.6	19.5	.25	.82	855	601.5	35.3	31.1
54.00	25.0	-5.3	19.7	.24	.82	856	600.8	32.9	28.8
55.00	22.5	-5.0	17.5	.30	.87	842	600.2	30.6	26.6
56.00	19.0	-4.6	14.4	.39	.96	817	599.6	28.3	24.3
57.00	17.1	-4.2	12.9	.44	-17.01	801	599.1	26.0	22.0
58.00	22.4	-3.8	18.5	.26	-16.85	843	598.7	23.7	19.7
59.00	27.7	-3.5	24.2	.13	.74	872	598.3	21.4	17.5
60.00	22.8	-3.1	19.8	.22	.83	847	598.0	19.1	15.2
61.00	20.2	-2.7	17.5	.28	.88	832	597.8	16.8	12.9
62.00	18.1	-2.2	15.9	.33	.92	820	597.7	14.5	10.6
63.00	15.9	-1.8	14.0	.38	.98	803	597.6	12.2	8.3
64.00	14.9	-1.3	13.6	.41	.99	800	597.6	10.0	6.0
65.00	14.5	-0.8	13.6	.41	.99	799	597.7	7.7	3.7
66.00	14.1	-0.4	13.7	.40	.99	798	597.9	5.4	1.5
67.00	13.3	0.0	13.3	.41	-17.00	793	598.2	3.2	-0.8

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
38468.00	13.8	0.5	14.3	-16.39	-16.97	803	598.5	0.9	-3.1
69.00	13.4	0.9	14.4	.38	.97	803	598.9	358.6	-5.4
70.00	12.3	1.4	13.7	.41	.99	795	599.4	356.3	-7.7
71.00	11.6	1.8	13.4	.42	.99	791	600.0	354.1	-10.0
72.00	9.1	2.3	11.4	.51	-17.06	769	600.6	351.8	-12.3
73.00	7.7	2.7	10.4	.57	.10	756	601.3	349.5	-14.6
74.00	5.7	3.1	8.8	.65	.17	728	602.1	347.2	-16.9
75.00	6.7	3.5	10.2	.58	.10	749	602.9	344.9	-19.2
76.00	7.3	3.9	11.2	.54	.06	760	603.8	342.6	-21.5
77.00	9.6	4.3	13.9	.44	-16.96	788	604.7	340.3	-23.8
78.00	9.2	4.6	13.8	.44	.96	786	605.8	337.9	-26.1
79.00	6.8	5.0	11.8	.53	-17.02	765	606.8	335.6	-28.4
80.00	4.8	5.3	10.1	.61	.09	740	608.0	333.2	-30.7
81.00	3.7	5.6	9.3	.68	.12	728	609.1	330.8	-33.0
82.00	2.4	5.8	8.2	.77	.17	708	610.3	328.4	-35.2
83.00	1.3	6.1	7.4	.82	.21	684	611.6	326.0	-37.5
84.00	2.3	6.3	8.6	.74	.14	711	612.9	323.5	-39.8
38485.00	2.9	6.5	9.	-16.71	-17.11	714	614.2	321.0	-42.1
85.50	3.0	6.6	10.	.70	.06	746	614.8	319.8	-43.3
86.00	2.8	6.6	9.	.76	.11	729	615.5	318.5	-44.4
86.50	3.3	6.7	10.	.70	.06	744	616.2	317.2	-45.5
87.00	4.8	6.8	12.	.58	-16.97	762	616.9	315.9	-46.7
87.50	3.6	6.8	10.	.66	-17.05	726	617.6	314.7	-47.8
88.00	2.7	6.9	10.	.68	.05	732	618.2	313.3	-48.9
88.50	2.3	6.9	9.	.73	.09	710	618.9	312.0	-50.1
89.00	2.1	6.9	9.	.75	.09	713	619.6	310.7	-51.2
89.50	1.8	6.9	9.	.76	.09	717	620.3	309.4	-52.4
38490.00	0.7	6.9	7.6	-16.84	-17.16	675	621.0	308.0	-53.5
91.00	0.8	6.9	7.7	.85	.15	683	622.4	305.2	-55.7
92.00	1.1	6.9	8.0	.84	.12	693	623.8	302.4	-58.0
93.00	0.8	6.7	7.5	.86	.15	668	625.2	299.5	-60.2
94.00	0.3	6.6	6.9	.90	.18	619	626.6	296.4	-62.5
95.00	0.1	6.4	6.5	.95	.20	620	627.9	293.3	-64.7
96.00	0.9	6.2	7.0	.92	.16	652	629.2	290.1	-66.9
97.00	1.0	5.9	6.9	.93	.17	643	630.5	286.6	-69.1
98.00	1.4	5.6	6.9	.94	.16	648	631.8	283.0	-71.3
99.00	1.4	5.2	6.6	.96	.18	618	633.0	279.2	-73.4
38500.00	1.5	4.9	6.4	.97	.19	617	634.1	275.1	-75.6
01.00	1.8	4.5	6.3	.98	.19	616	635.3	270.7	-77.6
02.00	2.3	4.2	6.5	.95	.16	614	636.3	265.9	-79.7
03.00	2.7	3.8	6.5	.95	.16	614	637.3	260.6	-81.7
04.00	3.5	3.3	6.8	.93	.13	612	638.3	254.7	-83.6
05.00	3.9	2.9	6.8	.92	.13	614	639.1	248.0	-85.4
06.00	4.3	2.5	6.8	.93	.12	626	640.4	240.4	-87.1
07.00	4.1	2.1	6.2	.98	.17	612	641.1	231.9	-88.6
08.00	4.5	1.8	6.2	-17.00	.17	612	641.7	222.2	-89.9
09.00	5.1	1.4	6.5	-16.98	.15	612	642.1	211.4	-90.9
10.00	5.1	1.1	6.2	.99	.16	610	642.4	199.7	-91.7
11.00	5.8	0.8	6.6	.95	.13	609	642.6	187.7	-92.0
12.00	6.9	0.6	7.4	.90	.08	661	642.7	175.8	-92.1
13.00	7.9	0.3	8.2	.84	.03	684	642.6	164.7	-91.8
14.00	7.0	0.1	7.1	.90	.09	631	642.5	154.5	-91.2
15.00	6.9	-0.1	6.8	.94	.12	624	642.2	145.5	-90.4
16.00	10.4	-0.3	10.0	.77	-16.95	739	641.8	137.6	-89.4
17.00	9.3	-0.6	8.7	.82	-17.01	701	641.4	130.6	-88.3
18.00	8.4	-0.9	7.5	.90	.08	667	640.8	124.4	-87.1
19.00	7.6	-1.2	6.3	.98	.17	606	640.2	118.9	-85.8
20.00	8.3	-1.5	6.8	.94	.13	635	639.5	113.8	-84.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
38521.00	9.8	-1.9	7.9	-16.87	-17.07	687	638.7	109.2	-82.9
22.00	10.9	-2.2	8.7	.83	.03	716	637.8	105.0	-81.5
23.00	11.4	-2.6	8.7	.84	.03	718	636.9	101.0	-79.9
24.00	11.0	-3.0	8.0	.87	.08	700	635.9	97.3	-78.4
25.00	11.8	-3.4	8.4	.83	.05	709	634.8	93.7	-76.8
26.00	14.5	-3.8	10.6	.71	-16.95	755	633.7	90.3	-75.2
27.00	12.9	-4.2	8.7	.80	-17.04	714	632.5	87.1	-73.6
28.00	13.1	-4.6	8.5	.82	.06	717	631.3	84.0	-72.0
29.00	14.3	-5.0	9.3	.76	.01	730	630.1	80.9	-70.3
30.00	16.0	-5.4	10.6	.68	-16.96	753	628.8	78.0	-68.7
31.00	16.4	-5.7	10.7	.67	.96	757	627.5	75.1	-67.0
32.00	18.0	-6.0	12.0	.62	.92	786	626.2	72.3	-65.3
33.00	15.3	-6.3	9.0	.75	-17.05	733	624.9	69.6	-63.7
34.00	14.8	-6.5	8.3	.79	.09	721	623.5	66.9	-62.0
35.00	15.0	-6.7	8.3	.79	.10	726	622.2	64.2	-60.3
36.00	15.2	-6.8	8.4	.78	.10	730	620.8	61.6	-58.5
37.00	15.6	-6.9	8.7	.76	.09	740	619.5	59.0	-56.8
38.00	15.8	-7.0	8.8	.74	.09	744	618.2	56.4	-55.1
39.00	17.6	-7.1	10.5	.64	.02	775	616.9	53.9	-53.4
40.00	18.2	-7.1	11.1	.60	.00	780	615.6	51.4	-51.6
41.00	18.7	-7.1	11.6	.58	-16.98	792	614.3	48.9	-49.9
42.00	17.3	-7.1	10.2	.63	-17.05	775	613.1	46.4	-48.1
43.00	17.2	-7.0	10.2	.63	.05	777	611.9	43.9	-46.4
44.00	16.4	-6.9	9.5	.66	.09	769	610.7	41.5	-44.6
45.00	15.8	-6.7	9.1	.67	.12	765	609.6	39.0	-42.8
46.00	15.5	-6.6	8.9	.68	.13	763	608.5	36.6	-41.1
47.00	15.3	-6.3	8.9	.68	.14	766	607.4	34.2	-39.3
48.00	15.0	-6.1	8.8	.68	.15	767	606.5	31.8	-37.5
49.00	14.1	-5.9	8.2	.70	.19	757	605.5	29.4	-35.7
50.00	13.1	-5.7	7.5	.74	.23	744	604.6	27.0	-33.9
51.00	12.0	-5.4	6.6	.79	.29	724	603.8	24.6	-32.1
52.00	13.0	-5.1	7.8	.71	.23	757	603.0	22.2	-30.3
53.00	12.3	-4.9	7.5	.73	.25	753	602.3	19.8	-28.5
54.00	11.8	-4.5	7.2	.73	.27	747	601.7	17.4	-26.7
38555.00	15.5	-4.3	11.	-16.54	-17.09	812	601.1	15.0	-24.9
55.50	16.4	-4.1	12.	.50	.06	825	600.8	13.8	-24.0
56.00	17.0	-4.0	13.	.45	.02	834	600.5	12.6	-23.1
56.50	22.7	-3.8	19.	.27	-16.86	879	600.3	11.4	-22.1
57.00	17.1	-3.6	13.	.43	-17.03	831	600.1	10.2	-21.2
57.50	15.4	-3.5	12.	.47	.06	823	599.9	9.0	-20.3
58.00	14.6	-3.3	11.	.51	.11	813	599.7	7.9	-19.4
58.50	13.9	-3.1	11.	.52	.11	815	599.5	6.7	-18.5
38559.00	12.7	-2.9	9.8	-16.57	-17.16	801	599.3	5.5	-17.5
60.00	10.6	-2.5	8.0	.67	.25	776	599.0	3.1	-15.7
61.00	9.7	-2.2	7.5	.70	.29	769	598.8	0.7	-13.9
62.00	8.9	-1.8	7.1	.73	.32	764	598.7	358.3	-12.0
63.00	8.4	-1.5	6.9	.75	.33	762	598.5	355.8	-10.1
64.00	7.8	-1.1	6.7	.76	.35	760	598.5	353.4	-8.3
65.00	6.9	-0.7	6.1	.80	.39	747	598.5	351.0	-6.4
66.00	7.8	-0.4	7.4	.71	.31	776	598.6	348.6	-4.5
67.00	11.6	-0.1	11.6	.51	.11	834	598.7	346.1	-2.6
68.00	5.3	0.3	5.5	.85	.44	735	598.8	343.7	-0.7
69.00	5.8	0.6	6.3	.80	.39	759	599.0	341.2	1.2
70.00	5.3	0.9	6.2	.82	.40	759	599.2	338.7	3.1
71.00	4.6	1.2	5.8	.85	.42	750	599.5	336.2	5.0
72.00	3.7	1.5	5.3	.89	.46	737	599.8	333.7	6.9
73.00	3.0	1.8	4.8	.95	.51	724	600.2	331.2	8.8
74.00	2.3	2.1	4.4	.99	.55	708	600.6	328.6	10.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg)
38575.00	3.0	2.3	5.4	-16.90	-17.46	748	601.0	326.1	12.7
76.00	2.4	2.5	4.9	.96	.50	737	601.4	323.5	14.6
77.00	-0.2	2.8	2.6	-17.25	.78	648	601.8	320.8	16.5
78.00	-0.2	3.0	2.8	.23	.74	650	602.3	318.1	18.5
38578.50	-1.0	3.0	2.	-17.38	-17.89	651	601.9	316.8	19.5
79.00	0.3	3.1	3.	.19	.71	648	602.2	315.4	20.4
79.50	0.6	3.1	4.	.04	.58	698	602.5	314.1	21.4
80.00	6.0	3.1	9.	-16.67	.23	824	602.8	312.7	22.4
80.50	2.9	3.2	6.	.86	.41	774	603.1	311.3	23.3
81.00	-0.5	3.1	3.	-17.19	.71	649	603.5	309.9	24.3
81.50	-1.8	3.1	1.	.66	-18.18	651	603.8	308.5	25.3
82.00	-0.7	3.1	2.	.38	-17.88	651	604.2	307.0	26.3
38583.00	1.7	2.9	4.6	-17.01	-17.51	745	604.9	304.1	28.2
84.00	3.0	2.7	5.7	-16.89	.42	774	605.7	301.1	30.1
85.00	3.2	2.0	5.2	.93	.45	761	606.5	298.1	32.1
86.00	4.4	0.8	5.2	.94	.45	765	607.2	294.9	34.0
87.00	4.1	0.0	4.1	-17.06	.55	732	608.0	291.6	36.0
88.00	3.7	0.0	3.7	.13	.59	721	608.8	288.2	37.9
89.00	3.4	0.0	3.4	.17	.63	698	609.6	284.6	39.8
90.00	3.2	0.0	3.2	.20	.65	681	610.3	280.8	41.7
91.00	3.1	0.0	3.1	.24	.66	683	611.0	276.7	43.6
92.00	3.1	0.0	3.1	.23	.66	685	611.7	272.4	45.4
93.00	3.0	0.0	3.0	.21	.66	653	612.4	267.8	47.3
94.00	5.2	0.0	5.2	-16.93	.41	779	613.0	262.7	49.1
95.00	4.5	0.0	4.5	-17.00	.47	759	613.6	257.2	50.8
96.00	3.8	0.0	3.8	.09	.55	734	614.1	251.0	52.4
97.00	3.4	0.0	3.4	.15	.59	716	614.6	244.0	54.0
98.00	3.2	0.0	3.2	.18	.62	700	615.1	236.2	55.4
99.00	2.9	0.0	2.9	.22	.66	655	615.5	227.4	56.7
38600.00	2.9	0.0	2.9	.24	.66	658	615.8	217.4	57.8
01.00	2.9	0.0	2.9	.24	.66	659	616.1	206.6	58.6
02.00	2.8	0.0	2.8	.26	.68	658	616.3	195.0	59.1
03.00	2.6	0.0	2.6	.30	.71	660	616.4	183.2	59.3
04.00	1.7	0.0	1.7	.50	.90	662	616.5	171.7	59.2
05.00	2.9	0.0	2.9	.25	.67	658	616.5	160.9	58.8
06.00	3.7	0.0	3.7	.11	.55	724	616.5	151.2	58.1
07.00	3.5	0.0	3.5	.13	.58	707	616.4	142.5	57.2
08.00	3.7	0.0	3.7	.12	.56	724	616.3	134.9	56.2
09.00	3.1	0.0	3.1	.22	.64	656	616.0	128.1	55.1
10.00	2.7	0.0	2.7	.28	.70	656	615.8	122.0	53.8
38610.50	2.6	0.0	3.	-17.22	-17.66	654	615.6	119.3	53.2
11.00	3.7	0.0	4.	.07	.53	731	615.4	116.6	52.5
11.50	10.2	0.0	10.	-16.64	.12	860	615.2	114.1	51.8
12.00	6.4	0.0	6.	.87	.35	792	615.0	111.7	51.2
12.50	4.4	0.0	4.	-17.05	.52	723	614.8	109.3	50.5
38613.00	4.7	0.0	4.7	-16.99	-17.46	755	614.6	107.1	49.7
14.00	4.7	0.0	4.7	.98	.46	753	614.1	102.9	48.3
15.00	4.4	0.0	4.4	-17.02	.49	741	613.5	99.0	46.8
16.00	4.7	0.0	4.7	.00	.47	753	612.9	95.3	45.4
17.00	4.3	0.0	4.3	.03	.51	731	612.3	91.8	43.9
18.00	4.6	0.0	4.6	-16.98	.48	739	611.6	88.5	42.3
19.00	8.2	0.0	8.2	.70	.22	819	610.9	85.3	40.8
20.00	5.8	0.0	5.8	.86	.37	770	610.2	82.2	39.3
21.00	5.1	0.0	5.1	.92	.44	750	609.4	79.2	37.7
22.00	5.1	0.0	5.1	.92	.44	750	608.6	76.3	36.2
23.00	5.0	0.0	5.0	.92	.45	743	607.8	73.5	34.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
38624.00	5.4	0.0	5.4	-16.87	-17.41	753	607.0	70.7	33.1
25.00	5.9	0.0	5.9	.83	.38	763	606.2	68.1	31.6
26.00	5.8	0.0	5.8	.84	.39	758	605.4	65.4	30.0
27.00	5.9	0.0	6.0	.82	.37	761	604.6	62.8	28.5
28.00	5.0	0.0	5.0	.90	.45	728	603.8	60.3	26.9
29.00	6.1	-0.4	5.7	.83	.40	747	603.0	57.8	25.4
30.00	7.1	-1.1	6.0	.80	.38	753	602.3	55.3	23.8
31.00	7.4	-1.8	5.6	.84	.41	740	601.6	52.8	22.3
32.00	8.2	-2.3	5.9	.81	.38	745	600.9	50.4	20.7
33.00	11.4	-2.5	8.9	.61	.20	800	600.3	48.0	19.2
34.00	10.6	-2.6	8.0	.65	.25	783	599.7	45.6	17.6
35.00	10.2	-2.6	7.6	.68	.27	775	599.1	43.2	16.1
36.00	9.5	-2.6	6.9	.73	.32	760	598.6	40.9	14.6
37.00	9.4	-2.5	6.9	.72	.32	757	598.2	38.6	13.0
38.00	10.4	-2.4	8.1	.65	.24	777	597.8	36.2	11.5
39.00	11.3	-2.2	9.1	.58	.19	790	597.5	33.9	10.0
40.00	12.7	-2.0	10.7	.50	.12	808	597.2	31.6	8.4
41.00	11.5	-1.8	9.7	.55	.16	794	597.0	29.4	6.9
42.00	10.8	-1.6	9.2	.58	.18	785	596.8	27.1	5.4
43.00	10.1	-1.3	8.8	.59	.20	777	596.7	24.8	3.8
44.00	9.1	-1.0	8.1	.64	.24	764	596.7	22.5	2.3
38644.50	7.7	-0.9	7.	-16.70	-17.30	742	596.7	21.4	1.5
45.00	11.1	-0.7	10.	.53	.14	790	596.7	20.3	0.8
45.50	16.7	-0.6	16.	.32	-16.94	846	596.7	19.1	0.0
46.00	18.7	-0.4	18.	.26	.88	859	596.7	18.0	-0.8
46.50	14.8	-0.3	15.	.34	.96	836	596.8	16.9	-1.5
47.00	14.3	-0.1	14.	.38	.99	827	596.9	15.8	-2.3
47.50	8.6	0.1	9.	.58	-17.18	770	597.0	14.6	-3.0
48.00	10.4	0.2	11.	.49	.10	795	597.1	13.5	-3.8
38649.00	11.5	0.5	12.0	-16.47	-17.06	807	597.4	11.3	-5.3
50.00	9.3	0.8	10.1	.56	.13	783	597.7	9.0	-6.9
51.00	7.0	1.1	8.1	.66	.22	750	598.1	6.7	-8.4
52.00	5.8	1.4	7.2	.72	.27	729	598.6	4.5	-9.9
53.00	6.1	1.8	7.9	.69	.23	742	599.2	2.2	-11.4
54.00	8.1	2.1	10.2	.57	.12	778	599.8	360.0	-13.0
55.00	8.6	2.4	11.0	.53	.08	784	600.5	357.7	-14.5
56.00	7.2	2.7	9.9	.59	.12	768	601.2	355.4	-16.0
57.00	5.2	2.9	8.2	.69	.20	738	602.0	353.1	-17.5
58.00	1.7	3.2	4.9	.93	.42	664	602.9	350.9	-19.1
59.00	1.6	3.5	5.1	.92	.40	662	603.8	348.6	-20.6
38659.50	1.2	3.7	5.	-16.93	-17.41	665	604.3	347.4	-21.3
60.00	2.3	3.8	6.	.82	.33	686	604.8	346.2	-22.1
60.50	8.6	3.9	13.	.48	-16.99	798	605.3	345.1	-22.9
61.00	11.5	4.1	16.	.41	.90	830	605.8	343.9	-23.6
61.50	4.7	4.2	9.	.67	-17.15	747	606.3	342.8	-24.4
62.00	1.5	4.4	6.	.86	.32	666	606.9	341.6	-25.1
38663.00	1.2	4.6	5.8	-16.88	-17.33	661	608.0	339.2	-26.7
64.00	0.4	4.8	5.2	.95	.38	651	609.2	336.9	-28.2
65.00	1.5	5.0	6.6	.86	.27	684	610.4	334.5	-29.7
66.00	2.2	5.2	7.4	.79	.22	706	611.6	332.1	-31.2
67.00	3.1	5.4	8.5	.72	.15	730	612.9	329.6	-32.7
68.00	1.2	5.6	6.8	.83	.25	681	614.2	327.2	-34.3
69.00	0.9	5.7	6.6	.85	.26	670	615.5	324.7	-35.8
70.00	1.4	5.8	7.3	.83	.21	707	616.8	322.1	-37.3
71.00	1.7	5.9	7.6	.83	.19	722	618.1	319.5	-38.8
72.00	1.3	5.9	7.2	.84	.21	700	619.5	316.9	-40.3

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
38673.00	1.5	5.9	7.4	-16.81	-17.19	701	620.9	314.3	-41.8
74.00	1.5	6.0	7.5	.82	.18	708	622.2	311.5	-43.3
75.00	1.5	5.9	7.4	.84	.18	710	623.5	308.7	-44.8
76.00	0.9	5.8	6.6	.89	.23	679	624.9	305.8	-46.3
77.00	0.3	5.6	5.8	.95	.28	636	626.2	302.9	-47.8
78.00	0.6	5.3	5.9	.96	.27	638	627.5	299.8	-49.2
79.00	-0.2	4.9	4.7	-17.09	.37	643	628.8	296.6	-50.7
80.00	0.0	4.4	4.4	.11	.40	642	630.0	293.3	-52.2
81.00	4.0	3.6	7.6	-16.86	.15	732	631.2	289.8	-53.6
82.00	2.4	2.6	5.0	-17.05	.33	645	632.3	286.1	-55.0
83.00	2.6	1.5	4.1	.14	.42	644	633.4	282.2	-56.4
84.00	4.6	0.4	5.0	.07	.33	647	634.5	277.9	-57.8
85.00	5.1	0.0	5.1	.06	.32	647	635.5	273.4	-59.1
86.00	5.5	0.0	5.5	.01	.28	646	636.4	268.4	-60.4
87.00	6.8	0.0	6.8	-16.89	.17	715	637.3	262.8	-61.6
88.00	7.0	0.0	7.0	.87	.15	721	638.0	256.6	-62.8
89.00	6.4	0.0	6.4	.91	.19	703	638.8	249.7	-63.8
90.00	5.5	0.0	5.5	.98	.25	647	639.4	241.8	-64.8
91.00	4.2	0.0	4.2	-17.13	.38	651	639.9	232.8	-65.5
92.00	4.2	0.0	4.2	.14	.38	653	640.4	222.8	-66.0
93.00	4.2	0.0	4.2	.12	.38	651	640.8	211.7	-66.3
38693.50	4.3	0.0	4.	-17.13	-17.39	650	641.0	205.9	-66.3
94.00	4.5	0.0	5.	.04	.30	651	641.2	199.9	-66.2
94.50	8.3	0.0	8.	-16.80	.06	763	641.3	193.9	-66.1
95.00	9.8	0.0	10.	.70	-16.98	802	641.4	187.9	-65.8
95.50	7.2	0.0	7.	.87	-17.14	742	641.5	182.0	-65.5
96.00	4.9	0.0	5.	-17.02	.29	650	641.5	176.2	-65.1
96.50	5.1	0.0	5.	.03	.30	652	641.6	170.7	-64.6
38697.00	5.4	0.0	5.4	-17.00	-17.26	651	641.6	165.4	-64.0
98.00	5.2	0.0	5.2	.01	.28	652	641.5	155.7	-62.8
99.00	6.0	0.0	6.0	-16.97	.23	709	641.4	147.1	-61.3
38700.00	6.7	0.0	6.7	.91	.16	737	641.1	139.5	-59.6
01.00	8.8	0.0	8.8	.76	.05	782	640.8	132.8	-57.8
02.00	7.8	0.0	7.8	.81	.11	759	640.4	126.8	-56.0
03.00	6.2	0.0	6.2	.93	.22	712	639.9	121.4	-54.1
04.00	5.0	0.0	5.0	-17.01	.31	682	639.3	116.5	-52.1
05.00	5.9	0.0	5.9	-16.93	.24	693	638.7	112.0	-50.0
06.00	6.1	0.0	6.1	.93	.23	708	638.0	107.8	-48.0
07.00	5.9	0.0	5.9	.94	.25	698	637.3	103.9	-45.9
08.00	6.6	0.0	6.6	.86	.19	723	636.5	100.2	-43.8
09.00	8.5	0.0	8.5	.73	.08	769	635.7	96.6	-41.7
10.00	7.0	0.0	7.0	.82	.17	736	634.8	93.3	-39.6
11.00	6.5	0.0	6.5	.86	.21	722	633.9	90.0	-37.4
12.00	5.5	0.0	5.5	.92	.29	671	632.9	86.9	-35.3
13.00	6.3	0.0	6.3	.87	.23	717	631.9	83.9	-33.2
14.00	7.5	0.0	7.5	.79	.16	755	630.9	80.9	-31.0
15.00	9.0	0.0	9.0	.68	.08	781	629.9	78.0	-28.9
16.00	10.8	0.0	10.8	.59	.00	806	628.9	75.2	-26.8
17.00	9.1	0.0	9.1	.67	.08	784	627.9	72.4	-24.6
18.00	8.0	0.0	8.0	.72	.14	765	626.9	69.7	-22.5
19.00	8.0	0.0	8.0	.72	.14	766	625.8	67.0	-20.4
20.00	7.8	0.0	7.8	.72	.16	762	624.8	64.3	-18.2
21.00	8.7	0.0	8.7	.67	.11	779	623.8	61.7	-16.1
22.00	10.6	0.0	10.6	.56	.02	804	622.9	59.1	-14.0
23.00	12.8	-0.1	12.7	.48	-16.94	827	621.9	56.5	-11.9
24.00	10.2	-0.3	10.0	.60	-17.06	799	621.0	53.9	-9.8
25.00	9.6	-0.5	9.1	.63	.10	784	620.1	51.4	-7.7
26.00	11.1	-0.7	10.4	.56	.04	802	619.2	48.9	-5.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
38727.00	11.7	-0.7	11.0	-16.53	-17.02	809	618.4	46.3	-3.5
28.00	10.2	-0.6	9.7	.58	.07	792	617.6	43.8	-1.4
29.00	10.1	-0.4	9.7	.58	.07	792	616.9	41.3	0.7
30.00	9.9	-0.1	9.8	.57	.07	793	616.2	38.9	2.7
31.00	9.9	0.1	10.0	.56	.06	796	615.6	36.4	4.8
32.00	9.8	0.5	10.2	.56	.06	800	615.0	33.9	6.8
33.00	9.5	0.8	10.3	.55	.06	801	614.5	31.4	8.9
34.00	8.7	1.2	9.9	.57	.07	795	614.1	29.0	10.9
35.00	8.3	1.5	9.8	.58	.08	794	613.7	26.5	13.0
36.00	7.3	1.9	9.2	.60	.11	783	613.4	24.1	15.0
37.00	7.0	2.2	9.2	.60	.11	781	613.1	21.6	17.0
38.00	7.8	2.6	10.4	.55	.05	797	612.9	19.2	19.0
39.00	7.0	2.9	10.0	.58	.07	792	612.8	16.7	21.0
40.00	6.6	3.3	9.9	.59	.08	790	612.8	14.3	23.0
41.00	6.3	3.7	10.0	.60	.07	792	612.8	11.8	25.0
42.00	6.4	4.0	10.4	.58	.06	795	612.9	9.4	26.9
43.00	5.9	4.4	10.3	.58	.06	791	613.0	6.9	28.9
44.00	5.5	4.7	10.2	.59	.06	787	613.2	4.4	30.8
45.00	6.2	5.1	11.3	.55	.01	801	613.5	2.0	32.8
46.00	5.9	5.4	11.3	.55	.01	800	613.9	359.5	34.7
47.00	5.2	5.7	10.9	.58	.03	794	614.3	357.0	36.6
48.00	4.5	6.0	10.5	.61	.04	790	614.7	354.5	38.6
49.00	4.7	6.3	11.0	.60	.02	798	615.3	352.1	40.5
50.00	4.0	6.6	10.6	.62	.03	792	615.9	349.5	42.4
51.00	3.9	6.9	10.8	.63	.02	797	616.5	347.0	44.2
52.00	1.5	7.1	8.6	.74	.11	755	617.3	344.5	46.1
53.00	-0.4	7.4	6.9	.85	.20	709	618.0	342.0	48.0
54.00	-0.6	7.6	7.0	.85	.19	712	618.8	339.4	49.9
55.00	-0.6	7.8	7.2	.84	.18	715	619.7	336.9	51.7
56.00	-0.4	7.9	7.5	.84	.16	725	620.6	334.3	53.6
57.00	-1.3	8.1	6.8	.89	.19	704	621.9	331.6	55.9
58.00	-1.1	8.2	7.1	.87	.17	710	622.9	328.9	57.7
59.00	-1.4	8.3	6.9	.89	.18	703	623.9	326.3	59.5
60.00	-1.4	8.4	7.1	.89	.16	713	625.0	323.6	61.3
61.00	-1.2	8.5	7.3	.88	.14	718	626.0	320.9	63.1
62.00	-1.1	8.6	7.5	.86	.12	719	627.2	318.2	64.9
63.00	-1.2	8.6	7.4	.86	.12	710	628.3	315.4	66.7
64.00	-1.2	8.5	7.3	.88	.13	710	629.5	312.5	68.5
65.00	-1.1	8.5	7.3	.89	.12	714	630.6	309.6	70.2
66.00	-1.0	8.4	7.4	.89	.11	718	631.8	306.7	72.0
67.00	-0.9	8.3	7.4	.90	.11	718	633.0	303.7	73.7
68.00	-0.6	8.1	7.5	.88	.10	714	634.1	300.6	75.5
69.00	-0.1	7.9	7.8	.87	.08	721	635.3	297.4	77.2
70.00	0.6	7.8	8.3	.85	.05	739	636.4	294.1	78.9
71.00	0.5	7.5	8.0	.87	.06	733	637.4	290.7	80.6
72.00	0.0	7.2	7.3	.91	.10	710	638.5	287.1	82.2
73.00	0.2	6.9	7.1	.91	.10	697	639.5	283.4	83.9
74.00	0.6	6.6	7.1	.91	.10	697	640.5	279.4	85.5
75.00	0.8	6.2	7.0	.92	.10	699	641.4	275.2	87.0
76.00	0.9	5.9	6.8	.94	.11	696	642.2	270.6	88.6
77.00	1.3	5.4	6.8	.94	.11	696	643.0	265.7	90.1
78.00	1.7	5.0	6.7	.94	.11	691	643.8	260.3	91.5
79.00	2.2	4.6	6.8	.94	.10	698	644.4	254.3	92.8
80.00	2.6	4.1	6.7	.94	.11	698	645.0	247.6	94.1
81.00	3.2	3.6	6.8	.93	.10	700	645.6	240.1	95.2
82.00	4.4	3.1	7.5	.88	.05	721	646.0	231.5	96.1
83.00	4.8	2.6	7.4	.88	.05	720	646.4	221.9	96.9
84.00	4.3	2.1	6.4	.96	.12	690	646.7	211.1	97.4
85.00	4.9	1.7	6.6	.95	.11	703	646.9	199.5	97.6
86.00	5.4	1.2	6.7	.95	.11	707	647.0	187.4	97.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
38787.00	5.8	0.8	6.6	-16.95	-17.11	702	647.1	175.5	96.9
88.00	6.0	0.4	6.4	.96	.13	693	647.1	164.2	96.1
89.00	6.7	0.0	6.7	.94	.11	706	647.0	153.9	95.0
90.00	7.4	-0.4	7.0	.92	.09	717	646.8	144.7	93.7
91.00	7.7	-0.7	7.0	.93	.09	720	646.5	136.6	92.2
92.00	7.7	-1.0	6.7	.94	.11	711	646.2	129.5	90.5
93.00	7.6	-1.3	6.3	.97	.14	696	645.8	123.1	88.7
94.00	8.5	-1.6	6.9	.93	.11	721	645.3	117.5	86.8
95.00	9.2	-1.8	7.4	.89	.08	733	644.8	112.3	84.9
96.00	9.4	-2.0	7.3	.89	.08	729	644.2	107.6	82.9
97.00	9.2	-2.2	7.0	.91	.11	720	643.5	103.3	80.8
98.00	11.4	-2.4	9.0	.78	-16.99	770	642.8	99.2	78.8
99.00	12.8	-2.6	10.2	.72	.94	798	642.0	95.4	76.7
38800.00	11.5	-2.8	8.7	.79	-17.02	768	641.1	91.9	74.5
01.00	11.4	-3.1	8.4	.80	.03	758	640.3	88.4	72.4
02.00	10.6	-3.3	7.3	.86	.10	729	639.3	85.2	70.2
03.00	10.8	-3.6	7.2	.87	.11	730	638.4	82.0	68.0
04.00	11.4	-3.9	7.5	.86	.10	745	637.4	79.0	65.8
05.00	12.1	-4.3	7.8	.83	.08	751	636.4	76.0	63.6
06.00	12.6	-4.6	7.9	.80	.08	749	635.3	73.2	61.4
07.00	13.1	-4.9	8.2	.78	.07	757	634.3	70.4	59.2
08.00	13.3	-5.2	8.2	.78	.07	761	633.2	67.6	57.0
09.00	13.3	-5.4	7.9	.80	.09	758	632.2	65.0	54.7
10.00	13.7	-5.6	8.1	.78	.09	762	631.1	62.3	52.5
11.00	14.2	-5.7	8.5	.75	.07	769	630.1	59.7	50.3
12.00	16.1	-5.9	10.3	.64	-16.98	799	629.0	57.2	48.0
13.00	15.9	-5.9	10.0	.65	-17.00	793	628.0	54.7	45.8
14.00	15.1	-6.0	9.1	.68	.04	777	627.1	52.2	43.5
15.00	16.6	-5.9	10.7	.60	-16.97	801	626.1	49.7	41.3
16.00	17.8	-5.8	12.0	.54	.93	818	625.2	47.3	39.0
17.00	17.8	-5.7	12.1	.53	.92	821	624.5	44.9	36.7
18.00	17.5	-5.5	12.0	.53	.93	820	623.7	42.5	34.4
19.00	17.5	-5.3	12.1	.52	.93	821	623.0	40.1	32.2
20.00	17.5	-5.1	12.4	.50	.92	825	622.3	37.7	29.9
21.00	17.5	-4.9	12.6	.49	.92	827	621.6	35.4	27.6
22.00	18.8	-4.6	14.2	.43	.86	841	621.0	33.0	25.3
23.00	21.3	-4.3	17.0	.33	.78	861	620.5	30.7	23.0
24.00	21.1	-3.9	17.1	.34	.78	864	620.0	28.4	20.7
25.00	17.8	-3.6	14.2	.43	.87	842	619.6	26.1	18.4
26.00	16.7	-3.2	13.5	.44	.89	833	619.2	23.8	16.1
27.00	15.9	-2.8	13.1	.46	.91	829	619.0	21.5	13.8
28.00	14.6	-2.4	12.2	.50	.94	820	618.8	19.2	11.5
29.00	12.7	-1.9	10.8	.55	-17.00	801	618.6	16.9	9.2
30.00	10.8	-1.5	9.3	.62	.06	777	618.6	14.7	6.9
31.00	10.3	-1.1	9.3	.62	.06	776	618.6	12.4	4.6
32.00	11.6	-0.6	10.9	.54	-16.99	797	618.8	10.1	2.3
33.00	10.2	-0.2	10.0	.58	-17.03	783	619.0	7.8	0.0
34.00	9.7	0.2	9.9	.58	.03	780	619.2	5.6	-2.3
35.00	9.0	0.6	9.7	.60	.04	776	619.6	3.3	-4.6
36.00	8.3	1.1	9.4	.63	.05	771	620.1	1.0	-7.0
37.00	7.3	1.5	8.8	.67	.08	760	620.6	358.7	-9.3
38.00	6.4	1.9	8.3	.70	.11	749	621.2	356.4	-11.6
39.00	5.6	2.3	7.9	.72	.13	739	621.9	354.2	-13.9
40.00	4.5	2.7	7.3	.76	.16	721	622.6	351.9	-16.2
41.00	4.4	3.1	7.5	.76	.15	724	623.5	349.6	-18.5
42.00	6.3	3.5	9.8	.64	.02	770	624.4	347.2	-20.8
43.00	6.9	4.0	10.9	.59	-16.97	782	625.4	344.9	-23.1
44.00	5.7	4.3	10.1	.63	-17.00	770	626.4	342.6	-25.4
45.00	4.8	4.7	9.4	.67	.03	757	627.5	340.2	-27.7
46.00	2.5	5.0	7.5	.79	.13	713	628.7	337.9	-30.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
38847.00	1.8	5.3	7.1	-16.83	-17.15	701	629.9	335.5	-32.3
48.00	1.2	5.5	6.7	.88	.18	680	631.2	333.1	-34.6
49.00	1.0	5.8	6.8	.89	.17	694	632.5	330.7	-36.9
50.00	0.6	6.0	6.6	.91	.18	684	633.9	328.2	-39.2
51.00	-0.4	6.3	5.9	.97	.23	630	635.3	325.7	-41.5
52.00	-0.6	6.4	5.8	.99	.23	631	636.7	323.2	-43.8
53.00	-1.5	6.6	5.1	-17.06	.29	631	638.1	320.7	-46.1
54.00	-1.5	6.7	5.2	.05	.27	630	639.6	318.1	-48.4
55.00	-1.5	6.8	5.3	.04	.26	630	641.1	315.5	-50.7
56.00	-1.5	6.9	5.4	.04	.25	629	642.6	312.8	-52.9
57.00	-1.4	6.9	5.5	.03	.23	628	644.1	310.0	-55.2
58.00	-1.3	6.9	5.6	.03	.22	628	645.6	307.2	-57.5
59.00	-0.6	6.9	6.3	-16.99	.17	660	647.1	304.3	-59.7
60.00	-1.5	6.9	5.4	-17.05	.23	626	648.5	301.3	-62.0
61.00	-1.3	6.7	5.4	.06	.22	626	650.0	298.3	-64.2
62.00	-0.8	6.6	5.8	.03	.19	625	651.4	295.0	-66.5
63.00	-0.5	6.4	5.9	.02	.17	624	652.8	291.7	-68.7
64.00	-0.8	6.2	5.4	.07	.21	623	654.1	288.1	-70.9
65.00	-0.6	5.9	5.3	.08	.22	622	655.4	284.4	-73.0
66.00	-0.4	5.6	5.2	.09	.22	622	656.6	280.4	-75.2
67.00	-0.1	5.3	5.1	.10	.22	621	657.7	276.1	-77.3
38867.50	1.5	5.1	7.	-16.96	-17.08	696	658.3	273.8	-78.3
68.00	5.3	5.0	10.	.78	-16.92	772	658.8	271.4	-79.4
68.50	9.4	4.8	14.	.61	.76	829	659.3	268.9	-80.4
69.00	3.2	4.6	8.	.86	-17.00	710	659.8	266.3	-81.4
69.50	2.9	4.4	7.	.94	.07	685	660.3	263.5	-82.3
38870.00	2.8	4.2	7.0	-16.94	-17.06	685	660.7	260.5	-83.3
71.00	1.9	3.8	5.7	-17.04	.15	617	661.6	254.1	-85.2
72.00	2.5	3.4	5.9	.03	.14	621	662.3	246.9	-86.9
73.00	2.9	3.0	5.9	.03	.14	625	662.9	238.6	-88.5
74.00	3.2	2.6	5.9	.02	.13	622	663.5	229.2	-89.9
75.00	3.3	2.2	5.5	.05	.16	614	663.9	218.6	-91.0
76.00	3.5	1.9	5.4	.06	.17	614	664.1	207.0	-91.8
77.00	4.3	1.5	5.8	.03	.14	613	664.5	194.8	-92.3
78.00	4.8	1.2	6.0	.02	.12	635	664.7	182.7	-92.5
79.00	5.2	0.8	6.0	.03	.13	637	664.7	171.2	-92.2
80.00	4.9	0.5	5.5	.06	.16	612	664.7	160.7	-91.7
81.00	5.6	0.3	5.9	.03	.13	612	664.5	151.3	-91.0
82.00	6.1	0.0	6.1	.02	.12	645	664.2	143.1	-90.0
83.00	6.3	-0.2	6.1	.02	.12	647	663.8	135.9	-88.9
84.00	6.4	-0.5	5.9	.03	.14	628	663.2	129.5	-87.7
85.00	7.0	-0.8	6.2	-16.99	.11	644	662.6	123.8	-86.3
86.00	8.6	-1.0	7.6	.90	.02	704	661.9	118.6	-84.9
87.00	8.3	-1.3	7.0	.94	.06	688	661.2	113.9	-83.5
88.00	8.7	-1.6	7.1	.93	.06	695	660.3	109.6	-82.0
89.00	9.5	-1.9	7.6	.89	.02	711	659.3	105.5	-80.5
90.00	10.1	-2.3	7.8	.87	.01	717	658.3	101.7	-78.9
91.00	10.3	-2.7	7.6	.89	.03	718	657.2	98.2	-77.3
92.00	10.7	-3.0	7.7	.89	.03	725	656.1	94.7	-75.7
93.00	11.1	-3.3	7.8	.88	.03	730	654.9	91.5	-74.0
94.00	11.6	-3.8	7.8	.88	.03	734	653.6	88.3	-72.4
95.00	12.1	-4.2	7.9	.86	.03	739	652.3	85.3	-70.7
96.00	12.5	-4.5	8.0	.84	.02	737	651.0	82.3	-69.1
97.00	15.1	-4.8	10.3	.71	-16.91	792	649.6	79.4	-67.4
98.00	13.7	-5.1	8.6	.79	.99	760	648.2	76.6	-65.7
99.00	13.8	-5.4	8.4	.79	-17.00	760	646.8	73.8	-64.0
38900.00	15.4	-5.7	9.8	.72	-16.94	795	645.4	71.1	-62.2
01.00	16.0	-5.9	10.1	.70	.93	801	643.9	68.4	-60.5

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg)
38902.00	16.5	-6.1	10.4	-16.67	-16.92	806	642.5	65.8	-58.8
03.00	17.6	-6.3	11.2	.63	.89	821	641.1	63.2	-57.1
04.00	17.0	-6.5	10.5	.66	.93	811	639.6	60.6	-55.3
05.00	16.6	-6.6	10.0	.68	.96	805	638.2	58.1	-53.6
06.00	16.3	-6.6	9.7	.69	.98	803	636.8	55.6	-51.8
07.00	16.4	-6.6	9.7	.69	.98	803	635.4	53.1	-50.0
08.00	16.3	-6.6	9.7	.68	.99	804	634.1	50.6	-48.3
09.00	15.7	-6.5	9.2	.70	-17.02	798	632.8	48.1	-46.5
10.00	15.2	-6.5	8.7	.73	.05	791	631.5	45.6	-44.7
11.00	14.7	-6.3	8.4	.74	.07	787	630.3	43.2	-42.9
12.00	14.3	-6.2	8.1	.74	.09	782	629.1	40.8	-41.1
13.00	13.7	-6.1	7.6	.77	.12	772	627.9	38.3	-39.3
14.00	13.6	-5.9	7.7	.75	.12	776	626.9	35.9	-37.5
15.00	13.9	-5.7	8.2	.71	.10	788	625.8	33.5	-35.7
16.00	15.7	-5.5	10.2	.60	.00	824	624.9	31.1	-33.9
17.00	14.5	-5.3	9.2	.64	.05	813	624.0	28.7	-32.1
18.00	14.1	-5.0	9.1	.65	.07	815	623.2	26.3	-30.3
19.00	14.2	-4.8	9.4	.63	.06	822	622.4	23.9	-28.5
20.00	15.9	-4.5	11.4	.53	-16.97	849	621.7	21.5	-26.6
21.00	15.3	-4.2	11.1	.54	.99	847	621.1	19.1	-24.8
22.00	13.5	-3.9	9.6	.62	-17.06	832	620.6	16.7	-22.9
23.00	13.0	-3.5	9.5	.62	.07	832	620.1	14.3	-21.1
24.00	12.7	-3.2	9.5	.62	.07	834	619.8	11.9	-19.3
25.00	11.7	-2.8	8.9	.65	.11	827	619.5	9.5	-17.4
26.00	11.6	-2.5	9.0	.63	.10	827	619.3	7.1	-15.5
38926.25	12.	-2.	10.	-16.58	-17.05	841	619.2	6.5	-15.1
26.50	14.	-2.	12.	.51	-16.98	866	619.2	5.9	-14.6
26.75	14.	-2.	12.	.49	.97	864	619.2	5.3	-14.1
27.00	16.	-2.	14.	.41	.90	881	619.2	4.7	-13.7
27.25	20.	-2.	18.	.30	.79	913	619.1	4.1	-13.2
27.50	26.	-2.	24.	.17	.66	949	619.1	3.5	-12.7
27.75	35.	-2.	33.	.02	.52	990	619.1	2.9	-12.3
28.00	30.	-2.	28.	.09	.59	966	619.1	2.3	-11.8
28.25	26.	-2.	24.	.16	.66	948	619.1	1.7	-11.3
28.50	20.	-2.	19.	.27	.77	921	619.1	1.1	-10.9
28.75	17.	-2.	16.	.36	.85	902	619.1	0.5	-10.4
29.00	13.	-1.	12.	.49	.98	866	619.2	359.9	-9.9
38930.00	9.3	-1.1	8.2	-16.68	-17.15	822	619.3	357.5	-8.0
31.00	8.3	-0.7	7.6	.73	.19	817	619.5	355.1	-6.2
32.00	7.1	-0.4	6.7	.80	.25	802	619.8	352.6	-4.3
33.00	6.7	-0.1	6.6	.80	.26	802	620.2	350.2	-2.4
34.00	6.3	0.2	6.5	.81	.26	801	620.7	347.7	-0.5
35.00	6.1	0.5	6.6	.80	.26	806	620.7	345.3	1.4
36.00	6.9	0.9	7.7	.74	.19	828	621.0	342.8	3.4
37.00	6.7	1.2	7.8	.72	.18	829	621.3	340.3	5.3
38.00	5.2	1.5	6.7	.79	.25	808	621.6	337.7	7.2
39.00	5.0	1.8	6.8	.80	.25	816	622.1	335.2	9.2
40.00	4.8	2.1	6.9	.80	.24	821	622.6	332.6	11.1
41.00	4.7	2.4	7.1	.78	.23	823	623.1	330.1	13.0
42.00	4.1	2.6	6.7	.80	.25	815	623.7	327.5	15.0
43.00	3.3	2.8	6.1	.85	.29	806	624.3	324.8	16.9
44.00	2.6	3.0	5.7	.91	.33	804	625.0	322.1	18.9
45.00	1.2	3.2	4.4	-17.04	.44	768	625.7	319.4	20.8
46.00	0.9	3.4	4.3	.05	.45	769	626.4	316.7	22.8
47.00	1.7	3.5	5.1	-16.97	.37	794	627.1	313.8	24.8
48.00	2.4	3.5	5.9	.90	.30	816	627.9	311.0	26.7
49.00	2.8	3.5	6.3	.86	.27	827	628.6	308.0	28.7
50.00	2.3	3.5	5.8	.89	.29	813	629.4	305.0	30.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
38951.00	1.5	3.4	4.9	-16.96	-17.36	790	630.2	301.9	32.6
52.00	1.2	3.1	4.3	-17.05	.43	779	631.0	298.7	34.5
53.00	1.2	2.6	3.8	.14	.49	771	631.7	295.4	36.5
54.00	1.3	2.0	3.2	.20	.55	731	632.5	291.9	38.4
55.00	2.5	1.1	3.6	.15	.50	759	633.2	288.3	40.4
56.00	3.9	0.2	4.1	-.10	.44	787	633.9	284.4	42.3
57.00	5.2	0.0	5.2	.00	.33	827	634.6	280.3	44.2
58.00	2.9	0.0	2.9	.27	.59	722	635.3	275.9	46.0
59.00	1.3	0.0	1.3	.63	.94	665	636.0	271.1	47.8
60.00	4.6	0.0	4.6	.05	.38	814	636.6	265.9	49.6
61.00	4.9	0.0	4.9	.01	.34	822	637.1	260.2	51.4
62.00	3.0	0.0	3.0	.24	.56	736	637.7	253.8	53.0
63.00	2.2	0.0	2.2	.38	.69	665	638.2	246.6	54.5
64.00	3.7	0.0	3.7	.14	.46	783	638.6	238.4	55.9
65.00	4.1	0.0	4.1	.08	.40	795	639.0	229.2	57.2
66.00	2.4	0.0	2.4	.32	.63	661	639.3	218.9	58.2
67.00	2.7	0.0	2.7	.29	.59	708	639.6	207.7	58.9
68.00	3.3	0.0	3.3	.21	.51	763	639.9	195.9	59.3
69.00	4.3	0.0	4.3	.07	.38	803	640.1	184.0	59.4
70.00	3.2	0.0	3.2	.18	.50	739	640.2	172.6	59.2
71.00	3.0	0.0	3.0	.23	.54	727	640.3	162.1	58.7
72.00	3.0	0.0	3.0	.26	.55	731	640.3	152.7	57.9
73.00	3.0	0.0	3.0	.27	.56	732	640.2	144.4	57.0
74.00	3.4	0.0	3.4	.19	.49	753	640.2	137.0	55.9
75.00	3.7	0.0	3.7	.13	.45	763	640.0	130.5	54.7
76.00	5.0	0.0	5.0	.01	.32	819	639.8	124.6	53.5
77.00	4.7	0.0	4.7	.04	.35	808	639.5	119.4	52.1
78.00	4.4	0.0	4.4	.07	.38	796	639.2	114.6	50.7
79.00	4.4	0.0	4.4	.07	.38	793	638.9	110.2	49.3
80.00	4.6	0.0	4.6	.03	.36	795	638.4	106.1	47.8
81.00	4.8	0.0	4.8	.01	.34	799	638.0	102.2	46.3
82.00	5.1	0.0	5.1	-16.98	.32	807	637.5	98.6	44.8
83.00	5.8	0.0	5.8	.92	.26	825	636.9	95.2	43.3
84.00	4.6	0.0	4.6	-17.02	.36	783	636.3	91.9	41.8
85.00	4.6	0.0	4.6	.02	.37	781	635.7	88.7	40.2
86.00	4.6	0.0	4.6	.01	.37	777	635.0	85.7	38.7
87.00	5.0	0.0	5.0	-16.97	.33	787	634.3	82.7	37.1
88.00	5.2	0.0	5.2	.95	.32	792	633.5	79.9	35.6
89.00	5.4	0.0	5.4	.92	.29	791	632.8	77.1	34.0
90.00	5.6	0.0	5.6	.89	.28	794	632.0	74.4	32.5
91.00	7.2	0.0	7.2	.77	.16	826	631.1	71.7	30.9
92.00	7.4	0.0	7.4	.74	.15	825	630.5	69.1	29.3
93.00	6.6	0.0	6.6	.79	.20	808	629.8	66.5	27.8
94.00	6.8	0.0	6.8	.79	.19	813	629.0	64.0	26.2
95.00	6.5	0.0	6.5	.82	.22	807	628.3	61.5	24.7
96.00	6.3	0.0	6.3	.81	.23	796	627.5	59.0	23.1
97.00	6.5	-0.4	6.1	.81	.24	788	626.8	56.5	21.5
98.00	7.3	-0.9	6.4	.79	.22	793	626.1	54.1	20.0
99.00	8.1	-1.4	6.7	.77	.20	799	625.4	51.7	18.4
39000.00	8.7	-1.9	6.8	.77	.20	800	624.7	49.4	16.9
01.00	8.9	-2.1	6.7	.77	.20	795	624.1	47.0	15.3
02.00	9.4	-2.2	7.2	.73	.17	803	623.5	44.7	13.8
03.00	9.6	-2.2	7.5	.70	.15	805	623.0	42.3	12.2
04.00	10.0	-2.0	7.9	.67	.12	810	622.5	40.0	10.7
05.00	10.5	-1.9	8.6	.64	.09	821	622.0	37.7	9.1
06.00	10.6	-1.7	8.9	.63	.08	824	621.6	35.4	7.6
07.00	10.5	-1.5	8.9	.62	.07	821	621.3	33.1	6.0
08.00	10.7	-1.3	9.4	.58	.04	824	621.1	30.9	4.5
09.00	10.3	-1.1	9.2	.59	.05	820	620.9	28.6	3.0
10.00	9.7	-0.9	8.8	.61	.07	812	620.8	26.3	1.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39011.00	9.2	-0.6	8.6	-16.63	-17.08	807	620.7	24.1	-0.1
12.00	8.8	-0.4	8.4	.65	.10	803	620.8	21.8	-1.7
13.00	8.6	-0.1	8.5	.65	.09	803	620.9	19.5	-3.2
14.00	8.5	0.2	8.7	.64	.08	804	621.0	17.3	-4.7
15.00	8.1	0.5	8.6	.64	.08	798	621.3	15.0	-6.3
16.00	7.7	0.8	8.5	.64	.08	793	621.6	12.8	-7.8
39016.50	7.2	0.9	8.	-16.67	-17.11	783	621.8	11.6	-8.6
17.00	7.4	1.1	8.	.69	.11	784	622.1	10.5	-9.3
17.50	6.8	1.2	8.	.69	.11	783	622.3	9.4	-10.1
18.00	6.9	1.4	8.	.69	.11	782	622.6	8.3	-10.9
18.50	8.9	1.5	10.	.58	.01	812	622.8	7.1	-11.6
19.00	14.4	1.7	16.	.36	-16.80	872	623.1	6.0	-12.4
19.50	13.2	1.8	15.	.38	.82	860	623.4	4.9	-13.1
20.00	10.3	2.0	12.	.49	.92	830	623.8	3.7	-13.9
20.50	8.1	2.2	10.	.58	-17.00	804	624.1	2.6	-14.7
39021.00	7.8	2.3	10.1	-16.58	-17.00	806	624.5	1.5	-15.4
22.00	6.7	2.6	9.3	.62	.03	792	625.3	359.2	-17.0
23.00	5.6	2.9	8.5	.67	.07	777	626.1	356.9	-18.5
24.00	5.1	3.2	8.3	.70	.09	775	627.1	354.6	-20.0
25.00	4.3	3.4	7.7	.75	.12	762	628.1	352.3	-21.6
26.00	3.8	3.7	7.5	.76	.13	754	629.1	350.0	-23.1
27.00	3.6	3.9	7.6	.76	.12	754	630.2	347.6	-24.6
28.00	3.4	4.2	7.6	.76	.11	752	631.4	345.3	-26.1
29.00	3.4	4.5	7.8	.75	.10	757	632.6	342.9	-27.7
30.00	3.1	4.7	7.8	.77	.10	757	633.9	340.5	-29.2
39030.50	4.4	4.8	9.	-16.71	-17.03	783	634.5	339.3	-29.9
31.00	4.7	4.9	10.	.65	-16.98	795	635.2	338.1	-30.7
31.50	8.8	5.0	14.	.49	.83	842	635.9	336.9	-31.5
32.00	4.7	5.1	10.	.66	.98	797	636.5	335.7	-32.2
32.50	3.7	5.2	9.	.72	-17.03	783	637.2	334.5	-33.0
33.00	3.2	5.3	8.	.77	.08	763	637.9	333.2	-33.8
33.50	0.8	5.4	6.	.91	.20	704	638.6	332.0	-34.5
34.00	1.3	5.5	7.	.86	.14	745	639.3	330.7	-35.3
39035.00	1.4	5.7	7.1	-16.84	-17.12	744	640.7	328.2	-36.8
36.00	1.8	5.8	7.6	.80	.09	754	642.2	325.6	-38.3
37.00	1.2	5.9	7.0	.86	.13	744	643.6	323.0	-39.8
38.00	0.7	6.0	6.7	.88	.14	735	645.1	320.4	-41.4
39.00	0.3	6.0	6.3	.91	.16	722	646.5	317.6	-42.9
40.00	0.3	6.0	6.3	.93	.17	725	647.9	314.8	-44.4
41.00	0.2	6.0	6.2	.94	.17	715	649.3	312.0	-45.9
42.00	-0.1	6.0	6.0	.96	.18	705	650.7	309.0	-47.4
43.00	-0.1	5.9	5.8	.99	.20	706	652.1	306.0	-48.9
44.00	-1.2	5.8	4.6	-17.11	.30	648	653.5	302.8	-50.4
45.00	-1.0	5.7	4.7	.10	.29	648	654.8	299.5	-51.8
46.00	-0.8	5.4	4.7	.10	.28	649	656.1	296.1	-53.3
47.00	-0.8	5.1	4.3	.14	.32	650	657.4	292.4	-54.7
48.00	-1.2	4.6	3.4	.26	.42	652	658.6	288.5	-56.2
49.00	-0.8	3.9	3.1	.31	.47	654	659.8	284.3	-57.6
50.00	0.3	3.1	3.4	.28	.42	655	660.8	279.8	-58.9
51.00	1.7	1.9	3.6	.24	.39	655	661.9	274.9	-60.2
52.00	2.4	0.4	2.8	.34	.49	655	662.8	269.4	-61.5
53.00	3.6	0.0	3.6	.24	.38	656	663.7	263.3	-62.7
54.00	4.0	0.0	4.0	.20	.34	657	664.5	256.4	-63.7
55.00	4.4	0.0	4.4	.14	.28	657	665.2	248.6	-64.7
56.00	5.5	0.0	5.5	.01	.16	716	665.9	239.8	-65.5
57.00	6.2	0.0	6.2	-16.93	.09	745	666.4	229.8	-66.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39058.00	5.8	0.0	5.8	-16.96	-17.12	733	666.9	218.7	-66.3
59.00	5.7	0.0	5.7	.99	.13	734	667.3	206.8	-66.3
60.00	5.5	0.0	5.5	-17.01	.16	730	667.6	194.7	-66.0
61.00	5.4	0.0	5.4	.01	.16	720	667.8	182.9	-65.3
62.00	5.2	0.0	5.2	.03	.18	709	667.9	171.9	-64.2
63.00	5.0	0.0	5.0	.06	.20	697	668.0	162.0	-63.0
64.00	5.0	0.0	5.0	.06	.20	694	667.9	153.2	-61.5
65.00	4.9	0.0	4.9	.07	.22	689	667.8	145.5	-59.8
66.00	5.1	0.0	5.1	.05	.20	706	667.6	138.7	-58.0
67.00	5.3	0.0	5.3	.04	.19	722	667.3	132.7	-56.2
68.00	5.8	0.0	5.8	-16.99	.15	746	666.9	127.2	-54.2
69.00	6.7	0.0	6.7	.92	.08	775	666.4	122.3	-52.2
70.00	7.3	0.0	7.3	.86	.03	787	665.9	117.7	-50.2
71.00	8.1	0.0	8.1	.80	-16.98	803	665.3	113.5	-48.1
72.00	7.3	0.0	7.3	.86	-17.04	790	664.6	109.6	-46.0
73.00	6.9	0.0	6.9	.89	.07	782	663.9	105.9	-43.9
74.00	6.4	0.0	6.4	.93	.11	769	663.1	102.3	-41.8
75.00	6.2	0.0	6.2	.94	.13	765	662.3	99.0	-39.6
76.00	5.9	0.0	5.9	.95	.14	751	661.4	95.7	-37.5
77.00	5.7	0.0	5.7	.95	.15	740	660.4	92.6	-35.3
78.00	5.8	0.0	5.8	.93	.15	743	659.5	89.6	-33.2
79.00	6.1	0.0	6.1	.92	.13	755	658.4	86.6	-31.0
80.00	6.2	0.0	6.2	.91	.14	761	657.4	83.7	-28.8
81.00	6.3	0.0	6.3	.90	.13	763	656.4	80.9	-26.7
82.00	7.1	0.0	7.1	.83	.07	784	655.3	78.1	-24.5
83.00	7.1	0.0	7.1	.81	.07	781	654.2	75.4	-22.4
84.00	7.2	0.0	7.2	.79	.05	781	653.2	72.7	-20.2
85.00	7.9	0.0	7.9	.74	.01	796	652.1	70.0	-18.1
86.00	7.3	0.0	7.3	.78	.06	785	651.0	67.4	-15.9
87.00	6.3	0.0	6.3	.86	.14	761	650.0	64.8	-13.8
88.00	5.9	0.0	5.9	.89	.17	748	649.0	62.2	-11.7
89.00	6.0	0.0	6.0	.87	.16	751	648.0	59.6	-9.6
90.00	6.8	0.0	6.8	.81	.10	774	647.1	57.1	-7.5
91.00	6.8	-0.2	6.6	.82	.12	768	646.2	54.6	-5.4
92.00	7.2	-0.3	6.9	.80	.10	777	645.4	52.0	-3.3
93.00	7.3	-0.3	7.0	.78	.09	781	644.6	49.5	-1.2
94.00	7.4	-0.2	7.2	.76	.48	785	644.2	47.1	0.9
95.00	9.9	0.0	9.9	.61	.35	831	643.6	44.6	3.0
96.00	10.9	0.2	11.0	.55	.31	844	643.0	42.1	5.1
97.00	8.6	0.4	9.0	.65	.39	817	642.5	39.6	7.1
98.00	7.3	0.7	8.0	.71	.44	800	642.0	37.1	9.2
99.00	7.1	1.0	8.1	.70	.43	800	641.6	34.7	11.3
39100.00	6.7	1.3	8.0	.72	.43	799	641.3	32.2	13.3
01.00	6.1	1.6	7.7	.74	.45	793	641.0	29.8	15.4
02.00	5.4	2.0	7.4	.75	.46	785	640.8	27.3	17.4
03.00	5.9	2.3	8.2	.71	.41	801	640.6	24.9	19.4
04.00	6.1	2.6	8.7	.68	.39	809	640.5	22.4	21.4
05.00	6.5	3.0	9.5	.64	.35	820	640.5	19.9	23.4
06.00	5.9	3.3	9.3	.65	.36	814	640.5	17.5	25.5
07.00	5.1	3.7	8.8	.68	.37	805	640.6	15.0	27.4
08.00	4.3	4.1	8.3	.72	.39	797	640.8	12.6	29.4
09.00	3.0	4.4	7.4	.79	.43	778	641.0	10.1	31.4
10.00	2.0	4.7	6.7	.84	.46	758	641.3	7.6	33.4
11.00	1.8	5.0	6.8	.84	.45	760	641.7	5.1	35.3
12.00	2.2	5.4	7.5	.80	.41	776	642.1	2.7	37.3
13.00	2.2	5.6	7.8	.77	.39	778	642.6	0.2	39.2
14.00	1.4	5.9	7.3	.81	.41	765	643.1	357.7	41.2
15.00	0.9	6.2	7.1	.84	.41	760	643.7	355.1	43.1
16.00	-0.1	6.5	6.4	.90	.45	735	644.4	352.6	45.0
17.00	-0.9	6.7	5.8	.95	.48	710	645.1	350.1	46.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg)
39118.00	-1.2	7.0	5.7	-16.97	-17.48	706	645.8	347.5	48.8
19.00	-0.6	7.2	6.6	.90	.41	734	646.6	345.0	50.7
20.00	2.0	7.4	9.3	.75	.26	801	647.5	342.4	52.6
21.00	0.1	7.6	7.6	.84	.34	759	648.4	339.8	54.5
22.00	-0.5	7.7	7.2	.86	.36	744	649.3	337.2	56.3
23.00	-0.8	7.9	7.0	.88	.37	738	650.2	334.6	58.2
24.00	-0.9	8.0	7.1	.88	.35	744	651.2	331.9	60.0
25.00	-0.7	8.1	7.4	.88	.32	757	652.3	329.2	61.9
26.00	-0.7	8.2	7.4	.89	.32	761	653.3	326.5	63.7
27.00	-0.7	8.2	7.5	.89	.31	761	654.4	323.7	65.5
28.00	-0.7	8.3	7.6	.88	.29	760	655.5	320.9	67.3
29.00	-0.9	8.3	7.4	.90	.30	754	656.6	318.0	69.1
30.00	-0.9	8.3	7.4	.90	.30	752	657.7	315.1	70.9
31.00	-1.1	8.2	7.1	.92	.31	745	658.8	312.1	72.6
32.00	-1.0	8.2	7.1	.93	.31	746	659.9	309.1	74.4
33.00	-0.6	8.0	7.4	.91	.28	749	661.1	306.0	76.1
34.00	-0.5	7.9	7.4	.91	.28	749	662.2	302.7	77.9
35.00	-0.3	7.7	7.5	.90	.27	753	663.3	299.4	79.6
36.00	-0.1	7.6	7.4	.91	.27	750	664.4	295.9	81.3
37.00	0.0	7.4	7.4	.92	.27	755	665.5	292.3	82.9
38.00	-0.1	8.6	8.5	.86	.20	791	667.9	288.4	84.6
39.00	0.4	8.4	8.8	.84	.18	800	669.0	284.3	86.2
40.00	0.7	8.2	8.9	.83	.17	801	669.9	280.0	87.8
41.00	1.3	7.9	9.2	.81	.15	811	670.8	275.3	89.3
42.00	1.8	7.8	9.6	.79	.13	825	671.6	270.2	90.8
43.00	2.6	7.5	10.2	.76	.10	839	672.4	264.6	92.2
44.00	2.9	7.3	10.2	.76	.10	839	673.1	258.3	93.5
45.00	3.1	4.7	7.8	.87	.21	775	673.6	251.3	94.7
46.00	3.8	4.2	8.0	.84	.20	775	674.1	243.3	95.8
47.00	4.8	3.8	8.6	.81	.16	787	674.6	234.3	96.7
48.00	4.7	3.3	8.0	.84	.19	773	674.9	224.1	97.3
49.00	4.3	2.9	7.1	.90	.24	750	675.2	212.9	97.7
50.00	4.7	2.4	7.1	.90	.24	753	675.4	201.0	97.8
51.00	5.2	1.9	7.1	.91	.25	754	675.5	188.8	97.5
52.00	5.3	1.5	6.8	.93	.27	747	675.5	177.0	96.8
53.00	5.3	1.0	6.3	.98	.31	734	675.5	166.0	95.9
54.00	5.2	0.6	5.8	-17.01	.34	712	675.4	156.1	94.7
55.00	5.5	0.2	5.7	.02	.36	708	675.2	147.4	93.2
56.00	5.5	-0.1	5.4	.06	.38	699	674.9	139.7	91.6
57.00	6.1	-0.4	5.7	.03	.36	713	674.6	132.9	89.9
58.00	6.5	-0.7	5.8	.02	.36	719	674.2	126.9	88.0
59.00	6.9	-0.9	6.0	.00	.35	727	673.7	121.4	86.1
60.00	7.3	-1.0	6.2	-16.98	.33	730	673.2	116.5	84.1
61.00	7.4	-1.1	6.3	.96	.33	729	672.6	112.0	82.1
62.00	7.7	-1.2	6.5	.95	.32	739	672.0	107.8	80.0
63.00	7.7	-1.1	6.6	.94	.32	751	671.3	103.8	77.9
64.00	8.0	-1.0	6.9	.93	.30	767	670.6	100.1	75.8
65.00	7.9	-0.9	7.0	.92	.30	773	669.8	96.6	73.6
66.00	7.4	-0.6	6.7	.93	.33	762	669.0	93.3	71.5
67.00	7.5	-0.7	6.8	.91	.33	761	668.1	90.1	69.3
68.00	8.8	-0.9	7.9	.84	.27	794	667.3	87.0	67.1
69.00	9.2	-1.2	8.0	.83	.27	801	666.4	84.0	64.8
70.00	9.4	-1.7	7.8	.84	.28	799	665.5	81.1	62.6
71.00	9.8	-2.1	7.7	.85	.29	799	664.5	78.2	60.4
72.00	10.2	-2.6	7.7	.83	.30	797	663.6	75.5	58.1
73.00	10.8	-3.0	7.8	.82	.30	798	662.6	72.8	55.9
74.00	11.6	-3.5	8.1	.80	.29	807	661.7	70.1	53.6
75.00	12.6	-3.8	8.7	.75	.27	819	660.7	67.5	51.3
76.00	14.5	-4.1	10.3	.66	.20	843	659.7	64.9	49.1
77.00	15.7	-4.4	11.3	.61	.17	859	658.8	62.4	46.8

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39178.00	15.9	-4.6	11.3	-16.61	-17.17	864	657.9	59.9	44.5
79.00	16.1	-4.8	11.3	.59	.19	857	657.0	57.4	42.2
80.00	16.2	-4.9	11.3	.57	.20	854	656.1	54.9	40.0
81.00	16.2	-4.9	11.3	.57	.20	856	655.3	52.5	37.7
82.00	15.4	-4.9	10.5	.61	.23	848	654.5	50.1	35.4
83.00	15.2	-4.8	10.4	.62	.23	850	653.7	47.7	33.1
84.00	14.5	-4.7	9.8	.64	.26	841	652.9	45.3	30.8
85.00	14.0	-4.5	9.4	.65	.28	835	652.3	43.0	28.5
86.00	14.2	-4.3	9.8	.63	.27	841	651.6	40.6	26.2
87.00	14.3	-4.1	11.2	.56	.22	859	651.0	38.3	23.9
88.00	14.4	-3.8	10.6	.58	.25	847	650.5	36.0	21.6
89.00	14.3	-3.5	10.8	.57	.24	850	650.0	33.7	19.3
90.00	14.2	-3.2	11.0	.56	.23	853	649.6	31.4	17.0
91.00	14.1	-2.9	11.3	.55	.22	857	649.3	29.1	14.7
92.00	12.5	-2.5	10.0	.60	.28	839	649.0	26.8	12.4
93.00	11.5	-2.1	9.4	.63	.30	829	648.8	24.5	10.1
94.00	11.4	-1.8	9.6	.61	.30	830	648.6	22.2	7.8
95.00	11.5	-1.4	10.2	.57	.28	837	648.5	20.0	5.5
96.00	11.7	-1.0	10.7	.56	.25	844	648.6	17.7	3.2
39196.50	11.0	-0.8	10.	-16.58	-17.29	833	648.6	16.5	2.1
97.00	12.0	-0.6	11.	.55	.24	848	648.6	15.4	0.9
97.50	15.8	-0.4	15.	.42	.11	892	648.7	14.3	-0.3
98.00	21.7	-0.1	22.	.23	-16.95	939	648.8	13.1	-1.4
98.50	19.2	0.1	19.	.27	-17.02	913	648.9	12.0	-2.6
99.00	16.9	0.3	17.	.33	.07	901	649.0	10.9	-3.7
99.50	13.1	0.5	14.	.44	.14	879	649.2	9.7	-4.9
39200.00	10.8	0.7	11.	.54	.24	844	649.3	8.6	-6.0
00.50	10.3	0.9	11.	.54	.24	844	649.5	7.4	-7.2
39201.00	10.5	1.1	11.6	-16.52	-17.22	853	649.7	6.3	-8.3
02.00	12.0	1.5	13.4	.46	.16	874	650.2	4.0	-10.6
03.00	12.6	1.9	14.5	.41	.13	885	650.8	1.7	-12.9
04.00	13.8	2.3	16.1	.36	.09	897	651.4	359.4	-15.2
05.00	11.9	2.7	14.6	.41	.13	883	652.2	357.1	-17.5
06.00	9.4	3.0	12.4	.49	.19	861	653.0	354.8	-19.8
39206.50	7.9	3.2	11.	-16.54	-17.24	843	653.4	353.7	-21.0
07.00	8.9	3.4	12.	.51	.20	855	653.9	352.5	-22.2
07.50	15.5	3.6	19.	.30	.01	912	654.3	351.3	-23.3
08.00	16.8	3.8	21.	.26	-16.96	923	654.8	350.2	-24.5
08.50	8.1	4.0	12.	.54	-17.18	850	655.3	349.0	-25.6
09.00	6.0	4.1	10.	.64	.25	824	655.9	347.8	-26.8
39210.00	4.8	4.5	9.3	-16.66	-17.29	805	657.4	345.4	-29.2
11.00	3.1	4.8	7.8	.75	.36	770	658.7	343.1	-31.5
12.00	5.0	5.1	10.1	.65	.23	814	660.0	340.7	-33.8
13.00	5.6	5.4	10.9	.62	.20	825	661.4	338.2	-36.1
14.00	3.3	5.6	8.9	.72	.27	793	662.8	335.8	-38.4
15.00	1.7	5.9	7.6	.81	.33	767	664.3	333.3	-40.7
16.00	1.3	6.1	7.4	.82	.34	761	665.8	330.8	-43.0
17.00	0.9	6.3	7.2	.82	.35	749	667.3	328.3	-45.4
18.00	0.7	6.5	7.2	.83	.34	747	668.9	325.7	-47.7
19.00	0.4	6.6	7.0	.86	.34	743	670.4	323.0	-50.0
20.00	0.0	6.3	6.3	.92	.38	716	672.0	320.4	-52.3
21.00	-0.4	6.9	6.4	.92	.37	719	673.5	317.6	-54.5
22.00	0.3	6.9	7.2	.87	.31	745	675.1	314.8	-56.8
23.00	0.3	7.0	7.3	.87	.30	748	676.6	311.9	-59.1

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg)
39224.00	0.27	6.98	7.25	-16.88	-17.29	748	676.1	308.9	-61.4
26.00	-0.09	6.90	6.81	.93	.30	737	681.0	302.7	-65.9
28.00	0.18	6.67	6.85	.94	.29	735	683.7	295.8	-70.3
30.00	0.37	6.31	6.68	.95	.29	727	686.2	288.0	-74.7
32.00	0.61	5.82	6.43	.97	.29	722	688.5	279.1	-78.9
34.00	1.34	5.23	6.57	.97	.27	729	690.5	268.2	-82.8
36.00	1.99	4.59	6.58	.96	.26	727	692.1	254.6	-86.5
38.00	2.78	3.84	6.62	.95	.25	726	693.4	236.9	-89.5
40.00	4.00	3.08	7.08	.91	.21	748	694.4	214.8	-91.5
42.00	5.21	2.25	7.46	.90	.19	763	694.9	190.5	-92.1
44.00	5.96	1.45	7.41	.90	.19	756	695.1	168.3	-91.4
39245.00	6.6	1.1	7.7	-16.89	-17.18	761	695.0	158.9	-90.6
46.00	7.0	0.7	7.7	.88	.18	756	694.9	150.6	-89.7
47.00	8.1	0.4	8.5	.84	.14	780	694.6	143.3	-88.6
48.00	8.4	0.2	8.6	.84	.13	785	694.3	136.9	-87.3
49.00	8.7	-0.1	8.6	.84	.14	784	693.8	131.1	-86.0
50.00	8.4	-0.4	8.1	.86	.16	770	693.3	126.0	-84.6
39252.00	8.64	-0.81	7.83	-16.88	-17.18	768	692.0	116.9	-81.6
54.00	9.06	-1.29	7.77	.88	.19	771	690.4	109.1	-78.5
56.00	9.74	-1.73	8.01	.86	.18	779	688.4	102.1	-75.3
58.00	10.53	-2.25	8.28	.84	.18	789	686.3	95.7	-71.9
60.00	12.23	-2.91	9.32	.78	.14	822	683.9	89.7	-68.6
62.00	13.62	-3.60	10.02	.73	.12	840	681.3	84.0	-65.2
64.00	15.54	-4.20	11.34	.66	.08	867	678.6	78.5	-61.7
66.00	16.58	-4.77	11.81	.63	.08	878	675.8	73.2	-58.2
39267.00	17.0	-5.0	12.0	-16.60	-17.08	882	674.3	70.6	-56.5
68.00	17.4	-5.2	12.2	.59	.09	889	672.9	68.0	-54.7
69.00	18.0	-5.4	12.6	.57	.08	898	671.5	65.5	-53.0
70.00	18.1	-5.6	12.5	.57	.09	898	670.1	63.0	-51.2
39271.00	21.4	-5.7	16.	-16.45	-16.99	937	668.7	60.5	-49.4
71.50	24.9	-5.8	19.	.35	.93	955	668.0	59.2	-48.5
72.00	29.1	-5.8	23.	.25	.86	980	667.3	58.0	-47.6
72.50	24.5	-5.8	19.	.35	.94	961	666.7	56.7	-46.8
73.00	22.9	-5.8	17.	.42	.98	952	666.0	55.5	-45.9
73.50	18.5	-5.8	13.	.53	-17.10	909	665.3	54.3	-45.0
74.00	16.4	-5.8	11.	.60	.18	881	664.7	53.1	-44.1
74.50	16.0	-5.8	10.	.64	.22	867	664.0	51.8	-43.2
75.00	17.3	-5.8	12.	.56	.14	899	663.4	50.6	-42.3
75.50	19.9	-5.7	14.	.48	.08	923	662.8	49.4	-41.4
76.00	22.3	-5.7	17.	.39	.01	950	662.2	48.2	-40.5
76.50	27.4	-5.7	22.	.26	-16.90	983	661.7	47.0	-39.6
77.00	24.4	-5.6	19.	.31	.97	959	661.1	45.8	-38.7
77.50	22.7	-5.6	17.	.37	-17.02	949	660.6	44.6	-37.8
78.00	21.9	-5.5	16.	.41	.04	948	660.0	43.3	-36.9
78.50	21.8	-5.4	16.	.40	.05	946	659.5	42.1	-36.0
39279.00	22.1	-5.3	16.8	-16.38	-17.03	955	659.0	40.9	-35.1
80.00	21.6	-5.2	16.5	.38	.05	954	658.1	38.5	-33.3
81.00	20.8	-5.0	15.8	.40	.07	949	657.1	36.1	-31.5
82.00	19.8	-4.8	15.0	.42	.10	944	656.3	33.7	-29.7
39284.00	19.09	-4.33	14.76	-16.42	-17.12	945	654.8	28.9	-26.0
86.00	16.66	-4.78	11.88	.51	.23	919	653.6	24.1	-22.3
88.00	15.07	-3.18	11.89	.50	.24	921	652.6	19.4	-18.6
90.00	12.74	-2.54	10.20	.57	.31	903	651.9	14.6	-14.9
92.00	10.56	-1.87	8.69	.64	.39	884	651.6	9.7	-11.1

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39294.00	9.98	-1.18	8.80	-16.63	-17.39	890	651.4	4.9	-7.3
96.00	9.61	-0.50	9.11	.62	.38	897	651.6	0.0	-3.6
39297.00	10.4	-0.2	10.3	-16.56	-17.33	914	651.8	357.6	-1.7
98.00	9.6	0.2	9.8	.59	.35	909	652.0	355.1	0.3
99.00	9.1	0.5	9.6	.60	.37	908	652.3	352.6	2.2
39299.50	10.0	0.8	11.	-16.54	-17.31	925	652.4	351.4	3.1
39300.00	10.3	0.8	11.	.53	.31	924	652.6	350.1	4.1
00.50	11.4	1.0	12.	.50	.27	937	652.8	348.9	5.0
01.00	14.0	1.1	15.	.39	.18	965	653.0	347.6	6.0
01.50	13.6	1.3	15.	.39	.18	965	653.3	346.4	7.0
02.00	12.4	1.5	14.	.43	.21	960	653.5	345.1	7.9
02.50	8.6	1.6	10.	.58	.35	918	653.7	343.8	8.9
03.00	9.7	1.8	11.	.55	.31	932	654.0	342.5	9.9
39304.00	7.7	2.0	9.7	-16.61	-17.36	918	654.5	340.0	11.8
05.00	7.5	2.3	9.8	.61	.36	920	655.1	337.4	13.7
06.00	7.5	2.6	10.1	.60	.34	924	655.8	334.7	15.7
07.00	6.5	2.8	9.3	.64	.38	915	656.4	332.1	17.6
08.00	6.3	3.1	9.4	.64	.37	919	657.1	329.4	19.6
09.00	5.3	3.3	8.6	.69	.41	910	657.9	326.6	21.5
10.00	3.8	3.5	7.3	.76	.47	889	658.6	323.9	23.5
11.00	3.6	3.7	7.3	.76	.47	890	659.4	321.0	25.5
12.00	3.4	3.9	7.3	.76	.47	893	660.2	318.1	27.4
13.00	2.9	4.0	6.9	.80	.49	889	661.0	315.1	29.4
39313.50	2.5	4.1	7.	-16.79	-17.48	893	661.4	313.6	30.4
14.00	1.9	4.1	6.	.85	.55	872	661.8	312.1	31.3
14.50	2.6	4.1	7.	.77	.48	890	662.2	310.5	32.3
15.00	7.7	4.2	12.	.52	.25	956	662.7	308.9	33.3
15.50	10.4	4.2	15.	.42	.15	985	663.1	307.3	34.3
16.00	6.6	4.2	11.	.56	.29	947	663.5	305.7	35.2
16.50	5.5	4.2	10.	.61	.32	936	663.9	304.0	36.2
17.00	4.2	4.2	8.	.72	.42	909	664.3	302.2	37.2
17.50	3.9	4.1	8.	.73	.41	915	664.7	300.5	38.1
18.00	3.4	4.1	7.	.79	.47	897	665.1	298.7	39.1
39319.00	3.0	3.8	6.8	-16.81	-17.47	896	665.9	294.9	41.0
20.00	2.2	3.5	5.8	.90	.53	881	666.7	291.0	42.9
21.00	2.8	3.1	5.9	.89	.52	886	667.5	286.7	44.8
22.00	3.6	2.6	6.2	.87	.49	893	668.3	282.1	46.7
23.00	4.8	2.0	6.8	.81	.45	904	669.0	277.2	48.5
24.00	5.0	1.4	6.3	.84	.48	896	669.7	271.7	50.2
25.00	5.7	0.7	6.3	.85	.47	902	670.4	265.6	51.9
26.00	5.8	0.0	5.8	.89	.50	893	671.0	258.8	53.5
27.00	6.6	0.0	6.6	.82	.44	909	671.6	251.0	55.0
28.00	6.3	0.0	6.3	.83	.46	903	672.1	242.3	56.3
29.00	6.6	0.0	6.6	.81	.43	913	672.7	232.5	57.4
30.00	6.4	0.0	6.4	.82	.44	910	673.1	221.6	58.3
31.00	7.0	0.0	7.0	.77	.40	925	673.5	209.9	58.8
32.00	7.1	0.0	7.1	.76	.39	927	673.9	197.9	59.1
33.00	8.6	0.0	8.6	.67	.31	949	674.2	186.1	59.0
34.00	10.1	0.0	10.1	.60	.25	968	674.5	175.1	58.6
35.00	10.7	0.0	10.7	.59	.22	976	674.7	165.2	57.9
36.00	10.1	0.0	10.1	.62	.25	969	674.8	156.3	57.0
37.00	9.4	0.0	9.4	.65	.28	959	674.9	148.5	56.0
38.00	8.8	0.0	8.8	.68	.31	949	674.9	141.6	54.8
39.00	8.8	0.0	8.8	.69	.31	949	674.9	135.4	53.6
40.00	9.1	0.0	9.1	.68	.30	952	674.8	129.9	52.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg)
39341.00	9.1	0.0	9.1	-16.68	-17.30	949	674.6	124.9	50.8
42.00	9.5	0.0	9.5	.66	.29	952	674.4	120.3	49.4
43.00	9.4	0.0	9.4	.66	.29	949	674.1	116.1	47.9
44.00	8.2	0.0	8.2	.73	.35	930	673.7	112.2	46.4
45.00	7.4	0.0	7.4	.79	.40	916	673.2	108.4	44.9
46.00	7.4	0.0	7.4	.78	.40	913	672.7	104.9	43.3
47.00	8.2	0.0	8.2	.73	.36	922	672.2	101.6	41.8
48.00	8.7	0.0	8.7	.70	.33	927	671.6	98.3	40.2
49.00	8.2	0.0	8.2	.72	.36	916	671.0	95.3	38.6
50.00	7.7	0.0	7.7	.75	.39	907	670.3	92.3	37.1
51.00	6.9	0.0	6.9	.80	.44	891	669.6	89.4	35.5
52.00	6.6	0.0	6.6	.82	.46	883	668.9	86.6	33.9
53.00	6.4	0.0	6.4	.83	.47	878	668.2	83.8	32.3
54.00	7.4	0.0	7.4	.77	.41	898	667.5	81.1	30.7
55.00	8.7	0.0	8.7	.68	.34	918	666.8	78.5	29.2
56.00	10.9	0.0	10.9	.57	.25	943	666.0	75.9	27.6
57.00	12.3	0.0	12.3	.51	.19	957	665.3	73.3	26.0
58.00	11.4	0.0	11.4	.54	.23	948	664.6	70.8	24.4
59.00	11.4	0.0	11.4	.54	.23	947	663.9	68.3	22.9
60.00	13.8	0.0	13.8	.44	.14	970	663.2	65.9	21.3
61.00	18.4	0.0	18.4	.30	.02	1005	662.5	63.4	19.7
62.00	18.2	0.0	18.2	.30	.03	1005	661.9	61.0	18.1
63.00	18.6	0.0	18.6	.29	.02	1009	661.3	58.6	16.6
64.00	19.3	0.0	19.3	.27	.00	1014	660.7	56.3	15.0
65.00	19.8	-0.4	19.4	.26	.00	1015	660.2	53.9	13.4
66.00	20.4	-0.7	19.7	.25	-16.99	1016	659.7	51.6	11.9
39366.40	20.	-1.	20.	-16.24	-16.98	1018	659.5	50.7	11.2
66.60	22.	-1.	21.	.22	.96	1024	659.4	50.2	10.9
66.80	26.	-1.	25.	.14	.88	1046	659.4	49.7	10.6
67.00	37.	-1.	36.	-15.98	.72	1097	659.3	49.3	10.3
67.20	31.	-1.	29.	-16.07	.81	1060	659.2	48.8	10.0
67.40	23.	-1.	22.	.18	.93	1018	659.1	48.3	9.7
67.60	26.	-1.	25.	.13	.88	1037	659.0	47.9	9.4
67.80	33.	-1.	31.	.04	.78	1067	659.0	47.4	9.1
68.00	66.	-1.	65.	-15.71	.46	1180	658.9	47.0	8.7
68.20	58.	-1.	57.	.77	.51	1156	658.8	46.5	8.4
68.40	33.	-1.	32.	-16.02	.77	1072	658.7	46.0	8.1
39369.00	22.3	-1.3	21.	-16.21	-16.96	1013	658.5	44.6	7.2
69.50	21.6	-1.2	20.	.23	.98	1004	658.4	43.5	6.4
70.00	21.1	-1.2	20.	.23	.98	1002	658.3	42.4	5.6
70.50	20.2	-1.2	19.	.26	-17.00	995	658.1	41.2	4.8
71.00	19.8	-1.1	19.	.26	.00	993	658.0	40.1	4.1
39371.40	19.	-1.	18.	-16.28	-17.02	983	658.0	39.2	3.4
71.60	22.	-1.	21.	.21	-16.95	1001	657.9	38.7	3.1
71.80	37.	-1.	36.	-15.97	.72	1075	657.9	38.2	2.8
72.00	62.	-1.	61.	.74	.49	1154	657.9	37.8	2.5
72.20	61.	-1.	60.	.74	.48	1140	657.8	37.3	2.2
72.40	29.	-1.	28.	-16.07	.81	1019	657.8	36.9	1.9
72.60	20.	-1.	19.	.24	.99	975	657.7	36.4	1.6
72.80	19.	-1.	18.	.27	-17.02	973	657.7	36.0	1.2
73.00	17.	-1.	16.	.33	.07	960	657.7	35.5	0.9
39374.00	14.4	-0.6	13.8	-16.40	-17.13	940	657.7	33.2	-0.6
75.00	14.5	-0.4	14.0	.40	.13	940	657.8	31.0	-2.2
76.00	15.2	0.2	15.4	.35	.08	950	657.9	28.7	-3.7
77.00	16.4	0.1	16.4	.33	.05	955	658.2	26.5	-5.3
78.00	13.8	0.4	14.2	.39	.11	935	658.4	24.2	-6.8

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg)	$\delta_\pi-\delta_O$ (deg.)
39379.00	1.21	0.06	1.28	-16.43	-17.16	935	658.8	21.9	-8.4
80.00	1.12	0.09	1.21	.47	.18	922	659.2	19.7	-10.0
81.00	1.14	0.11	1.25	.46	.16	923	659.7	17.4	-11.5
82.00	1.17	0.14	1.31	.44	.14	928	660.3	15.1	-13.1
83.00	1.28	0.17	1.45	.39	.09	944	660.9	12.9	-14.6
84.00	1.34	0.20	1.54	.36	.07	954	661.6	10.6	-16.2
85.00	1.41	0.23	1.64	.33	.04	961	662.4	8.3	-17.7
86.00	1.39	0.25	1.64	.34	.03	959	663.2	6.0	-19.3
87.00	1.55	0.28	1.83	.29	-16.98	974	664.1	3.7	-20.8
88.00	1.57	0.31	1.88	.27	.96	982	665.1	1.4	-22.3
89.00	1.49	0.33	1.82	.28	.98	977	666.1	359.1	-23.9
90.00	1.32	0.36	1.68	.33	-17.01	961	667.2	356.8	-25.4
91.00	1.32	0.38	1.70	.33	.00	960	668.3	354.4	-27.0
92.00	1.28	0.41	1.69	.34	.00	959	669.5	352.0	-28.5
93.00	1.26	0.43	1.69	.35	.00	957	670.7	349.6	-30.1
94.00	1.03	0.46	1.49	.41	.05	938	671.9	347.2	-31.6
95.00	0.78	0.48	1.25	.49	.13	913	673.2	344.8	-33.1
96.00	0.68	0.50	1.18	.52	.15	902	674.5	342.3	-34.7
97.00	0.58	0.52	1.09	.57	.18	888	675.9	339.9	-36.2
98.00	0.47	0.53	1.00	.62	.21	873	677.3	337.3	-37.7
99.00	0.35	0.55	0.90	.68	.25	854	678.7	334.8	-39.3
39400.00	0.25	0.57	0.82	.75	.28	835	680.1	332.2	-40.8
01.00	0.18	0.58	0.76	.80	.31	821	681.5	329.5	-42.3
02.00	0.08	0.59	0.67	.84	.36	800	683.0	326.8	-43.8
39402.50	0.18	0.60	0.8	-16.75	-17.29	834	683.7	325.4	-44.5
03.00	0.45	0.60	1.1	.59	.15	890	684.4	324.0	-45.3
03.50	1.18	0.61	1.8	.36	-16.94	964	685.1	322.6	-46.0
04.00	1.20	0.61	1.8	.38	.93	963	685.9	321.1	-46.8
04.50	0.58	0.61	1.2	.56	-17.11	903	686.6	319.7	-47.5
05.00	0.14	0.62	0.8	.78	.28	817	686.4	318.1	-48.4
39406.00	0.08	0.62	0.70	-16.85	-17.33	798	688.0	315.1	-49.9
07.00	0.10	0.62	0.72	.85	.31	804	689.5	311.9	-51.4
08.00	0.03	0.62	0.65	.90	.35	788	691.0	308.6	-52.8
09.00	0.14	0.62	0.76	.84	.28	825	692.5	305.1	-54.3
10.00	0.25	0.61	0.85	.79	.22	845	693.9	301.5	-55.7
11.00	0.35	0.60	0.95	.73	.17	862	695.2	297.5	-57.2
12.00	0.41	0.59	1.00	.70	.15	872	696.4	293.3	-58.6
13.00	0.52	0.57	1.09	.66	.11	889	697.6	288.8	-59.9
39413.50	0.57	0.56	1.1	-16.65	-17.10	892	698.2	286.3	-60.6
14.00	0.64	0.55	1.2	.60	.06	900	698.7	283.8	-61.2
14.50	0.99	0.53	1.5	.49	-16.96	930	699.3	281.1	-61.9
15.00	1.09	0.51	1.6	.47	.93	943	699.8	278.2	-62.5
15.50	0.67	0.50	1.2	.61	-17.05	909	700.2	275.2	-63.1
16.00	0.57	0.47	1.0	.69	.13	883	700.7	272.1	-63.7
39417.00	0.48	0.42	0.90	-16.74	-17.16	870	701.6	265.0	-64.8
18.00	0.53	0.35	0.88	.75	.17	869	702.4	257.1	-65.7
19.00	0.67	0.25	0.92	.73	.14	880	703.0	248.0	-66.5
20.00	0.76	-0.01	0.75	.81	.23	850	703.7	237.7	-67.0
21.00	0.81	-0.01	0.80	.78	.19	863	704.2	226.4	-67.2
39422.00	1.07	-0.01	1.1	-16.64	-17.05	915	704.6	214.3	-67.2
22.50	1.14	-0.01	1.1	.63	.05	910	704.8	208.1	-67.0
23.00	1.39	0.00	1.4	.52	-16.95	942	705.0	202.0	-66.7
23.50	1.31	0.00	1.3	.55	.98	928	705.1	196.0	-66.4
24.00	1.15	0.00	1.1	.62	-17.06	902	705.2	190.2	-66.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39424.50	1.07	0.00	1.1	-16.63	-17.06	903	705.4	184.6	-65.4
25.00	0.96	0.00	1.0	.69	.10	892	705.4	179.3	-64.9
25.50	0.88	0.00	0.9	.75	.15	878	705.5	174.3	-64.2
26.00	0.84	0.00	0.8	.80	.20	858	705.5	169.5	-63.5
26.50	0.81	0.00	0.8	.81	.20	860	705.5	165.1	-62.8
27.00	0.68	0.00	0.7	.87	.26	838	705.5	161.0	-62.0
27.50	0.67	0.00	0.7	.87	.26	837	705.5	157.1	-61.1
28.00	0.84	0.00	0.8	.81	.21	861	705.5	153.4	-60.2
28.50	0.86	0.00	0.9	.75	.16	878	705.4	150.0	-59.3
29.00	1.16	0.00	1.2	.61	.04	916	705.3	146.8	-58.4
29.50	1.43	0.00	1.4	.53	-16.97	933	705.2	143.7	-57.5
30.00	1.50	0.00	1.5	.50	.94	944	705.1	140.8	-56.5
30.50	1.34	0.00	1.3	.56	-17.00	922	705.0	138.1	-55.5
31.00	1.33	0.00	1.3	.56	.01	923	704.8	135.5	-54.5
31.50	1.17	0.00	1.2	.61	.04	916	704.6	133.0	-53.5
32.00	0.96	0.00	1.0	.69	.12	888	704.4	130.7	-52.5
32.50	0.93	0.00	0.9	.73	.17	869	704.2	128.4	-51.4
33.00	0.95	0.00	0.9	.73	.17	869	704.0	126.2	-50.4
33.50	0.87	0.00	0.9	.74	.18	874	703.7	124.1	-49.3
34.00	0.91	0.00	0.9	.75	.18	875	703.5	122.1	-48.3
34.50	0.93	0.00	0.9	.74	.18	873	703.2	120.1	-47.2
39435.00	0.98	0.00	0.98	-16.70	-17.14	887	702.9	118.2	-46.1
36.00	1.06	0.00	1.06	.66	.11	902	702.3	114.5	-44.0
37.00	1.20	0.00	1.20	.59	.06	920	701.6	111.1	-41.8
38.00	1.29	0.00	1.29	.55	.03	932	700.9	107.7	-39.6
39.00	1.37	0.00	1.37	.52	.01	941	700.1	104.5	-37.5
40.00	1.45	0.00	1.45	.48	-16.98	948	699.3	101.4	-35.3
41.00	1.52	0.00	1.52	.45	.97	955	698.5	98.4	-33.1
42.00	1.62	0.00	1.62	.42	.94	965	697.6	95.5	-30.9
43.00	1.72	0.00	1.72	.39	.92	974	696.7	92.6	-28.7
44.00	1.77	0.00	1.77	.38	.91	980	695.8	89.8	-26.5
45.00	1.87	0.00	1.87	.35	.89	987	694.8	87.1	-24.3
46.00	2.10	0.00	2.10	.29	.84	1002	693.9	84.3	-22.1
47.00	2.23	0.00	2.23	.26	.81	1010	692.9	81.7	-19.9
48.00	2.36	0.00	2.36	.23	.79	1015	691.9	79.0	-17.8
49.00	2.21	0.00	2.21	.25	.82	1007	691.0	76.4	-15.6
50.00	2.06	0.00	2.06	.29	.85	999	690.0	73.8	-13.4
51.00	2.02	0.00	2.02	.29	.87	997	689.1	71.2	-11.3
52.00	1.97	0.00	1.97	.30	.88	996	688.2	68.7	-9.1
53.00	1.99	0.00	1.99	.29	.87	998	687.3	66.2	-7.0
54.00	1.99	0.00	1.99	.29	.88	998	686.4	63.6	-4.8
55.00	1.97	0.00	1.97	.28	.88	996	685.6	61.1	-2.7
56.00	1.94	0.00	1.94	.29	.89	993	684.8	58.6	-0.5
57.00	2.02	0.00	2.02	.27	.87	999	684.1	56.2	1.6
58.00	2.33	0.01	2.34	.20	.81	1017	683.4	53.7	3.7
59.00	2.29	0.01	2.30	.21	.82	1013	682.7	51.2	5.8
60.00	2.15	0.02	2.17	.23	.84	1004	682.1	48.8	7.9
61.00	1.90	0.05	1.95	.29	.89	990	681.6	46.3	10.0
62.00	1.51	0.08	1.59	.38	.98	964	681.1	43.8	12.1
63.00	1.87	0.11	1.97	.28	.89	994	680.7	41.4	14.2
64.00	2.21	0.14	2.35	.20	.81	1017	680.3	38.9	16.2
65.00	2.27	0.17	2.44	.18	.79	1025	680.0	36.5	18.3
66.00	2.18	0.20	2.38	.19	.80	1025	679.8	34.0	20.4
67.00	2.09	0.23	2.32	.21	.82	1024	679.7	31.6	22.4
68.00	2.19	0.27	2.45	.19	.79	1033	679.6	29.1	24.4
69.00	2.43	0.30	2.73	.13	.74	1051	679.7	26.6	26.5
70.00	2.53	0.33	2.86	.11	.71	1062	679.8	24.2	28.5
71.00	2.55	0.36	2.91	.10	.70	1067	680.0	21.7	30.5

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39471.50	2.55	0.38	2.9	-16.10	-16.71	1067	680.1	20.5	31.5
39472.00	1.9	0.4	2.3	-16.21	-16.81	1032	680.4	19.2	32.5
72.20	1.9	0.4	2.3	.20	.80	1030	680.4	18.7	32.9
72.40	2.8	0.4	3.2	.06	.66	1075	680.5	18.2	33.4
72.60	2.9	0.4	3.3	.04	.64	1077	680.6	17.8	33.8
72.80	3.7	0.4	4.1	-15.95	.55	1111	680.6	17.3	34.2
73.00	4.9	0.4	5.4	.83	.43	1158	680.7	16.8	34.6
73.20	5.4	0.4	5.8	.81	.40	1173	680.8	16.3	35.0
73.40	3.8	0.4	4.2	.95	.54	1118	680.9	15.8	35.4
73.60	3.5	0.4	3.9	.98	.57	1104	680.9	15.3	35.8
73.80	3.1	0.4	3.6	-16.01	.60	1087	681.0	14.8	36.2
74.00	3.1	0.5	3.6	.01	.60	1082	681.1	14.3	36.6
74.20	2.9	0.5	3.4	.03	.62	1075	681.2	13.8	37.0
74.40	2.9	0.5	3.4	.04	.63	1079	681.3	13.3	37.4
74.60	2.9	0.5	3.4	.04	.63	1083	681.4	12.8	37.8
74.80	2.7	0.5	3.2	.07	.66	1073	681.5	12.3	38.2
75.00	2.7	0.5	3.2	.07	.66	1072	681.6	11.8	38.6
75.20	2.2	0.5	2.7	.15	.73	1047	681.7	11.3	39.0
75.40	1.7	0.5	2.2	.24	.82	1016	681.8	10.8	39.4
39476.00	1.95	0.51	2.46	-16.20	-16.77	1033	682.2	9.3	40.6
77.00	1.72	0.54	2.26	.25	.81	1018	682.8	6.8	42.5
78.00	1.44	0.56	2.00	.32	.86	999	683.6	4.2	44.5
79.00	1.28	0.59	1.86	.37	.89	987	684.4	1.7	46.5
80.00	1.14	0.61	1.75	.40	.91	974	685.2	359.1	48.4
81.00	1.06	0.64	1.69	.42	.92	964	686.1	356.6	50.4
82.00	0.98	0.66	1.63	.44	.93	958	687.1	354.0	52.3
83.00	0.89	0.68	1.57	.47	.94	951	688.1	351.4	54.2
84.00	0.81	0.69	1.50	.49	.96	942	689.1	348.8	56.1
85.00	0.92	0.71	1.63	.46	.92	955	690.2	346.1	58.0
86.00	1.01	0.73	1.74	.43	.89	961	691.3	343.5	59.9
87.00	0.86	0.74	1.60	.48	.92	947	692.4	340.8	61.8
88.00	0.66	0.75	1.41	.55	.96	929	693.6	338.0	63.7
89.00	0.37	0.76	1.14	.65	-17.05	891	694.7	335.2	65.5
90.00	0.46	0.77	1.22	.63	.01	909	695.9	332.4	67.4
91.00	0.66	0.78	1.44	.56	-16.93	940	697.1	329.6	69.2
92.00	0.98	0.78	1.76	.47	.85	976	698.3	326.7	71.0
93.00	0.89	0.78	1.67	.49	.86	966	699.5	323.7	72.8
94.00	0.85	0.78	1.63	.50	.87	965	700.7	320.6	74.6
95.00	0.71	0.78	1.50	.54	.90	952	701.8	317.5	76.4
96.00	0.67	0.78	1.45	.56	.92	943	702.9	314.2	78.2
39496.20	0.8	0.8	1.6	-16.51	-16.87	966	703.2	313.6	78.5
96.40	0.8	0.8	1.6	.51	.87	963	703.4	312.9	78.9
96.60	0.6	0.8	1.4	.56	.93	931	703.6	312.2	79.2
96.80	0.6	0.8	1.4	.57	.93	932	703.8	311.6	79.6
97.00	1.0	0.8	1.7	.49	.84	974	704.1	310.9	79.9
97.20	1.3	0.8	2.0	.42	.77	1009	704.3	310.2	80.3
97.40	1.4	0.8	2.2	.38	.73	1029	704.5	309.5	80.6
97.60	1.9	0.8	2.7	.28	.64	1060	704.7	308.8	81.0
97.80	2.5	0.8	3.3	.19	.55	1089	704.9	308.1	81.3
98.00	3.8	0.8	4.5	.05	.42	1145	705.2	307.4	81.7
98.20	3.5	0.8	4.2	.08	.45	1128	705.4	306.7	82.0
98.40	2.0	0.8	2.8	.25	.63	1045	705.6	306.0	82.3
98.60	1.4	0.8	2.2	.35	.73	997	705.8	305.2	82.7
98.80	1.2	0.7	2.0	.40	.77	986	706.0	304.5	83.0
99.00	1.2	0.7	2.0	.41	.76	994	706.2	303.7	83.4
99.20	1.1	0.7	1.8	.47	.81	979	706.4	303.0	83.7
99.40	0.8	0.7	1.5	.55	.88	941	706.6	302.2	84.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg)	$\delta_\pi-\delta_O$ (deg.)
39499.60	0.8	0.7	1.5	-16.55	-16.88	943	706.8	301.5	84.4
99.80	0.6	0.7	1.3	.62	.94	913	707.0	300.7	84.7
39500.00	0.65	0.73	1.4	-16.59	-16.91	933	707.2	299.9	85.0
00.50	0.60	0.72	1.3	.63	.94	925	707.7	297.9	85.9
01.00	0.57	0.71	1.3	.62	.94	923	708.2	295.8	86.7
01.50	0.49	0.70	1.2	.65	.97	896	708.7	293.7	87.5
02.00	0.34	0.69	1.0	.73	-17.05	856	709.1	291.5	88.3
39502.20	0.4	0.7	1.1	-16.69	-17.00	880	709.3	290.6	88.6
02.40	0.1	0.7	0.8	.84	.14	816	709.5	289.6	88.9
02.60	0.0	0.7	0.6	.97	.26	751	709.7	288.7	89.2
02.80	0.1	0.7	0.8	.85	.14	823	709.9	287.7	89.5
03.00	0.4	0.7	1.1	.71	.00	898	710.0	286.8	89.8
03.20	0.3	0.7	0.9	.79	.08	848	710.2	285.8	90.1
03.40	0.6	0.7	1.3	.63	-16.92	927	710.4	284.8	90.5
03.60	0.9	0.7	1.6	.53	.83	966	710.5	283.7	90.8
03.80	1.2	0.7	1.9	.45	.76	997	710.7	282.7	91.1
04.00	2.5	0.6	3.1	.23	.55	1091	710.9	281.6	91.4
04.20	1.9	0.6	2.5	.32	.64	1038	711.0	280.6	91.6
04.40	1.1	0.6	1.7	.47	.81	944	711.2	279.5	91.9
04.60	0.9	0.6	1.5	.53	.86	927	711.3	278.3	92.2
04.80	0.6	0.6	1.2	.65	.96	898	711.5	277.2	92.5
05.00	0.3	0.6	0.9	.79	-17.08	846	711.6	276.0	92.8
05.20	0.0	0.6	0.6	.96	.25	745	711.8	274.8	93.1
39506.00	0.24	0.59	0.83	-16.82	-17.11	824	712.4	269.7	94.1
07.00	0.32	0.56	0.88	.80	.07	843	713.0	262.6	95.4
08.00	0.30	0.53	0.83	.83	.09	837	713.6	254.6	96.5
09.00	0.34	0.49	0.83	.82	.09	841	714.2	245.5	97.4
10.00	0.40	0.46	0.86	.80	.07	847	714.7	235.2	98.1
11.00	0.50	0.42	0.92	.77	.04	859	715.1	223.9	98.5
12.00	0.54	0.37	0.91	.77	.05	862	715.4	211.8	98.6
13.00	0.61	0.33	0.94	.75	.03	874	715.7	199.5	98.3
14.00	0.67	0.29	0.96	.74	.03	881	715.9	187.6	97.7
15.00	0.74	0.25	0.99	.73	.02	888	716.0	176.6	96.7
16.00	0.83	0.20	1.03	.71	.00	895	716.1	166.7	95.5
17.00	0.90	0.16	1.07	.70	-16.99	906	716.1	157.9	94.0
18.00	1.06	0.12	1.19	.64	.95	926	716.0	150.3	92.4
19.00	1.10	0.08	1.18	.64	.96	921	715.8	143.5	90.7
20.00	1.11	0.04	1.15	.66	.97	921	715.6	137.4	88.8
21.00	1.15	0.01	1.16	.66	.97	927	715.4	132.0	86.9
22.00	1.21	-0.03	1.18	.64	.97	929	715.0	127.1	84.9
23.00	1.30	-0.05	1.25	.62	.95	942	714.6	122.6	82.9
24.00	1.39	-0.06	1.33	.59	.92	958	714.2	118.4	80.8
25.00	1.57	-0.05	1.52	.53	.87	981	713.6	114.4	78.7
26.00	1.71	-0.02	1.69	.48	.82	994	713.1	110.7	76.5
27.00	1.76	0.00	1.76	.45	.81	1002	712.4	107.2	74.3
39528.00	1.6	0.0	1.6	-16.49	-16.86	989	711.8	103.9	72.2
28.20	1.6	0.0	1.6	.49	.86	987	711.6	103.2	71.7
28.40	1.8	0.0	1.8	.43	.81	1010	711.5	102.6	71.3
28.60	2.1	0.0	2.1	.37	.74	1040	711.4	101.9	70.8
28.80	2.6	0.0	2.6	.27	.65	1073	711.2	101.3	70.4
29.00	5.9	0.0	6.0	-15.89	.28	1213	711.1	100.7	69.9
29.20	6.1	0.0	6.1	.87	.27	1209	710.9	100.0	69.5
29.40	3.1	0.0	3.1	-16.16	.57	1088	710.8	99.4	69.1
29.60	2.8	0.0	2.9	.19	.60	1080	710.6	98.8	68.6
29.80	2.7	0.0	2.7	.23	.63	1070	710.5	98.2	68.2
30.00	2.2	0.0	2.3	.30	.70	1043	710.3	97.6	67.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39530.20	2.0	0.0	2.0	-16.36	-16.76	1020	710.2	97.0	67.3
39531.00	1.84	0.00	1.84	-16.41	-16.80	1015	709.5	94.6	65.5
32.00	1.82	0.00	1.82	.41	.81	1015	708.7	91.6	63.2
33.00	1.87	0.00	1.87	.40	.80	1019	707.9	88.8	61.0
34.00	1.95	0.00	1.95	.38	.79	1028	707.0	86.0	58.7
35.00	2.22	0.00	2.22	.31	.73	1049	706.1	83.3	56.4
39535.40	2.3	0.0	2.3	-16.29	-16.72	1053	705.7	82.2	55.5
35.60	2.2	0.0	2.2	.31	.74	1047	705.6	81.7	55.1
35.80	2.2	0.0	2.2	.31	.74	1047	705.4	81.2	54.6
36.00	2.3	0.0	2.3	.29	.72	1055	705.2	80.6	54.2
36.20	2.1	0.0	2.1	.33	.76	1038	705.0	80.1	53.7
36.40	2.1	0.0	2.1	.33	.76	1039	704.8	79.6	53.2
36.60	2.2	0.0	2.2	.31	.74	1049	704.6	79.0	52.8
36.80	2.2	0.0	2.2	.31	.74	1051	704.5	78.5	52.3
37.00	2.4	0.0	2.4	.27	.70	1062	704.3	78.0	51.9
37.20	3.2	0.0	3.2	.13	.58	1102	704.1	77.5	51.4
37.40	4.0	0.0	4.0	.02	.48	1135	703.9	77.0	51.0
37.60	4.7	0.0	4.7	-15.94	.40	1157	703.7	76.4	50.5
37.80	3.9	0.0	3.9	-16.02	.48	1121	703.5	75.9	50.0
38.00	3.3	0.0	3.3	.10	.56	1099	703.3	75.4	49.6
38.20	3.3	0.0	3.3	.10	.56	1103	703.2	74.9	49.1
38.40	3.2	0.0	3.2	.12	.58	1099	703.0	74.4	48.7
38.60	2.6	0.0	2.6	.21	.67	1067	702.8	73.9	48.2
38.80	2.4	0.0	2.4	.24	.70	1054	702.6	73.4	47.7
39539.00	2.11	0.00	2.1	-16.30	-16.76	1034	702.4	72.9	47.3
39.50	2.20	0.00	2.2	.28	.74	1043	701.9	71.6	46.1
40.00	2.29	-0.04	2.2	.28	.75	1047	701.5	70.4	45.0
40.50	2.08	-0.08	2.0	.32	.79	1032	701.0	69.1	43.8
41.00	2.25	-0.12	2.1	.29	.77	1037	700.6	67.9	42.7
41.50	2.84	-0.15	2.7	.18	.66	1078	700.1	66.6	41.5
42.00	3.17	-0.19	3.0	.13	.61	1095	699.6	65.4	40.4
39543.00	3.43	-0.24	3.19	-16.09	-16.59	1104	698.5	63.0	38.1
44.00	4.01	-0.28	3.73	.01	.52	1129	697.7	60.6	35.8
45.00	4.74	-0.32	4.42	-15.93	.44	1159	697.0	58.2	33.5
46.00	4.61	-0.33	4.28	.94	.45	1154	696.3	55.8	31.2
47.00	4.80	-0.35	4.45	.91	.43	1159	695.6	53.4	28.9
48.00	5.32	-0.35	4.97	.86	.38	1179	695.0	51.1	26.6
49.00	5.23	-0.34	4.89	.86	.38	1180	694.4	48.7	24.3
50.00	5.98	-0.33	5.64	.80	.32	1204	693.9	46.4	22.0
51.00	6.82	-0.31	6.51	.73	.26	1231	693.5	44.1	19.6
52.00	7.52	-0.29	7.23	.68	.20	1250	693.1	41.7	17.3
53.00	8.47	-0.27	8.20	.62	.15	1272	692.7	39.4	15.0
54.00	8.66	-0.25	8.41	.61	.13	1275	692.5	37.1	12.6
55.00	8.99	-0.22	8.76	.59	.12	1280	692.3	34.8	10.3
56.00	8.17	-0.19	7.97	.63	.17	1260	692.2	32.5	8.0
57.00	7.12	-0.16	6.97	.69	.23	1236	692.2	30.3	5.7
58.00	6.26	-0.12	6.13	.75	.29	1210	692.2	28.0	3.3
59.00	6.45	-0.08	6.36	.73	.27	1211	692.3	25.7	1.0
60.00	5.63	-0.05	5.59	.79	.33	1189	692.6	23.4	-1.4
61.00	5.10	-0.01	5.10	.83	.38	1174	692.9	21.1	-3.7
62.00	4.60	0.03	4.62	.88	.42	1154	693.3	18.8	-6.0
63.00	4.19	0.07	4.25	.92	.46	1137	693.7	16.5	-8.4
64.00	4.26	0.10	4.36	.91	.45	1140	694.3	14.2	-10.7
65.00	3.80	0.14	3.94	.96	.49	1124	695.0	11.9	-13.0
66.00	3.71	0.18	3.89	.97	.50	1121	695.7	9.6	-15.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39572.00	3.48	0.39	3.87	-16.00	-16.49	1116	702.2	355.5	-29.4
73.00	3.42	0.42	3.84	.01	.49	1114	703.4	353.1	-31.7
74.00	3.56	0.45	4.00	-15.99	.47	1120	704.6	350.6	-34.0
75.00	3.44	0.48	3.92	-16.01	.47	1118	705.9	348.2	-36.4
76.00	3.83	0.50	4.33	-15.96	.42	1130	707.2	345.7	-38.7
77.00	4.21	0.53	4.73	.93	.38	1141	708.6	343.2	-41.0
39577.50	4.13	0.54	4.7	-15.94	-16.39	1140	709.3	341.9	-42.2
78.00	4.09	0.55	4.6	.95	.39	1139	710.0	340.7	-43.3
78.50	4.21	0.56	4.8	.94	.37	1148	710.7	339.4	-44.5
79.00	4.08	0.57	4.7	.95	.38	1144	711.5	338.1	-45.6
79.50	3.80	0.58	4.4	.98	.41	1132	712.2	336.8	-46.8
80.00	3.63	0.59	4.2	-16.00	.43	1124	712.9	335.4	-48.0
80.50	3.30	0.60	3.9	.04	.46	1114	713.7	334.1	-49.1
81.00	3.18	0.61	3.8	.06	.47	1112	714.4	332.8	-50.3
81.50	3.18	0.62	3.8	.06	.47	1107	715.2	331.4	-51.4
82.00	3.41	0.63	4.0	.04	.44	1111	715.9	330.0	-52.6
82.50	3.30	0.63	3.9	.06	.45	1107	716.7	328.6	-53.7
83.00	2.88	0.64	3.5	.12	.50	1089	717.4	327.2	-54.9
83.50	2.23	0.65	2.9	.22	.59	1063	718.2	325.8	-56.0
84.00	2.05	0.65	2.7	.26	.62	1053	718.9	324.3	-57.2
84.50	1.76	0.66	2.4	.31	.67	1029	719.7	322.9	-58.3
85.00	1.75	0.66	2.4	.31	.66	1028	720.4	321.4	-59.5
85.50	1.54	0.66	2.2	.36	.70	1014	721.2	319.8	-60.6
86.00	1.51	0.66	2.2	.36	.70	1014	721.9	318.3	-61.8
86.50	1.38	0.67	2.0	.41	.74	998	722.7	316.7	-62.9
39587.00	1.25	0.67	1.92	-16.43	-16.75	993	723.4	315.1	-64.0
88.00	0.97	0.67	1.63	.52	.82	967	724.9	311.7	-66.3
89.00	0.97	0.67	1.63	.52	.82	969	726.3	308.2	-68.5
90.00	0.88	0.67	1.54	.55	.84	960	727.6	304.5	-70.7
91.00	0.78	0.66	1.44	.58	.86	949	729.0	300.5	-72.9
92.00	0.67	0.65	1.32	.63	.89	932	730.2	296.2	-75.1
93.00	0.69	0.65	1.34	.63	.88	939	731.5	291.5	-77.2
94.00	0.67	0.62	1.29	.65	.89	933	732.6	286.4	-79.3
95.00	0.66	0.60	1.26	.66	.90	929	733.7	280.7	-81.3
96.00	0.59	0.58	1.17	.68	.92	910	734.7	274.2	-83.2
97.00	0.83	0.56	1.39	.61	.84	943	735.6	266.8	-85.0
98.00	0.90	0.54	1.43	.59	.82	953	736.4	258.1	-86.7
99.00	0.93	0.51	1.44	.59	.81	953	737.2	248.4	-88.2
39600.00	1.00	0.48	1.48	.57	.79	958	737.8	237.4	-89.3
01.00	1.02	0.45	1.47	.58	.79	962	738.3	225.5	-90.1
02.00	1.04	0.41	1.46	.58	.79	957	738.6	213.0	-90.6
39602.50	1.05	0.40	1.4	-16.59	-16.81	944	738.8	206.7	-90.7
03.00	1.18	0.38	1.6	.53	.75	973	738.9	200.6	-90.7
03.50	1.29	0.35	1.6	.54	.75	976	739.0	194.6	-90.6
04.00	1.47	0.34	1.8	.48	.70	992	739.0	188.9	-90.4
04.50	1.13	0.32	1.5	.56	.78	949	739.1	183.5	-90.2
05.00	0.98	0.30	1.3	.63	.85	922	739.1	178.3	-89.8
05.50	0.89	0.28	1.2	.67	.88	912	739.1	173.5	-89.5
06.00	0.85	0.26	1.1	.72	.92	901	739.0	169.0	-89.0
39607.00	0.86	0.22	1.08	-16.73	-16.93	899	738.9	160.9	-88.0
08.00	0.85	0.19	1.03	.76	.96	889	738.6	153.8	-86.8
09.00	0.99	0.15	1.14	.71	.91	909	738.3	147.5	-85.5
10.00	1.02	0.11	1.13	.71	.92	904	737.8	141.9	-84.1
11.00	1.19	0.08	1.26	.66	.87	926	737.3	136.9	-82.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39611.50	1.25	0.06	1.3	-16.65	-16.86	932	737.0	134.5	-81.9
12.00	1.53	0.05	1.6	.55	.77	969	736.7	132.3	-81.2
12.50	2.07	0.03	2.1	.43	.66	1019	736.4	130.1	-80.4
13.00	2.50	0.01	2.5	.34	.58	1047	736.0	128.0	-79.6
13.50	2.54	0.00	2.5	.33	.58	1037	735.6	126.0	-78.9
14.00	1.87	-0.02	1.8	.48	.73	975	735.2	124.0	-78.1
14.50	1.25	-0.03	1.2	.67	.90	903	734.8	122.2	-77.3
39615.00	1.17	-0.04	1.13	-16.70	-16.93	894	734.4	120.3	-76.4
16.00	0.99	-0.06	0.93	.79	-17.02	855	733.5	116.8	-74.8
17.00	1.08	-0.07	1.00	.75	-16.99	872	732.5	113.4	-73.2
18.00	1.29	-0.08	1.21	.67	.91	919	731.5	110.2	-71.5
19.00	1.15	-0.08	1.07	.73	.97	897	730.4	107.1	-69.8
20.00	1.00	-0.08	0.91	.80	-17.04	861	729.3	104.1	-68.1
21.00	1.03	-0.09	0.95	.77	.03	871	728.2	101.2	-66.4
22.00	1.19	-0.10	1.09	.71	-16.97	901	727.0	98.3	-64.7
23.00	1.24	-0.11	1.13	.69	.96	909	725.8	95.5	-62.9
24.00	1.17	-0.13	1.04	.72	-17.00	894	724.5	92.8	-61.2
25.00	1.30	-0.14	1.15	.67	-16.96	921	723.3	90.1	-59.5
26.00	1.41	-0.17	1.24	.63	.93	940	722.0	87.5	-57.7
27.00	1.60	-0.20	1.40	.57	.88	964	720.8	84.8	-56.0
28.00	1.78	-0.23	1.55	.52	.84	984	719.5	82.3	-54.2
29.00	1.96	-0.27	1.69	.47	.81	1002	718.2	79.7	-52.4
30.00	2.08	-0.30	1.78	.44	.79	1016	716.9	77.2	-50.6
31.00	2.44	-0.33	2.11	.35	.72	1049	715.6	74.7	-48.9
32.00	2.76	-0.36	2.39	.28	.67	1072	714.2	72.2	-47.1
33.00	3.07	-0.39	2.69	.21	.61	1096	712.9	69.7	-45.3
34.00	3.38	-0.40	2.98	.15	.57	1116	711.6	67.2	-43.5
39634.50	4.01	-0.41	3.6	-16.06	-16.48	1147	710.9	66.0	-42.6
35.00	4.15	-0.42	3.7	.04	.47	1153	710.3	64.8	-41.7
39635.20	3.7	-0.4	3.3	-16.09	-16.52	1133	710.0	64.3	-41.3
35.40	5.8	-0.4	5.4	-15.87	.31	1223	709.8	63.8	-41.0
35.60	6.9	-0.4	6.5	.79	.22	1253	709.5	63.3	-40.6
35.80	9.1	-0.4	8.7	.65	.09	1296	709.3	62.8	-40.3
36.00	11.2	-0.4	10.7	.55	-15.98	1324	709.0	62.3	-39.9
36.20	14.8	-0.4	14.4	.42	.84	1375	708.7	61.9	-39.5
36.40	10.1	-0.4	9.7	.59	-16.01	1290	708.5	61.4	-39.2
36.60	7.8	-0.4	7.3	.72	.15	1255	708.3	60.9	-38.8
36.80	6.5	-0.4	6.1	.80	.24	1233	708.0	60.4	-38.4
37.00	5.1	-0.4	4.7	.91	.36	1193	707.8	59.9	-38.1
37.20	4.7	-0.4	4.2	.96	.41	1176	707.5	59.4	-37.7
37.40	4.4	-0.4	4.2	.96	.41	1178	707.3	58.9	-37.4
39637.50	4.74	-0.44	4.3	-15.95	-16.40	1183	707.2	58.7	-37.2
38.00	4.75	-0.45	4.3	.95	.40	1180	706.6	57.5	-36.3
38.50	5.51	-0.45	5.1	.87	.33	1211	706.0	56.3	-35.4
39.00	5.96	-0.45	5.5	.84	.29	1220	705.4	55.1	-34.5
39.50	6.05	-0.45	5.6	.83	.29	1225	704.9	53.9	-33.5
40.00	4.85	-0.45	4.4	.93	.40	1189	704.3	52.7	-32.6
40.50	4.34	-0.44	3.9	.99	.46	1170	703.8	51.5	-31.7
41.00	5.16	-0.44	4.7	.90	.38	1194	703.3	50.2	-30.8
41.50	5.23	-0.43	4.8	.89	.37	1199	702.8	49.0	-29.9
42.00	4.48	-0.43	4.1	.96	.45	1179	702.3	47.8	-29.0
42.50	3.86	-0.42	3.4	-16.05	.54	1153	701.8	46.6	-28.1
43.00	3.54	-0.41	3.1	.09	.58	1140	701.4	45.4	-27.2
43.50	3.33	-0.41	2.9	.11	.61	1128	701.0	44.2	-26.2
44.00	3.11	-0.41	2.7	.14	.64	1114	700.5	43.0	-25.3
44.50	2.99	-0.40	2.6	.16	.66	1109	700.2	41.8	-24.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39645.00	2.85	-0.40	2.5	-16.18	-16.68	1104	699.8	40.6	-23.5
45.50	2.71	-0.39	2.3	.21	.72	1090	699.4	39.4	-22.6
46.00	2.58	-0.39	2.2	.23	.74	1082	699.1	38.2	-21.6
46.50	2.52	-0.38	2.1	.25	.76	1076	698.8	37.0	-20.7
39646.80	2.7	-0.4	2.4	-16.19	-16.70	1096	698.6	36.3	-20.2
47.00	2.8	-0.4	2.5	.17	.68	1098	698.5	35.8	-19.8
47.20	5.3	-0.4	4.9	-15.87	.38	1198	698.3	35.4	-19.4
47.40	7.3	-0.3	6.9	.72	.24	1263	698.2	34.9	-19.0
47.60	1.7	-0.3	1.4	-16.42	.94	1015	698.1	34.4	-18.7
47.80	1.5	-0.3	1.2	.49	-17.01	995	698.0	33.9	-18.3
48.00	1.7	-0.3	1.4	.42	-16.94	1015	697.9	33.4	-17.9
48.20	2.0	-0.3	1.7	.33	.85	1038	697.8	32.9	-17.6
39648.50	2.34	-0.30	2.0	-16.27	-16.79	1067	697.7	32.2	-17.0
49.00	2.09	-0.29	1.8	.32	.85	1057	697.5	31.0	-16.1
49.50	2.00	-0.27	1.7	.35	.87	1047	697.3	29.8	-15.1
50.00	1.88	-0.25	1.6	.37	.90	1034	697.1	28.6	-14.2
50.50	1.60	-0.25	1.4	.43	.96	1015	696.9	27.4	-13.3
51.00	1.41	-0.22	1.2	.50	-17.03	995	696.8	26.2	-12.3
51.50	1.28	-0.21	1.1	.54	.08	984	696.7	25.0	-11.4
52.00	1.33	-0.19	1.1	.55	.08	986	696.6	23.8	-10.5
52.50	1.31	-0.18	1.1	.55	.08	987	696.6	22.6	-9.5
53.00	1.16	-0.17	1.0	.59	.13	973	696.5	21.3	-8.6
39654.00	1.12	-0.14	0.98	-16.60	-17.14	971	696.4	18.9	-6.7
55.00	1.14	-0.11	1.03	.58	.12	979	696.3	16.4	-4.8
56.00	1.20	-0.08	1.12	.54	.08	992	696.3	14.0	-2.9
57.00	1.20	-0.04	1.15	.52	.07	999	696.4	11.5	-1.0
58.00	1.19	-0.01	1.17	.52	.06	1004	696.6	9.0	0.9
59.00	1.20	0.02	1.22	.50	.04	1012	696.8	6.5	2.8
60.00	1.29	0.05	1.34	.46	.01	1028	697.1	4.0	4.7
61.00	1.30	0.08	1.38	.45	-16.99	1034	697.5	1.5	6.6
62.00	1.30	0.11	1.41	.44	.98	1039	698.0	358.9	8.5
63.00	1.29	0.14	1.43	.44	.98	1043	698.5	356.4	10.4
64.00	1.29	0.17	1.46	.43	.97	1047	699.1	353.8	12.3
65.00	1.28	0.20	1.48	.43	.96	1052	699.8	351.1	14.3
39666.00	1.29	0.23	1.5	-16.42	-16.95	1055	700.5	348.5	16.2
66.50	1.30	0.24	1.5	.42	.95	1053	700.8	347.2	17.2
67.00	1.56	0.26	1.8	.33	.86	1076	701.2	345.8	18.1
67.50	1.79	0.27	2.1	.27	.80	1099	701.6	344.4	19.1
68.00	1.75	0.28	2.0	.29	.82	1093	702.0	343.1	20.1
68.50	1.30	0.30	1.6	.39	.92	1062	702.4	341.7	21.1
69.00	1.23	0.31	1.5	.43	.95	1055	702.8	340.3	22.0
39670.00	1.05	0.33	1.38	-16.47	-16.99	1046	703.6	337.5	24.0
71.00	1.05	0.36	1.41	.46	.97	1051	704.5	334.6	25.9
72.00	1.10	0.38	1.48	.44	.95	1057	705.4	331.6	27.9
73.00	0.88	0.40	1.28	.52	-17.02	1038	706.3	328.6	29.8
74.00	0.64	0.42	1.06	.61	.10	1017	707.2	325.4	31.7
75.00	0.44	0.43	0.87	.70	.19	992	708.1	322.2	33.7
76.00	0.47	0.45	0.92	.67	.16	999	709.1	318.8	35.6
77.00	0.52	0.46	0.98	.65	.13	1008	710.0	315.3	37.5
78.00	0.33	0.47	0.80	.75	.21	982	710.9	311.6	39.5
79.00	0.21	0.48	0.69	.82	.28	963	711.8	307.7	41.4
80.00	-0.03	0.49	0.46	-17.01	.46	909	712.7	303.6	43.2
81.00	0.03	0.49	0.52	-16.96	.40	930	713.6	299.1	45.1
82.00	0.17	0.49	0.66	.85	.29	963	714.5	294.2	46.9
83.00	0.14	0.49	0.63	.87	.30	955	715.3	288.9	48.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39684.00	0.21	0.48	0.69	-16.83	-17.26	974	716.2	283.0	50.4
85.00	0.19	0.47	0.66	.85	.27	971	717.0	276.4	52.0
86.00	0.13	0.45	0.58	.90	.32	956	717.7	268.9	53.5
87.00	0.20	0.43	0.63	.85	.27	972	718.4	260.4	54.9
88.00	0.31	0.40	0.70	.80	.22	991	719.0	250.8	56.0
89.00	0.37	0.36	0.73	.77	.19	999	719.6	240.0	57.0
90.00	0.50	0.31	0.80	.73	.14	1013	720.1	228.4	57.6
91.00	0.61	0.24	0.85	.71	.12	1024	720.6	216.2	57.9
92.00	0.75	0.11	0.86	.70	.11	1026	721.0	204.1	57.8
93.00	0.87	0.00	0.87	.70	.10	1028	721.3	192.6	57.5
39694.00	1.01	0.00	0.8	-16.74	-17.14	1017	721.6	182.2	56.8
94.50	1.15	0.00	1.1	.59	.00	1061	721.8	177.4	56.4
95.00	1.46	0.00	1.5	.44	-16.86	1101	721.9	172.9	55.9
95.50	1.26	0.00	1.3	.51	.92	1081	722.0	168.7	55.4
96.00	1.19	0.00	1.2	.54	.95	1072	722.1	164.8	54.9
39697.00	1.23	0.00	1.23	-16.53	-16.94	1076	722.2	157.6	53.7
98.00	1.25	0.00	1.25	.52	.93	1081	722.2	151.2	52.4
39699.00	1.34	0.00	1.3	-16.50	-16.91	1086	722.3	145.5	51.0
99.50	1.43	0.00	1.4	.46	.87	1096	722.2	142.9	50.3
39700.00	1.77	0.00	1.8	.35	.76	1131	722.2	140.4	49.5
00.50	1.98	0.00	2.0	.31	.72	1148	722.2	138.0	48.8
01.00	1.68	0.00	1.7	.38	.79	1122	722.1	135.7	48.0
01.50	1.54	0.00	1.5	.43	.84	1103	722.1	133.5	47.3
02.00	1.22	0.00	1.2	.54	.95	1074	722.0	131.4	46.5
39703.00	1.18	0.00	1.18	-16.55	-16.96	1071	721.8	127.4	44.9
04.00	1.12	0.00	1.12	.58	-17.00	1059	721.6	123.6	43.4
05.00	1.07	0.00	1.07	.61	.02	1050	721.3	120.0	41.8
06.00	1.13	0.00	1.13	.59	.00	1054	721.0	116.6	40.1
07.00	1.12	0.00	1.12	.59	.00	1049	720.6	113.3	38.5
08.00	1.20	0.00	1.20	.57	-16.98	1057	720.2	110.2	36.9
09.00	1.15	0.00	1.15	.58	-17.00	1051	719.8	107.2	35.3
10.00	1.08	0.00	1.08	.60	.02	1039	719.4	104.2	33.6
11.00	0.98	0.00	0.98	.65	.07	1023	718.9	101.4	32.0
12.00	0.90	0.00	0.90	.69	.11	1009	718.4	98.6	30.3
39712.50	0.97	0.00	1.0	-16.64	-17.06	1023	718.2	97.2	29.5
13.00	1.08	0.00	1.1	.59	.02	1035	717.9	95.9	28.7
13.50	1.38	0.00	1.4	.48	-16.91	1068	717.7	94.5	27.8
14.00	1.28	0.00	1.3	.51	.94	1055	717.4	93.2	27.0
14.50	1.31	0.00	1.3	.52	.94	1057	717.1	91.9	26.2
39715.00	1.15	0.00	1.15	-16.57	-16.00	1040	716.5	90.6	25.4
16.00	1.17	0.00	1.17	.56	.99	1042	715.9	88.0	23.7
17.00	1.23	0.00	1.23	.54	.97	1047	715.4	85.4	22.1
39718.00	1.22	0.00	1.2	-16.55	-16.98	1042	714.9	82.9	20.4
18.50	1.25	0.00	1.2	.55	.98	1041	714.7	81.7	19.6
19.00	1.42	0.00	1.4	.47	.91	1062	714.4	80.5	18.8
19.50	1.75	0.00	1.8	.36	.80	1097	714.2	79.2	18.0
20.00	1.91	0.00	1.9	.33	.77	1106	713.9	78.0	17.2
20.50	1.97	0.00	2.0	.30	.74	1116	713.7	76.8	16.3
21.00	2.08	0.00	2.1	.27	.72	1124	713.5	75.6	15.5
21.50	2.17	0.00	2.2	.25	.70	1132	713.3	74.4	14.7
22.00	2.21	0.00	2.2	.25	.69	1133	713.1	73.1	13.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39723.00	2.33	0.00	2.33	-16.22	-16.66	1143	712.7	70.8	12.3
24.00	2.46	0.00	2.46	.19	.64	1153	712.3	68.4	10.6
25.00	2.68	0.00	2.68	.15	.60	1167	711.9	66.0	9.0
26.00	2.99	0.00	2.99	.10	.55	1183	711.6	63.7	7.4
27.00	3.33	0.00	3.33	.05	.50	1198	711.4	61.3	5.8
28.00	3.63	0.00	3.63	.01	.46	1209	711.1	59.0	4.1
29.00	3.45	0.00	3.45	.03	.48	1200	710.9	56.7	2.5
39729.50	3.38	0.00	3.4	-16.03	-16.48	1197	710.8	55.5	1.7
30.00	3.41	0.00	3.4	.03	.48	1197	710.8	54.4	0.9
30.50	3.49	-0.01	3.5	.02	.47	1202	710.7	53.2	0.1
31.00	3.71	-0.01	3.7	.00	.45	1211	710.6	52.1	-0.7
31.50	3.89	-0.01	3.9	-15.97	.42	1218	710.6	50.9	-1.5
32.00	4.00	-0.01	4.0	.96	.41	1222	710.6	49.8	-2.3
32.50	4.20	-0.01	4.2	.94	.39	1229	710.6	48.7	-3.1
33.00	4.36	-0.01	4.3	.93	.38	1231	710.6	47.5	-3.9
33.50	4.50	-0.01	4.5	.91	.36	1236	710.6	46.4	-4.7
34.00	5.09	0.00	5.1	.85	.30	1258	710.7	45.2	-5.5
34.50	5.01	0.00	5.0	.86	.31	1252	710.7	44.1	-6.3
35.00	4.53	0.00	4.5	.91	.35	1229	710.8	42.9	-7.1
35.50	4.14	0.01	4.1	.95	.39	1211	710.9	41.8	-7.9
36.00	3.83	0.02	3.9	.97	.42	1206	711.0	40.7	-8.7
36.50	3.53	0.02	3.5	-16.02	.47	1190	711.1	39.5	-9.5
37.00	3.41	0.03	3.4	.04	.48	1182	711.3	38.4	-10.3
37.50	3.29	0.04	3.3	.05	.49	1175	711.5	37.2	-11.1
38.00	3.17	0.05	3.2	.07	.51	1170	711.6	36.1	-11.9
38.50	2.96	0.06	3.0	.10	.54	1159	711.8	35.0	-12.7
39.00	2.78	0.07	2.9	.12	.55	1152	712.1	33.8	-13.5
39.50	2.63	0.09	2.7	.15	.58	1139	712.3	32.7	-14.3
40.00	2.44	0.10	2.5	.18	.62	1125	712.6	31.5	-15.1
40.50	2.34	0.11	2.4	.20	.63	1116	712.9	30.4	-15.9
41.00	2.63	0.12	2.7	.15	.58	1133	713.2	29.2	-16.7
41.50	2.80	0.14	2.9	.12	.55	1143	713.5	28.1	-17.5
42.00	2.72	0.15	2.9	.12	.55	1140	713.8	27.0	-18.3
42.50	2.59	0.16	2.8	.14	.56	1134	714.2	25.8	-19.1
43.00	2.45	0.17	2.6	.17	.59	1123	714.5	24.7	-19.9
43.50	2.38	0.19	2.6	.18	.60	1124	714.9	23.5	-20.7
44.00	2.28	0.20	2.5	.20	.61	1119	715.3	22.3	-21.5
44.50	2.25	0.20	2.5	.20	.61	1118	715.7	21.2	-22.2
45.00	2.18	0.22	2.4	.22	.63	1111	716.2	20.0	-23.0
45.50	2.12	0.23	2.3	.24	.65	1102	716.6	18.9	-23.8
46.00	2.17	0.25	2.4	.22	.63	1106	717.1	17.7	-24.6
46.50	2.08	0.26	2.3	.23	.64	1093	717.6	16.5	-25.4
47.00	2.37	0.27	2.6	.18	.58	1110	718.1	15.4	-26.2
47.50	2.23	0.28	2.5	.20	.60	1104	718.6	14.2	-27.0
48.00	2.10	0.29	2.4	.22	.62	1096	719.1	13.0	-27.8
48.50	1.84	0.30	2.1	.28	.68	1076	719.7	11.9	-28.6
49.00	1.79	0.31	2.1	.29	.68	1076	720.2	10.7	-29.4
49.50	1.68	0.33	2.0	.31	.70	1068	720.7	9.5	-30.1
50.00	1.69	0.34	2.0	.32	.70	1068	721.3	8.3	-30.9
50.50	1.67	0.35	2.0	.32	.70	1068	721.9	7.1	-31.7
51.00	1.70	0.36	2.1	.31	.68	1076	722.5	5.9	-32.5
51.50	1.78	0.38	2.2	.29	.66	1081	723.0	4.7	-33.3
52.00	2.03	0.39	2.4	.24	.61	1090	723.6	3.5	-34.1
52.50	2.07	0.40	2.5	.23	.60	1096	724.3	2.3	-34.9
53.00	2.12	0.41	2.5	.23	.59	1095	724.9	1.0	-35.6
53.50	2.28	0.42	2.7	.19	.56	1103	725.5	359.8	-36.4
54.00	2.67	0.43	3.1	.13	.49	1120	726.1	358.6	-37.2
54.50	2.70	0.44	3.1	.13	.49	1118	726.8	357.3	-38.0
55.00	2.48	0.45	2.9	.17	.52	1109	727.4	356.1	-38.8

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39755.50	1.82	0.46	2.3	-16.28	-16.63	1078	728.1	354.8	-39.5
56.00	1.32	0.47	1.8	.41	.74	1045	728.7	353.5	-40.3
56.50	1.19	0.48	1.7	.44	.77	1036	729.4	352.2	-41.1
57.00	1.34	0.49	1.8	.42	.74	1045	730.1	351.0	-41.9
57.50	1.39	0.50	1.9	.40	.72	1052	730.8	349.6	-42.7
58.00	1.36	0.50	1.9	.39	.72	1049	731.5	348.3	-43.4
58.50	1.40	0.51	1.9	.40	.71	1051	732.2	347.0	-44.2
59.00	1.39	0.52	1.9	.40	.71	1051	732.8	345.7	-45.0
59.50	1.48	0.53	2.0	.38	.69	1059	733.5	344.3	-45.8
60.00	1.75	0.53	2.3	.32	.63	1081	734.2	342.9	-46.5
60.50	1.93	0.54	2.5	.29	.59	1093	734.9	341.6	-47.3
61.00	2.12	0.55	2.7	.25	.56	1105	735.7	340.1	-48.1
61.50	2.10	0.56	2.7	.24	.55	1098	736.4	338.7	-48.8
62.00	2.21	0.56	2.8	.22	.52	1098	737.1	337.3	-49.6
62.50	2.54	0.57	3.1	.18	.48	1114	737.8	335.8	-50.4
63.00	2.08	0.57	2.7	.24	.54	1092	738.5	334.3	-51.1
63.50	1.48	0.58	2.1	.36	.65	1051	739.2	332.8	-51.9
64.00	1.37	0.59	2.0	.39	.67	1047	739.9	331.3	-52.6
64.50	1.07	0.59	1.7	.47	.75	1026	740.6	329.7	-53.4
65.00	1.00	0.60	1.6	.51	.78	1020	741.3	328.1	-54.1
65.50	0.93	0.60	1.5	.54	.81	1012	742.1	326.4	-54.9
66.00	0.94	0.60	1.5	.54	.80	1011	742.8	324.8	-55.6
66.50	0.87	0.61	1.5	.54	.80	1010	743.5	323.0	-56.4
67.00	0.80	0.61	1.4	.57	.83	997	744.2	321.3	-57.1
67.50	0.76	0.61	1.4	.58	.83	1000	744.9	319.4	-57.8
68.00	0.76	0.61	1.4	.59	.83	1001	745.6	317.6	-58.6
68.50	0.72	0.61	1.3	.62	.86	986	746.3	315.6	-59.3
69.00	0.70	0.62	1.3	.62	.86	986	747.0	313.6	-60.0
69.50	0.61	0.62	1.2	.66	.89	974	747.6	311.6	-60.7
70.00	0.59	0.62	1.2	.66	.89	975	748.3	309.4	-61.4
70.50	0.55	0.62	1.2	.66	.89	974	749.0	307.2	-62.1
71.00	0.51	0.62	1.1	.70	.93	961	749.7	304.8	-62.8
71.50	0.56	0.62	1.2	.67	.89	976	750.3	302.3	-63.5
72.00	0.89	0.62	1.5	.56	.78	1010	750.9	299.7	-64.1
72.50	1.06	0.62	1.7	.51	.73	1033	751.4	296.9	-64.8
73.00	1.59	0.61	2.2	.39	.61	1071	752.0	294.0	-65.4
73.50	1.15	0.61	1.8	.47	.69	1034	752.5	290.9	-66.0
74.00	1.01	0.61	1.6	.53	.74	1019	753.0	287.6	-66.6
74.50	0.94	0.61	1.5	.56	.77	1013	753.5	284.1	-67.2
75.00	0.84	0.60	1.4	.58	.79	1002	754.0	280.4	-67.7
75.50	0.77	0.60	1.4	.58	.78	1003	754.4	276.4	-68.2
76.00	0.73	0.59	1.3	.61	.81	992	754.8	272.1	-68.6
76.50	0.71	0.59	1.3	.61	.81	996	755.3	267.5	-69.0
77.00	0.69	0.58	1.3	.61	.81	1000	755.6	262.6	-69.4
77.50	0.67	0.58	1.2	.64	.84	985	756.0	257.4	-69.6
78.00	0.71	0.57	1.3	.60	.80	996	756.4	251.8	-69.8
78.50	0.69	0.56	1.3	.60	.80	1001	756.7	246.0	-70.0
79.00	0.73	0.55	1.3	.61	.80	1007	757.0	240.0	-70.0
79.50	0.65	0.54	1.2	.65	.84	996	757.3	233.8	-70.0
80.00	0.67	0.53	1.2	.65	.84	997	757.6	227.5	-69.8
80.50	0.64	0.52	1.2	.64	.83	993	757.8	221.2	-69.6
81.00	0.69	0.50	1.2	.64	.83	992	758.1	214.9	-69.3
81.50	0.70	0.49	1.2	.65	.83	994	758.3	208.9	-68.9
82.00	0.66	0.47	1.1	.69	.87	980	758.5	203.1	-68.4
82.50	0.62	0.46	1.1	.70	.87	982	758.6	197.5	-67.8
83.00	0.62	0.44	1.1	.70	.88	984	758.8	192.3	-67.1
83.50	0.67	0.42	1.1	.70	.88	985	758.9	187.4	-66.4
84.00	0.65	0.39	1.0	.74	.92	969	759.0	182.8	-65.6
84.50	0.74	0.36	1.1	.69	.87	986	759.1	178.5	-64.8
85.00	0.81	0.33	1.1	.69	.87	986	759.2	174.5	-63.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39785.50	0.89	0.29	1.2	-16.65	-16.84	998	759.2	170.7	-63.0
86.00	0.98	0.26	1.2	.64	.83	990	759.2	167.2	-62.1
86.50	1.12	0.22	1.3	.60	.79	1002	759.2	163.9	-61.1
87.00	1.27	0.18	1.4	.57	.76	1018	759.2	160.8	-60.1
87.50	1.41	0.14	1.6	.52	.71	1040	759.1	157.8	-59.1
88.00	1.53	0.11	1.6	.52	.71	1040	759.1	155.1	-58.1
88.50	1.73	0.08	1.8	.47	.66	1061	759.0	152.4	-57.1
89.00	1.50	0.06	1.6	.52	.71	1041	758.9	149.9	-56.0
89.50	1.42	0.04	1.5	.55	.74	1031	758.7	147.6	-54.9
90.00	1.38	0.02	1.4	.58	.77	1019	758.6	145.3	-53.8
90.50	1.85	0.00	1.9	.43	.63	1062	758.4	143.1	-52.8
91.00	2.38	0.00	2.4	.32	.52	1095	758.2	141.0	-51.7
91.50	3.00	0.00	3.0	.21	.42	1128	757.9	138.9	-50.6
92.00	3.30	0.00	3.3	.16	.37	1141	757.7	137.0	-49.4
92.50	3.18	0.00	3.2	.16	.37	1136	757.5	135.0	-48.3
93.00	2.91	0.00	2.9	.21	.42	1120	757.2	133.2	-47.2
93.50	2.22	0.00	2.2	.34	.55	1080	756.9	131.4	-46.1
94.00	2.11	0.00	2.1	.37	.58	1077	756.6	129.6	-44.9
94.50	2.08	0.00	2.1	.37	.58	1077	756.3	127.9	-43.8
95.00	2.10	0.00	2.1	.37	.59	1077	756.0	126.2	-42.7
95.50	2.09	0.00	2.1	.38	.60	1079	755.7	124.6	-41.5
96.00	2.10	0.00	2.1	.38	.60	1076	755.4	123.0	-40.4
96.50	2.08	0.00	2.1	.38	.60	1073	755.0	121.4	-39.3
97.00	2.16	0.00	2.2	.35	.57	1079	754.7	119.9	-38.1
97.50	2.33	0.00	2.3	.32	.55	1083	754.3	118.3	-37.0
98.00	2.20	0.00	2.2	.34	.57	1074	754.0	116.8	-35.8
98.50	2.00	0.00	2.0	.39	.61	1061	753.6	115.3	-34.7
99.00	1.85	0.00	1.8	.44	.67	1049	753.2	113.9	-33.5
99.50	1.72	0.00	1.7	.46	.69	1039	752.8	112.4	-32.4
39800.00	1.64	0.00	1.6	.49	.72	1029	752.5	111.0	-31.3
00.50	1.54	0.00	1.5	.53	.76	1021	752.1	109.6	-30.1
01.00	1.49	0.00	1.5	.53	.76	1023	751.7	108.2	-29.0
01.50	1.40	0.00	1.4	.56	.79	1012	751.3	106.8	-27.8
02.00	1.29	0.00	1.3	.59	.83	998	750.9	105.4	-26.7
02.50	1.47	0.00	1.5	.52	.76	1018	750.5	104.1	-25.5
03.00	1.10	0.00	1.1	.65	.89	965	750.1	102.7	-24.4
03.50	1.55	0.00	1.5	.51	.76	1015	749.7	101.4	-23.3
04.00	1.46	0.00	1.5	.52	.76	1018	749.3	100.0	-22.1
04.50	1.32	0.00	1.3	.58	.83	998	748.9	98.7	-21.0
05.00	1.40	0.00	1.4	.55	.80	1011	748.5	97.4	-19.8
05.50	1.46	0.00	1.5	.51	.76	1022	748.1	96.1	-18.7
06.00	1.88	0.00	1.9	.39	.65	1054	747.7	94.8	-17.6
06.50	1.84	0.00	1.8	.40	.66	1043	747.3	93.5	-16.4
07.00	1.78	0.00	1.8	.40	.66	1045	746.9	92.2	-15.3
07.50	1.76	0.00	1.8	.39	.66	1047	746.5	90.9	-14.2
08.00	1.68	0.00	1.7	.41	.68	1039	746.1	89.6	-13.0
08.50	1.79	0.00	1.8	.39	.66	1049	745.7	88.4	-11.9
09.00	1.97	0.00	2.0	.35	.62	1069	745.3	87.1	-10.8
09.50	2.08	0.00	2.1	.32	.60	1077	744.9	85.8	-9.7
10.00	2.19	0.00	2.2	.29	.57	1082	744.6	84.6	-8.5
10.50	2.38	0.00	2.4	.25	.53	1096	744.2	83.3	-7.4
11.00	2.64	0.00	2.6	.22	.50	1112	743.8	82.1	-6.3
11.50	2.82	0.00	2.8	.18	.47	1128	743.4	80.8	-5.2
12.00	2.97	0.00	3.0	.15	.44	1140	743.0	79.6	-4.1
12.50	3.13	0.00	3.1	.13	.42	1146	742.6	78.3	-2.9
13.00	3.23	0.00	3.2	.12	.41	1151	742.3	77.1	-1.8
13.50	3.35	0.00	3.4	.09	.38	1161	741.9	75.8	-0.7
14.00	3.46	0.00	3.5	.07	.36	1167	741.5	74.6	0.4
14.50	3.53	0.00	3.5	.07	.36	1169	741.2	73.4	1.5
15.00	3.63	0.00	3.6	.06	.35	1176	740.8	72.1	2.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39815.50	3.69	0.00	3.7	-16.04	-16.34	1180	740.5	70.9	3.7
16.00	3.86	0.00	3.9	.01	.31	1186	740.2	69.7	4.8
16.50	4.12	0.00	4.1	-15.99	.29	1190	739.9	68.4	5.9
17.00	4.14	0.00	4.1	.99	.29	1191	739.6	67.2	7.0
17.50	4.18	0.00	4.2	.98	.28	1197	739.3	66.0	8.1
18.00	4.22	0.00	4.2	.98	.28	1196	739.0	64.8	9.2
18.50	4.58	0.00	4.6	.94	.24	1209	738.8	63.5	10.3
19.00	4.41	0.00	4.4	.96	.26	1202	738.5	62.3	11.4
19.50	4.08	0.00	4.1	.99	.29	1192	738.3	61.1	12.5
20.00	3.74	0.00	3.7	-16.03	.34	1175	738.1	59.9	13.6
20.50	3.69	0.00	3.7	.03	.34	1177	737.9	58.6	14.7
21.00	3.65	0.00	3.7	.03	.34	1178	737.7	57.4	15.7
21.50	3.69	0.00	3.7	.03	.34	1178	737.5	56.2	16.8
22.00	3.72	0.00	3.7	.03	.34	1178	737.4	55.0	17.9
22.50	3.69	0.00	3.7	.03	.34	1176	737.3	53.8	19.0
23.00	3.68	0.02	3.7	.03	.34	1176	737.2	52.5	20.1
23.50	3.30	0.04	3.3	.08	.38	1157	737.1	51.3	21.1
24.00	3.18	0.06	3.2	.10	.40	1155	737.0	50.1	22.2
24.50	3.14	0.08	3.2	.10	.41	1156	737.0	48.9	23.3
25.00	3.09	0.10	3.2	.10	.40	1152	737.0	47.6	24.4
25.50	3.17	0.12	3.3	.08	.39	1154	737.0	46.4	25.4
26.00	3.72	0.15	3.9	.01	.31	1179	737.0	45.2	26.5
26.50	3.17	0.17	3.3	.09	.39	1154	737.1	43.9	27.6
27.00	2.48	0.18	2.7	.19	.49	1127	737.1	42.7	28.6
27.50	2.26	0.20	2.5	.22	.53	1113	737.2	41.5	29.7
28.00	2.11	0.22	2.3	.26	.56	1097	737.3	40.2	30.7
28.50	2.05	0.24	2.3	.27	.57	1097	737.5	39.0	31.8
29.00	2.03	0.26	2.3	.27	.57	1098	737.6	37.8	32.9
29.50	2.22	0.28	2.5	.24	.53	1113	737.8	36.5	33.9
30.00	2.29	0.30	2.6	.22	.51	1116	738.0	35.3	35.0
30.50	2.21	0.31	2.5	.23	.52	1106	738.2	34.0	36.0
31.00	2.16	0.33	2.5	.23	.52	1106	738.5	32.8	37.1
31.50	2.25	0.34	2.6	.22	.50	1113	738.7	31.5	38.1
32.00	2.29	0.36	2.6	.22	.51	1114	739.0	30.3	39.2
32.50	2.46	0.37	2.8	.19	.47	1127	739.3	29.0	40.2
33.00	1.57	0.39	2.0	.34	.62	1068	739.7	27.8	41.3
33.50	1.64	0.40	2.0	.34	.62	1071	740.0	26.5	42.3
34.00	1.62	0.41	2.0	.35	.62	1073	740.4	25.2	43.4
34.50	1.58	0.43	2.0	.35	.62	1073	740.7	24.0	44.3
35.00	1.48	0.44	1.9	.38	.65	1067	741.1	22.7	45.4
35.50	1.48	0.45	1.9	.39	.65	1069	741.5	21.4	46.4
36.00	1.47	0.47	1.9	.39	.65	1069	741.8	20.1	47.4
36.50	1.54	0.48	2.0	.37	.63	1077	742.2	18.9	48.4
37.00	1.58	0.49	2.1	.35	.60	1085	742.6	17.6	49.5
37.50	1.62	0.50	2.1	.35	.60	1085	743.0	16.3	50.5
38.00	1.68	0.51	2.2	.33	.58	1094	743.5	15.0	51.5
38.50	1.76	0.53	2.3	.31	.56	1102	743.9	13.7	52.5
39.00	2.03	0.54	2.6	.26	.51	1123	744.3	12.4	53.5
39.50	2.28	0.55	2.8	.23	.47	1136	744.8	11.1	54.5
40.00	2.69	0.56	3.2	.17	.41	1160	745.2	9.8	55.5
40.50	2.93	0.57	3.5	.13	.37	1176	745.7	8.4	56.5
41.00	2.96	0.58	3.5	.13	.37	1178	746.2	7.1	57.5
41.50	3.09	0.58	3.7	.10	.34	1187	746.6	5.8	58.5
42.00	3.18	0.59	3.8	.09	.33	1194	747.1	4.4	59.5
42.50	3.92	0.60	4.5	.01	.25	1226	747.6	3.1	60.5
43.00	4.07	0.61	4.7	-15.99	.23	1233	748.1	1.7	61.5
43.50	4.00	0.62	4.6	-16.01	.23	1230	748.6	0.4	62.4
44.00	3.94	0.62	4.6	.01	.23	1226	749.1	359.0	63.4
44.50	3.48	0.63	4.1	.06	.28	1201	749.6	357.6	64.4
45.00	3.17	0.64	3.8	.10	.32	1191	750.2	356.2	65.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39845.50	2.84	0.64	3.5	-16.14	-16.36	1177	750.7	354.8	66.4
46.00	2.53	0.65	3.2	.19	.40	1161	751.2	353.4	67.3
46.50	2.13	0.65	2.8	.25	.46	1136	751.7	351.9	68.3
47.00	2.01	0.66	2.7	.27	.47	1126	752.3	350.5	69.3
47.50	1.92	0.66	2.6	.29	.49	1117	752.8	349.0	70.2
48.00	1.79	0.67	2.5	.32	.51	1113	753.3	347.6	71.2
48.50	1.39	0.67	2.1	.41	.59	1082	753.9	346.1	72.1
49.00	1.14	0.68	1.8	.48	.66	1052	754.4	344.6	73.1
49.50	3.13	0.68	3.8	.17	.34	1209	755.0	343.0	74.1
50.00	0.98	0.68	1.7	.52	.69	1043	755.5	341.5	75.0
50.50	1.15	0.68	1.8	.49	.66	1052	756.1	339.9	75.9
51.00	1.18	0.69	1.9	.47	.64	1062	756.7	338.3	76.9
51.50	1.28	0.69	2.0	.45	.61	1071	757.2	336.7	77.8
52.00	1.25	0.69	1.9	.47	.63	1062	757.8	335.1	78.7
52.50	1.12	0.69	1.8	.50	.66	1056	758.3	333.4	79.7
53.00	1.03	0.69	1.7	.52	.68	1039	759.1	331.7	80.6
53.50	0.95	0.69	1.6	.55	.70	1024	759.6	329.9	81.5
54.00	0.90	0.69	1.6	.55	.70	1028	760.2	328.2	82.4
54.50	0.93	0.69	1.6	.55	.70	1024	760.7	326.3	83.3
55.00	1.39	0.69	2.1	.44	.58	1080	761.3	324.5	84.2
55.50	1.74	0.69	2.4	.38	.52	1100	761.8	322.5	85.1
56.00	1.48	0.69	2.2	.41	.55	1074	762.3	320.6	86.0
56.50	1.39	0.68	2.1	.44	.58	1070	762.9	318.5	86.9
57.00	1.26	0.68	1.9	.49	.62	1057	763.4	316.4	87.8
57.50	1.52	0.67	2.2	.42	.55	1087	763.9	314.3	88.6
58.00	0.92	0.67	1.6	.56	.69	1010	764.4	312.0	89.5
58.50	0.69	0.66	1.4	.63	.75	992	764.9	309.7	90.3
59.00	0.63	0.66	1.3	.66	.78	981	765.4	307.2	91.1
59.50	0.58	0.65	1.2	.70	.82	963	765.8	304.7	92.0
60.00	0.78	0.65	1.4	.63	.75	998	766.3	302.0	92.8
60.50	0.92	0.64	1.6	.57	.68	1028	766.8	299.2	93.5
61.00	1.05	0.63	1.7	.54	.66	1041	767.2	296.2	94.3
61.50	0.95	0.63	1.6	.56	.68	1025	767.6	293.0	95.0
62.00	0.92	0.62	1.5	.59	.70	1010	768.1	289.7	95.7
62.50	0.90	0.61	1.5	.58	.70	1015	768.5	286.2	96.4
63.00	0.85	0.60	1.5	.58	.70	1021	768.8	282.4	97.1
63.50	0.83	0.60	1.4	.61	.72	1006	769.2	278.3	97.7
64.00	0.80	0.59	1.4	.61	.72	1010	769.6	274.0	98.3
64.50	0.83	0.58	1.4	.61	.72	1016	769.9	269.4	98.8
65.00	0.88	0.56	1.4	.61	.72	1015	770.3	264.5	99.2
65.50	0.91	0.55	1.5	.57	.68	1032	770.6	259.3	99.6
66.00	1.04	0.54	1.6	.55	.65	1051	770.9	253.8	100.0
66.50	1.16	0.53	1.7	.52	.63	1066	771.2	247.9	100.2
67.00	1.19	0.52	1.7	.52	.62	1061	771.5	241.9	100.4
67.50	1.24	0.51	1.7	.51	.62	1060	771.8	235.7	100.5
68.00	1.24	0.49	1.7	.51	.62	1062	772.0	229.4	100.4
68.50	1.19	0.48	1.7	.52	.62	1065	772.2	223.0	100.3
69.00	1.14	0.47	1.6	.54	.64	1054	772.5	216.8	100.1
69.50	1.08	0.45	1.5	.57	.67	1040	772.7	210.6	99.8
70.00	0.98	0.44	1.4	.61	.70	1023	772.8	204.7	99.4
70.50	1.00	0.42	1.4	.61	.70	1025	773.0	199.1	99.0
71.00	0.94	0.40	1.3	.64	.74	1007	773.2	193.8	98.4
71.50	0.91	0.39	1.3	.65	.74	1007	773.3	188.7	97.8
72.00	0.93	0.37	1.3	.65	.74	1008	773.4	184.0	97.2
72.50	0.87	0.36	1.2	.69	.78	985	773.5	179.6	96.4
73.00	0.81	0.34	1.2	.69	.78	986	773.6	175.4	95.7
73.50	0.76	0.32	1.1	.73	.82	967	773.7	171.6	94.9
74.00	0.76	0.31	1.1	.74	.83	976	773.8	167.9	94.0
74.50	0.75	0.29	1.0	.79	.87	951	773.8	164.5	93.1
75.00	0.73	0.27	1.0	.78	.87	942	773.8	161.3	92.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39875.50	0.69	0.26	0.9	-16.83	-16.92	915	773.9	158.3	91.3
76.00	0.67	0.24	0.9	.84	.92	923	773.9	155.4	90.4
76.50	0.70	0.22	0.9	.84	.92	927	773.9	152.7	89.4
77.00	0.67	0.20	0.9	.84	.93	928	773.8	150.1	88.4
77.50	0.70	0.18	0.9	.84	.93	930	773.8	147.7	87.4
78.00	0.71	0.16	0.9	.84	.93	929	773.7	145.3	86.4
78.50	0.78	0.14	0.9	.84	.93	932	773.6	143.0	85.4
79.00	0.78	0.13	0.9	.84	.93	931	773.5	140.8	84.3
79.50	0.81	0.11	0.9	.84	.93	929	773.4	138.7	83.3
80.00	0.95	0.09	1.0	.79	.88	958	773.3	136.7	82.2
80.50	0.96	0.07	1.0	.79	.88	964	773.1	134.7	81.2
81.00	1.06	0.05	1.1	.75	.84	990	773.0	132.8	80.1
81.50	1.14	0.04	1.2	.70	.80	1004	772.8	131.0	79.0
82.00	1.22	0.02	1.2	.70	.80	1000	772.6	129.2	77.9
82.50	1.28	0.00	1.3	.66	.76	1022	772.4	127.4	76.8
83.00	1.34	-0.01	1.3	.65	.76	1020	772.2	125.7	75.7
83.50	1.41	-0.03	1.4	.62	.73	1039	771.9	124.0	74.6
84.00	1.47	-0.04	1.4	.61	.72	1036	771.6	122.4	73.5
84.50	1.56	-0.06	1.5	.57	.68	1051	771.4	120.7	72.4
85.00	1.65	-0.07	1.6	.53	.65	1067	771.1	119.1	71.3
85.50	1.62	-0.07	1.6	.53	.65	1067	770.8	117.6	70.2
86.00	1.69	-0.08	1.6	.53	.65	1071	770.4	116.0	69.1
86.50	1.83	-0.09	1.7	.49	.62	1085	770.1	114.5	67.9
87.00	2.01	-0.09	1.9	.44	.57	1111	769.7	113.0	66.8
87.50	2.22	-0.09	2.1	.39	.53	1131	769.4	111.6	65.7
88.00	2.38	-0.09	2.3	.34	.48	1145	769.0	110.1	64.6
88.50	2.73	-0.07	2.7	.27	.41	1176	768.6	108.7	63.4
89.00	2.98	-0.06	2.9	.23	.37	1189	768.2	107.3	62.3
89.50	3.07	-0.05	3.0	.21	.36	1196	767.8	105.9	61.1
90.00	3.09	-0.03	3.1	.20	.34	1204	767.4	104.5	60.0
90.50	2.89	0.00	2.9	.23	.37	1190	766.9	103.1	58.9
91.00	2.85	-0.01	2.8	.25	.40	1187	766.5	101.7	57.7
91.50	2.48	0.00	2.5	.30	.45	1169	766.0	100.4	56.6
92.00	2.45	-0.01	2.4	.32	.47	1157	765.0	99.1	55.4
92.50	2.54	0.00	2.5	.31	.46	1167	764.6	97.7	54.3
93.00	2.44	0.00	2.4	.33	.49	1163	764.1	96.4	53.1
93.50	2.39	0.00	2.4	.34	.49	1162	763.7	95.1	52.0
94.00	2.32	0.00	2.3	.35	.51	1148	763.3	93.8	50.8
94.50	2.44	0.00	2.4	.32	.49	1151	762.9	92.5	49.7
95.00	2.43	0.00	2.4	.32	.49	1149	762.5	91.2	48.5
95.50	2.63	0.00	2.6	.28	.45	1163	762.1	90.0	47.4
96.00	2.65	0.00	2.6	.28	.45	1164	761.7	88.7	46.2
96.50	2.97	0.00	3.0	.21	.39	1189	761.3	87.4	45.0
97.00	3.21	0.00	3.2	.17	.35	1195	760.9	86.2	43.9
97.50	3.24	0.00	3.2	.16	.34	1192	760.6	84.9	42.7
98.00	2.63	0.00	2.6	.25	.44	1159	760.2	83.7	41.6
98.50	2.38	0.00	2.4	.29	.48	1151	759.9	82.4	40.4
99.00	2.11	0.00	2.1	.35	.54	1133	759.5	81.2	39.2
99.50	1.90	0.00	1.9	.39	.58	1113	759.2	80.0	38.1
39900.00	1.92	0.00	1.9	.38	.57	1113	758.9	78.8	36.9
00.50	1.96	0.00	2.0	.37	.56	1127	758.6	77.5	35.7
01.00	1.87	0.00	1.9	.39	.58	1119	758.3	76.3	34.6
01.50	2.29	0.00	2.3	.30	.49	1146	758.0	75.1	33.4
02.00	2.41	0.00	2.4	.27	.47	1151	757.7	73.9	32.2
02.50	2.30	0.00	2.3	.29	.49	1146	757.5	72.7	31.1
03.00	2.33	0.00	2.3	.29	.49	1146	757.2	71.5	29.9
03.50	2.32	0.00	2.3	.28	.49	1146	757.0	70.3	28.7
04.00	2.39	0.00	2.4	.26	.47	1153	756.8	69.1	27.6
04.50	2.54	0.00	2.5	.24	.45	1159	756.5	67.9	26.4
05.00	2.67	0.00	2.7	.20	.41	1171	756.3	66.7	25.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39905.50	2.80	0.00	2.8	-16.19	-16.40	1180	756.2	65.6	24.0
06.00	2.95	0.00	2.9	.18	.39	1192	756.0	64.4	22.9
06.50	3.03	-0.02	3.0	.15	.36	1193	755.8	63.2	21.7
07.00	3.16	-0.05	3.1	.13	.34	1193	755.7	62.0	20.5
07.50	3.27	-0.07	3.2	.12	.33	1202	755.5	60.9	19.3
08.00	3.23	-0.09	3.1	.13	.34	1199	755.4	59.7	18.2
08.50	3.31	-0.10	3.2	.11	.32	1206	755.3	58.5	17.0
09.00	3.43	-0.13	3.3	.10	.31	1217	755.2	57.3	15.8
09.50	3.48	-0.14	3.3	.10	.31	1219	755.1	56.2	14.6
10.00	3.46	-0.14	3.3	.09	.31	1217	755.0	55.0	13.5
10.50	3.82	-0.15	3.7	.04	.25	1237	755.0	53.8	12.3
11.00	4.04	-0.16	3.9	.01	.23	1249	755.0	52.7	11.1
11.50	4.37	-0.16	4.2	-15.98	.20	1265	754.9	51.5	9.9
12.00	4.45	-0.16	4.3	.97	.18	1269	754.9	50.3	8.8
12.50	4.65	-0.16	4.5	.94	.16	1279	754.9	49.2	7.6
13.00	5.16	-0.16	5.0	.89	.11	1298	755.0	48.0	6.4
13.50	5.30	-0.14	5.2	.87	.09	1305	755.0	46.8	5.2
14.00	5.38	-0.13	5.2	.87	.09	1301	755.1	45.7	4.0
14.50	5.52	-0.12	5.4	.86	.07	1303	755.1	44.5	2.9
15.00	6.11	-0.11	6.0	.81	.02	1319	755.2	43.4	1.7
15.50	5.52	-0.10	5.4	.85	.07	1299	755.3	42.2	0.5
16.00	5.12	-0.09	5.0	.89	.10	1289	755.5	41.0	-0.7
16.50	4.73	-0.08	4.6	.93	.14	1273	755.6	39.9	-1.8
17.00	4.78	-0.06	4.7	.92	.13	1278	755.8	38.7	-3.0
17.50	4.66	-0.05	4.6	.93	.14	1274	756.0	37.5	-4.2
18.00	4.59	-0.03	4.6	.93	.14	1272	756.2	36.4	-5.4
18.50	4.55	-0.02	4.5	.94	.15	1267	756.4	35.2	-6.6
19.00	5.00	0.00	5.0	.89	.10	1283	756.6	34.0	-7.7
19.50	4.76	0.01	4.8	.92	.12	1274	756.9	32.9	-8.9
20.00	4.56	0.03	4.6	.94	.14	1264	757.1	31.7	-10.1
20.50	4.02	0.04	4.1	.99	.19	1241	757.4	30.5	-11.3
21.00	3.91	0.06	4.0	-16.00	.21	1238	757.7	29.3	-12.5
21.50	3.34	0.08	3.4	.08	.28	1212	758.1	28.2	-13.6
22.00	3.03	0.09	3.1	.12	.32	1196	758.4	27.0	-14.8
22.50	2.77	0.11	2.9	.15	.35	1184	758.8	25.8	-16.0
23.00	2.55	0.13	2.7	.19	.39	1172	759.2	24.6	-17.2
23.50	2.35	0.14	2.5	.23	.42	1159	759.6	23.4	-18.4
24.00	2.18	0.16	2.3	.27	.46	1145	760.1	22.2	-19.6
24.50	2.01	0.18	2.2	.29	.48	1136	760.6	21.1	-20.7
25.00	1.89	0.19	2.1	.31	.50	1126	761.1	19.9	-21.9
25.50	1.97	0.21	2.2	.29	.48	1129	761.6	18.7	-23.1
26.00	1.93	0.22	2.2	.29	.48	1129	762.1	17.5	-24.3
26.50	1.83	0.24	2.1	.32	.50	1122	762.6	16.2	-25.5
27.00	1.76	0.25	2.0	.34	.52	1115	763.2	15.0	-26.6
27.50	1.70	0.27	2.0	.35	.52	1115	763.7	13.8	-27.8
28.00	1.70	0.28	2.0	.35	.52	1113	764.3	12.6	-29.0
28.50	1.66	0.29	2.0	.35	.52	1113	764.9	11.4	-30.2
29.00	1.69	0.31	2.0	.36	.52	1113	765.5	10.1	-31.4
29.50	1.66	0.32	2.0	.35	.52	1108	766.1	8.9	-32.5
30.00	1.67	0.34	2.0	.35	.51	1104	766.8	7.6	-33.7
30.50	1.65	0.35	2.0	.35	.51	1102	767.4	6.4	-34.9
31.00	1.64	0.36	2.0	.36	.51	1101	768.1	5.1	-36.1
31.50	1.51	0.38	1.9	.39	.53	1092	768.7	3.8	-37.3
32.00	1.41	0.39	1.8	.41	.56	1083	769.4	2.6	-38.4
32.50	1.26	0.41	1.7	.45	.59	1076	770.1	1.3	-39.6
33.00	1.20	0.42	1.6	.48	.62	1067	770.7	360.0	-40.8
33.50	1.16	0.43	1.6	.48	.61	1066	771.4	358.7	-42.0
34.00	1.15	0.45	1.6	.49	.62	1066	772.1	357.3	-43.1
34.50	1.12	0.46	1.6	.49	.62	1065	772.8	356.0	-44.3
35.00	1.04	0.47	1.5	.52	.64	1051	773.5	354.6	-45.5

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39935.50	1.02	0.48	1.5	-16.53	-16.65	1050	774.2	353.3	-46.7
36.00	0.97	0.49	1.5	.53	.65	1049	774.9	351.9	-47.8
36.50	0.93	0.50	1.4	.57	.68	1038	775.6	350.5	-49.0
37.00	0.89	0.51	1.4	.58	.69	1040	776.3	349.1	-50.2
37.50	0.80	0.52	1.3	.61	.72	1026	777.0	347.7	-51.3
38.00	0.81	0.53	1.3	.62	.72	1027	777.7	346.2	-52.5
38.50	1.34	0.53	1.9	.46	.55	1094	778.4	344.7	-53.7
39.00	1.50	0.54	2.0	.43	.52	1097	779.1	343.2	-54.8
39.50	1.46	0.55	2.0	.42	.52	1092	779.8	341.7	-56.0
40.00	1.45	0.55	2.0	.42	.51	1090	780.5	340.2	-57.2
40.50	1.43	0.56	2.0	.43	.51	1091	781.2	338.6	-58.3
41.00	1.40	0.57	2.0	.43	.52	1093	781.9	337.0	-59.5
41.50	1.40	0.58	2.0	.44	.52	1094	782.6	335.3	-60.6
42.00	1.39	0.58	2.0	.44	.52	1091	783.3	333.6	-61.8
42.50	1.37	0.59	2.0	.45	.52	1091	784.0	331.9	-62.9
43.00	1.35	0.59	1.9	.47	.54	1082	784.7	330.1	-64.1
43.50	1.33	0.60	1.9	.48	.54	1083	785.3	328.2	-65.2
44.00	1.40	0.60	2.0	.46	.52	1092	786.0	326.4	-66.3
44.50	1.40	0.60	2.0	.46	.52	1091	786.7	324.4	-67.5
45.00	1.41	0.61	2.0	.46	.52	1089	787.3	322.4	-68.6
45.50	1.43	0.61	2.0	.47	.52	1087	788.0	320.3	-69.7
46.00	1.46	0.61	2.1	.45	.50	1097	788.6	318.1	-70.8
46.50	1.47	0.61	2.1	.45	.50	1100	789.2	315.8	-71.9
47.00	1.52	0.61	2.1	.45	.50	1097	789.8	313.4	-73.0
47.50	1.29	0.61	1.9	.50	.54	1074	790.4	310.9	-74.0
48.00	1.06	0.61	1.7	.55	.59	1055	791.0	308.2	-75.1
48.50	0.82	0.61	1.4	.65	.68	1020	791.6	305.4	-76.1
49.00	0.75	0.61	1.4	.65	.69	1022	792.2	302.5	-77.1
49.50	0.65	0.61	1.3	.69	.72	1006	792.7	299.3	-78.1
50.00	0.66	0.60	1.3	.69	-17.04	1010	794.2	296.0	-79.1
50.50	0.48	0.60	1.1	.77	.10	976	794.7	292.4	-80.0
51.00	0.68	0.60	1.3	.71	.03	1016	795.2	288.6	-80.9
51.50	0.80	0.59	1.4	.67	-16.99	1032	795.7	284.5	-81.8
52.00	1.17	0.59	1.8	.55	.88	1074	796.1	280.0	-82.6
52.50	0.63	0.58	1.2	.72	-17.06	975	796.5	275.3	-83.4
53.00	0.48	0.58	1.1	.77	.09	964	797.0	270.2	-84.1
53.50	0.34	0.57	0.9	.86	.17	925	797.3	264.8	-84.8
54.00	0.30	0.56	0.9	.87	.16	933	797.7	259.1	-85.3
54.50	0.18	0.55	0.7	.98	.27	879	798.1	253.1	-85.8
55.00	0.19	0.55	0.7	.98	.26	885	798.4	246.8	-86.2
55.50	0.18	0.54	0.7	.98	.26	887	798.7	240.5	-86.5
56.00	0.19	0.53	0.7	.97	.26	880	798.9	234.0	-86.7
56.50	0.20	0.52	0.7	.97	.26	875	799.2	227.6	-86.8
57.00	0.19	0.51	0.7	.96	.26	873	799.4	221.4	-86.8
57.50	0.23	0.50	0.7	.96	.26	868	799.6	215.3	-86.7
58.00	0.47	0.49	1.0	.81	.10	957	799.8	209.5	-86.5
58.50	0.49	0.48	1.0	.81	.10	959	800.0	204.1	-86.2
59.00	0.46	0.47	0.9	.85	.14	925	800.1	198.9	-85.9
59.50	0.43	0.46	0.9	.85	.15	918	800.2	194.1	-85.5
60.00	0.40	0.45	0.8	.90	.20	887	800.3	189.6	-85.0
60.50	0.52	0.43	1.0	.80	.10	939	800.3	185.4	-84.5
61.00	0.45	0.42	0.9	.85	.15	916	800.4	181.5	-84.0
61.50	0.40	0.41	0.8	.91	.20	890	800.4	177.8	-83.4
62.00	0.35	0.39	0.7	.97	.26	854	800.4	174.4	-82.8
62.50	0.41	0.37	0.8	.92	.20	890	800.3	171.2	-82.1
63.00	0.43	0.36	0.8	.92	.20	890	800.3	168.2	-81.4
63.50	0.39	0.34	0.7	.98	.26	855	800.2	165.4	-80.8
64.00	0.37	0.33	0.7	.98	.26	855	800.1	162.7	-80.0
64.50	0.35	0.32	0.7	.98	.26	858	800.0	160.1	-79.3
65.00	0.39	0.30	0.7	.99	.26	862	799.8	157.7	-78.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39965.50	0.37	0.29	0.7	-16.99	-17.25	867	799.6	155.4	-77.8
66.00	0.38	0.27	0.7	-17.00	.25	872	799.5	153.1	-77.0
66.50	0.42	0.25	0.7	.00	.25	873	799.2	151.0	-76.3
67.00	0.45	0.24	0.7	.00	.25	873	799.0	148.9	-75.5
67.50	0.47	0.22	0.7	.00	.26	871	798.8	147.0	-74.7
68.00	0.45	0.20	0.7	.00	.26	866	798.5	145.0	-73.9
68.50	0.52	0.18	0.7	-16.99	.26	861	798.2	143.2	-73.1
69.00	0.56	0.16	0.7	.99	.26	855	797.9	141.4	-72.3
69.50	0.57	0.15	0.7	.99	.26	855	797.5	139.6	-71.4
70.00	0.59	0.13	0.7	.99	.26	856	797.2	137.9	-70.6
70.50	0.61	0.11	0.7	.99	.26	859	796.8	136.2	-69.8
71.00	0.60	0.10	0.7	-17.00	.26	868	796.4	134.6	-68.9
71.50	0.65	0.08	0.7	.00	.26	871	796.0	133.0	-68.1
72.00	0.69	0.06	0.8	-16.93	.21	897	795.6	131.4	-67.3
72.50	0.74	0.05	0.8	.93	.21	888	795.2	129.8	-66.4
73.00	0.96	0.03	1.0	.83	.12	938	794.8	128.3	-65.6
73.50	0.81	0.01	0.8	.92	.21	882	794.3	126.8	-64.7
74.00	0.78	0.00	0.8	.92	.21	887	793.8	125.4	-63.8
74.50	0.78	-0.01	0.8	.92	.22	890	793.3	123.9	-63.0
75.00	0.78	-0.03	0.7	.98	.28	859	792.8	122.5	-62.1
75.50	0.78	-0.04	0.7	.98	.28	859	792.3	121.0	-61.3
76.00	0.83	-0.05	0.8	.92	.22	894	791.8	119.6	-60.4
76.50	0.83	-0.06	0.8	.92	.22	900	791.3	118.3	-59.5
77.00	0.83	-0.06	0.8	.92	.22	904	790.7	116.9	-58.7
77.50	0.85	-0.06	0.8	.91	.23	903	790.2	115.5	-57.8
78.00	1.05	-0.06	1.0	.81	.14	951	789.6	114.2	-56.9
78.50	1.01	-0.05	1.0	.80	.14	949	789.1	112.8	-56.0
79.00	1.04	-0.05	1.0	.80	.14	955	788.5	111.5	-55.2
79.50	1.04	-0.05	1.0	.79	.14	957	787.9	110.2	-54.3
80.00	0.99	-0.04	1.0	.79	.14	962	787.4	108.9	-53.4
80.50	1.00	-0.03	1.0	.79	.15	967	786.8	107.6	-52.5
81.00	0.98	-0.03	0.9	.84	.19	945	786.2	106.3	-51.6
81.50	1.01	-0.03	1.0	.79	.15	972	785.6	105.0	-50.7
82.00	0.89	-0.02	0.9	.83	.20	949	785.0	103.8	-49.9
82.50	0.97	-0.02	1.0	.78	.15	977	784.4	102.5	-49.0
83.00	1.10	-0.01	1.1	.74	.12	994	783.8	101.2	-48.1
83.50	2.12	-0.01	2.1	.44	-16.84	1112	783.2	100.0	-47.2
84.00	1.66	0.00	1.7	.53	.94	1070	782.6	98.7	-46.3
84.50	1.32	0.00	1.3	.65	-17.05	1030	782.0	97.5	-45.4
85.00	1.30	0.00	1.3	.65	.05	1033	781.4	96.2	-44.5
85.50	1.33	0.00	1.3	.65	.05	1028	780.8	95.0	-43.6
86.00	1.34	0.00	1.3	.64	.06	1028	780.2	93.8	-42.8
86.50	1.37	0.00	1.4	.61	.03	1049	779.6	92.5	-41.9
87.00	1.38	0.00	1.4	.61	.03	1050	779.0	91.3	-41.0
87.50	1.36	0.00	1.4	.60	.03	1047	778.4	90.1	-40.1
88.00	1.44	0.00	1.4	.59	.03	1046	777.8	88.9	-39.2
88.50	1.30	0.00	1.3	.63	.07	1033	777.3	87.6	-38.3
89.00	1.19	0.00	1.2	.66	.10	1021	776.7	86.4	-37.4
89.50	1.20	0.00	1.2	.66	.11	1024	776.1	85.2	-36.5
90.00	1.28	0.00	1.3	.63	.07	1041	775.6	84.0	-35.6
90.50	1.31	0.00	1.3	.62	.08	1044	775.0	82.8	-34.7
91.00	1.34	0.00	1.3	.62	.08	1047	774.5	81.6	-33.8
91.50	1.35	0.00	1.4	.58	.05	1064	774.0	80.4	-32.9
92.00	1.46	0.00	1.5	.54	.02	1077	773.4	79.2	-32.0
92.50	1.49	0.00	1.5	.54	.02	1078	772.9	78.0	-31.1
93.00	1.52	-0.01	1.5	.53	.03	1081	772.4	76.8	-30.2
93.50	1.61	-0.03	1.6	.50	.00	1094	771.9	75.6	-29.3
94.00	1.69	-0.04	1.6	.49	.00	1093	771.4	74.4	-28.4
94.50	1.77	-0.05	1.7	.45	-16.98	1106	771.0	73.2	-27.5
95.00	2.05	-0.07	2.0	.37	.91	1137	770.5	72.0	-26.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39995.50	2.05	-0.09	2.0	-16.37	-16.91	1141	770.1	70.8	-25.7
96.00	2.03	-0.10	1.9	.38	.93	1132	769.6	69.6	-24.8
96.50	2.26	-0.12	2.1	.33	.89	1150	769.2	68.4	-23.9
97.00	2.49	-0.13	2.4	.27	.83	1176	768.8	67.2	-23.0
97.50	3.02	-0.15	2.9	.18	.75	1210	768.4	66.0	-22.1
98.00	2.85	-0.17	2.7	.21	.78	1198	768.0	64.8	-21.2
98.50	2.53	-0.19	2.3	.28	.85	1174	767.7	63.6	-20.2
99.00	2.39	-0.20	2.2	.30	.87	1170	767.3	62.4	-19.3
99.50	2.47	-0.22	2.3	.28	.85	1180	767.0	61.2	-18.4
40000.00	2.89	-0.23	2.7	.20	.78	1205	766.6	60.0	-17.5
00.50	2.80	-0.24	2.6	.22	.80	1198	766.3	58.8	-16.6
01.00	2.70	-0.25	2.5	.24	.82	1196	766.0	57.6	-15.7
01.50	2.63	-0.25	2.4	.25	.84	1192	765.8	56.4	-14.8
02.00	2.53	-0.25	2.3	.27	.86	1187	765.5	55.2	-13.9
02.50	2.63	-0.25	2.4	.25	.85	1196	765.3	54.0	-13.0
03.00	2.66	-0.25	2.4	.26	.85	1199	765.1	52.8	-12.1
03.50	2.66	-0.24	2.4	.25	.85	1199	764.8	51.6	-11.1
04.00	2.68	-0.23	2.5	.23	.83	1205	764.7	50.4	-10.2
04.50	2.71	-0.22	2.5	.23	.83	1205	764.5	49.2	-9.3
05.00	2.76	-0.22	2.5	.23	.84	1205	764.3	48.0	-8.4
05.50	2.78	-0.21	2.6	.22	.82	1210	764.2	46.8	-7.5
06.00	2.63	-0.19	2.4	.25	.86	1196	764.1	45.6	-6.6
06.50	2.55	-0.18	2.4	.25	.86	1197	764.0	44.4	-5.7
07.00	2.50	-0.17	2.3	.27	.88	1190	763.9	43.1	-4.7
07.50	2.40	-0.16	2.2	.29	.90	1184	763.8	41.9	-3.8
08.00	2.34	-0.15	2.2	.29	.90	1186	763.8	40.7	-2.9
08.50	2.38	-0.13	2.3	.27	.88	1193	763.8	39.5	-2.0
09.00	2.43	-0.12	2.3	.27	.88	1192	763.8	38.2	-1.1
09.50	2.35	-0.11	2.2	.28	.90	1186	763.8	37.0	-0.2
10.00	2.26	-0.09	2.2	.29	.90	1187	763.8	35.8	0.8
10.50	2.16	-0.08	2.1	.31	.92	1180	763.9	34.5	1.7
11.00	2.00	-0.07	1.9	.36	.97	1166	764.0	33.3	2.6
11.50	1.85	-0.06	1.8	.38	.99	1159	764.1	32.0	3.5
12.00	1.83	-0.05	1.8	.38	.99	1161	764.2	30.8	4.4
12.50	1.76	-0.04	1.7	.41	-17.02	1154	764.4	29.5	5.4
13.00	1.74	-0.02	1.7	.42	.02	1156	764.6	28.2	6.3
13.50	1.72	-0.01	1.7	.42	.02	1156	764.8	27.0	7.2
14.00	1.70	0.00	1.7	.42	.02	1156	765.0	25.7	8.1
14.50	1.77	0.01	1.8	.39	.00	1165	765.2	24.4	9.1
15.00	1.73	0.03	1.8	.38	.00	1166	765.4	23.1	10.0
15.50	1.81	0.04	1.8	.38	.00	1168	765.7	21.9	10.9
16.00	1.81	0.06	1.9	.36	-16.97	1177	765.9	20.6	11.9
16.50	1.76	0.07	1.8	.38	-17.00	1170	766.2	19.3	12.8
40016.60	1.9	0.1	2.0	-16.34	-16.95	1188	766.3	19.0	13.0
16.80	2.0	0.1	2.1	.32	.93	1197	766.4	18.5	13.4
17.00	2.0	0.1	2.1	.32	.93	1196	766.5	17.9	13.7
17.20	1.8	0.1	1.9	.36	.97	1177	766.6	17.4	14.1
17.40	2.3	0.1	2.4	.26	.87	1212	766.7	16.9	14.5
17.60	1.8	0.1	1.9	.36	.97	1173	766.9	16.4	14.9
17.80	1.8	0.1	1.9	.36	.97	1174	767.0	15.8	15.2
18.00	1.8	0.1	1.9	.36	.97	1176	767.1	15.3	15.6
18.20	2.2	0.1	2.3	.27	.88	1203	767.3	14.8	16.0
18.40	3.0	0.1	3.1	.13	.74	1244	767.4	14.2	16.3
18.60	2.3	0.1	2.5	.23	.84	1209	767.5	13.7	16.7
18.80	2.1	0.1	2.3	.27	.88	1199	767.7	13.1	17.1
19.00	1.8	0.1	2.0	.33	.94	1180	767.8	12.6	17.5
19.20	1.8	0.2	2.0	.34	.95	1182	767.9	12.1	17.8
19.40	1.8	0.2	1.9	.36	.97	1175	768.1	11.5	18.2
19.60	1.6	0.2	1.8	.39	-17.00	1167	768.2	11.0	18.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40019.80	1.7	0.2	1.9	-16.37	-16.97	1175	768.4	10.4	19.0
40020.00	1.47	0.17	1.6	-16.44	-17.05	1149	768.5	9.9	19.3
20.50	1.48	0.19	1.7	.42	.02	1158	768.9	8.5	20.3
21.00	1.36	0.20	1.6	.45	.05	1150	769.3	7.1	21.2
21.50	1.22	0.22	1.4	.51	.11	1132	769.7	5.7	22.2
22.00	1.12	0.23	1.4	.52	.11	1133	770.0	4.3	23.1
22.50	1.03	0.24	1.3	.56	.15	1126	770.5	2.9	24.0
23.00	0.96	0.26	1.2	.60	.19	1115	770.9	1.4	25.0
23.50	1.02	0.27	1.3	.57	.15	1128	771.3	359.9	25.9
24.00	1.10	0.28	1.4	.53	.12	1138	771.7	358.5	26.9
24.50	1.13	0.29	1.4	.53	.12	1136	772.1	357.0	27.8
25.00	1.02	0.30	1.3	.57	.15	1128	772.6	355.4	28.7
25.50	0.85	0.31	1.2	.61	.19	1118	773.0	353.9	29.7
26.00	0.81	0.33	1.1	.65	.22	1103	773.4	352.3	30.6
26.50	0.82	0.34	1.2	.61	.18	1117	773.9	350.7	31.6
27.00	0.71	0.35	1.1	.65	.22	1106	774.3	349.1	32.5
27.50	0.69	0.36	1.0	.70	.26	1094	774.7	347.5	33.4
28.00	0.61	0.37	1.0	.71	.27	1097	775.2	345.8	34.4
28.50	0.57	0.38	0.9	.76	.31	1083	775.6	344.1	35.3
29.00	0.53	0.38	0.9	.76	.31	1085	776.1	342.3	36.2
29.50	0.59	0.39	1.0	.71	.26	1099	776.5	340.5	37.2
30.00	0.48	0.40	0.9	.75	.31	1081	777.0	338.6	38.1
30.50	0.50	0.41	0.9	.76	.31	1083	777.4	336.7	39.0
31.00	0.44	0.42	0.9	.76	.31	1086	777.8	334.8	39.9
31.50	0.43	0.43	0.9	.77	.31	1090	778.3	332.8	40.8
32.00	0.40	0.44	0.8	.82	.36	1073	778.7	330.7	41.8
32.50	0.49	0.45	0.9	.78	.31	1091	779.1	328.5	42.7
33.00	0.48	0.46	0.9	.77	.31	1088	779.6	326.3	43.5
33.50	0.53	0.47	1.0	.73	.26	1102	780.0	324.0	44.4
34.00	0.47	0.47	0.9	.78	.31	1087	780.4	321.5	45.3
34.50	0.37	0.48	0.8	.83	.36	1069	780.8	319.0	46.2
35.00	0.29	0.48	0.8	.84	.36	1070	781.2	316.3	47.0
35.50	0.26	0.49	0.8	.84	.36	1074	781.6	313.5	47.9
36.00	0.26	0.50	0.8	.85	.36	1077	782.0	310.5	48.7
36.50	0.31	0.50	0.8	.85	.35	1078	782.4	307.4	49.5
37.00	0.41	0.51	0.9	.80	.30	1092	782.8	304.1	50.3
37.50	0.31	0.51	0.8	.85	.35	1074	783.1	300.5	51.0
38.00	0.24	0.52	0.8	.86	.35	1078	783.5	296.7	51.8
38.50	0.14	0.52	0.7	.92	.40	1058	783.9	292.7	52.4
39.00	0.10	0.52	0.6	.99	.47	1035	784.2	288.4	53.1
39.50	0.08	0.52	0.6	.99	.47	1037	784.5	283.8	53.7
40.00	0.06	0.53	0.6	-17.00	.46	1038	784.9	279.0	54.3
40.50	0.19	0.53	0.7	-16.93	.39	1063	785.2	273.8	54.7
41.00	0.08	0.53	0.6	-17.00	.46	1041	785.5	268.3	55.2
41.50	-0.06	0.53	0.5	.08	.53	1013	785.8	262.6	55.5
42.00	-0.12	0.53	0.4	.18	.63	972	786.1	256.6	55.8
42.50	-0.14	0.53	0.4	.18	.63	975	786.4	250.5	56.0
43.00	-0.15	0.53	0.4	.18	.62	979	786.6	244.3	56.1
43.50	-0.18	0.53	0.4	.18	.62	980	786.9	238.1	56.1
44.00	-0.17	0.53	0.4	.18	.62	984	787.2	231.9	56.0
44.50	-0.17	0.53	0.4	.18	.61	985	787.4	225.9	55.9
45.00	-0.15	0.53	0.4	.17	.61	984	787.6	220.1	55.6
45.50	-0.09	0.53	0.4	.17	.61	985	787.8	214.6	55.3
46.00	-0.06	0.53	0.5	.07	.51	1028	788.1	209.3	54.9
46.50	-0.04	0.52	0.5	.06	.51	1030	788.3	204.3	54.5
47.00	-0.04	0.52	0.5	.05	.51	1023	788.4	199.7	54.0
47.50	0.03	0.51	0.5	.04	.51	1015	788.6	195.3	53.5
48.00	0.01	0.50	0.5	.03	.51	1011	788.8	191.2	52.9
48.50	-0.06	0.50	0.4	.14	.61	976	788.9	187.4	52.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40049.00	-0.06	0.49	0.4	-17.15	-17.61	979	789.1	183.8	51.6
49.50	-0.03	0.48	0.5	.05	.51	1021	789.2	180.4	50.9
50.00	-0.02	0.48	0.5	.06	.52	1024	789.3	177.2	50.2
50.50	-0.03	0.47	0.4	.15	.61	980	789.4	174.2	49.5
51.00	0.27	0.46	0.7	-16.90	.37	1072	789.5	171.4	48.7
51.50	0.09	0.46	0.5	-17.05	.52	1010	789.6	168.7	47.9
52.00	0.01	0.45	0.5	.06	.52	1017	789.7	166.1	47.2
52.50	-0.03	0.44	0.4	.17	.62	978	789.8	163.7	46.4
53.00	-0.04	0.42	0.4	.18	.62	979	789.8	161.3	45.6
53.50	0.06	0.41	0.5	.08	.52	1020	789.9	159.1	44.8
54.00	0.05	0.39	0.4	.18	.62	978	789.9	156.9	43.9
54.50	0.08	0.37	0.4	.19	.62	980	790.0	154.8	43.1
55.00	0.12	0.35	0.5	.09	.53	1020	790.0	152.8	42.3
55.50	0.20	0.33	0.5	.09	.53	1017	790.0	150.8	41.4
56.00	0.15	0.30	0.4	.20	.63	976	790.0	148.9	40.6
56.50	0.21	0.26	0.5	.11	.53	1022	790.0	147.1	39.7
57.00	0.24	0.23	0.5	.11	.53	1019	790.0	145.3	38.9
57.50	0.22	0.19	0.4	.21	.63	980	789.9	143.5	38.0
58.00	0.28	0.14	0.4	.22	.63	983	789.9	141.8	37.2
58.50	0.44	0.08	0.5	.12	.53	1022	789.9	140.2	36.3
59.00	0.53	0.02	0.5	.11	.53	1014	789.8	138.5	35.4
59.50	0.57	0.00	0.6	.02	.45	1041	789.8	136.9	34.6
60.00	0.49	0.00	0.5	.10	.53	1009	789.7	135.3	33.7
60.50	0.51	0.00	0.5	.10	.53	1010	789.7	133.8	32.8
61.00	0.53	0.00	0.5	.10	.53	1012	789.6	132.2	31.9
61.50	0.51	0.00	0.5	.11	.53	1019	789.5	130.7	31.1
62.00	0.51	0.00	0.5	.11	.53	1019	789.4	129.3	30.2
62.50	0.51	0.00	0.5	.10	.53	1014	789.3	127.8	29.3
40063.00	0.57	0.00	0.57	-17.03	-17.47	1034	789.4	126.3	28.4
64.00	0.59	0.00	0.59	.01	.46	1034	789.2	123.5	26.6
65.00	0.50	0.00	0.50	.08	.53	1004	788.9	120.7	24.9
66.00	0.49	0.00	0.49	.10	.54	1004	788.6	118.0	23.1
67.00	0.51	0.00	0.51	.09	.52	1011	788.3	115.3	21.4
68.00	0.51	0.00	0.51	.08	.52	1008	787.9	112.7	19.6
69.00	0.48	0.00	0.48	.11	.54	997	787.6	110.1	17.8
70.00	0.52	0.00	0.52	.08	.50	1014	787.2	107.6	16.1
71.00	0.57	0.00	0.57	.03	.46	1026	786.9	105.0	14.3
72.00	0.60	0.00	0.60	.00	.44	1031	786.6	102.6	12.6
73.00	0.64	0.00	0.64	-16.97	.41	1042	786.3	100.1	10.9
74.00	0.68	0.00	0.68	.93	.38	1048	786.0	97.6	9.1
75.00	0.78	0.00	0.78	.86	.31	1069	785.7	95.2	7.4
76.00	0.85	0.00	0.85	.81	.27	1084	785.5	92.8	5.7
77.00	0.83	0.00	0.83	.82	.28	1080	785.3	90.4	3.9
78.00	0.81	0.00	0.81	.83	.28	1075	785.1	88.0	2.2
79.00	0.85	0.00	0.85	.80	.26	1084	785.0	85.6	0.5
80.00	0.92	0.00	0.92	.77	.22	1099	784.9	83.3	-1.2
81.00	1.09	0.00	1.09	.68	.14	1129	784.9	80.9	-2.9
40081.50	1.03	0.00	1.0	-16.71	-17.18	1114	784.9	79.7	-3.8
82.00	1.24	0.00	1.2	.62	.09	1140	784.9	78.6	-4.6
82.50	1.52	0.00	1.5	.51	-16.99	1174	784.9	77.4	-5.5
83.00	1.55	0.00	1.5	.50	.99	1175	785.0	76.2	-6.3
83.50	1.56	0.00	1.6	.47	.95	1187	785.0	75.1	-7.2
84.00	1.59	0.00	1.6	.46	.95	1187	785.1	73.9	-8.0
84.50	1.64	0.00	1.6	.46	.95	1187	785.2	72.7	-8.9
85.00	1.75	0.00	1.7	.43	.92	1194	785.3	71.6	-9.7
85.50	1.60	0.00	1.6	.46	.94	1181	785.4	70.4	-10.6
86.00	1.61	0.00	1.6	.46	.94	1183	785.5	69.3	-11.4
86.50	1.34	0.00	1.3	.56	-17.03	1149	785.7	68.1	-12.3

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40087.00	1.32	0.00	1.3	-16.56	-17.03	1149	785.9	66.9	-13.1
87.50	1.22	0.00	1.2	.60	.07	1135	786.0	65.8	-13.9
40088.00	1.21	0.00	1.21	-16.60	-17.06	1138	786.2	64.6	-14.8
89.00	1.20	0.00	1.20	.61	.06	1139	786.7	62.3	-16.5
90.00	1.18	0.00	1.18	.62	.07	1136	787.1	60.0	-18.1
91.00	1.14	0.00	1.14	.63	.08	1127	787.7	57.7	-19.8
40091.50	1.12	0.00	1.1	-16.64	-17.09	1117	788.0	56.5	-20.6
92.00	1.17	0.00	1.2	.61	.05	1129	788.3	55.4	-21.5
92.50	1.27	0.00	1.3	.57	.02	1139	788.7	54.2	-22.3
93.00	1.24	0.00	1.2	.62	.05	1127	789.0	53.0	-23.1
93.50	1.09	0.00	1.1	.67	.09	1117	789.4	51.9	-24.0
94.00	0.98	0.00	1.0	.71	.13	1100	789.7	50.7	-24.8
94.50	0.93	0.00	0.9	.76	.17	1078	790.1	49.6	-25.6
95.00	0.90	0.00	0.9	.76	.17	1076	790.5	48.4	-26.4
95.50	0.87	0.01	0.9	.77	.17	1076	791.0	47.2	-27.3
96.00	0.84	0.04	0.9	.77	.17	1076	791.4	46.1	-28.1
96.50	0.78	0.06	0.8	.83	.21	1053	791.8	44.9	-28.9
97.00	0.75	0.09	0.8	.83	.21	1053	792.3	43.7	-29.7
97.50	0.72	0.11	0.8	.83	.21	1053	792.8	42.5	-30.6
98.00	0.76	0.13	0.9	.78	.16	1075	793.3	41.4	-31.4
98.50	0.80	0.15	0.9	.78	.16	1075	793.8	40.2	-32.2
99.00	0.87	0.16	1.0	.73	.11	1092	794.3	39.0	-33.0
99.50	1.16	0.18	1.3	.60	.00	1133	794.8	37.8	-33.8
40100.00	1.00	0.20	1.19	-16.64	-17.03	1115	795.3	36.6	-34.7
01.00	0.99	0.22	1.21	.64	.02	1117	796.4	34.2	-36.3
02.00	0.97	0.25	1.22	.64	.02	1117	797.6	31.8	-37.9
03.00	0.97	0.26	1.23	.63	.01	1113	798.8	29.4	-39.5
04.00	0.98	0.30	1.28	.61	-16.99	1120	800.0	26.9	-41.2
05.00	1.04	0.32	1.36	.59	.97	1130	801.2	24.4	-42.8
06.00	1.02	0.34	1.36	.60	.96	1127	802.5	21.9	-44.4
07.00	1.17	0.36	1.53	.55	.91	1142	803.8	19.3	-46.0
08.00	1.18	0.38	1.56	.54	.90	1144	805.1	16.7	-47.6
09.00	1.11	0.40	1.51	.57	.92	1144	806.5	14.1	-49.2
10.00	1.01	0.42	1.42	.61	.94	1135	807.8	11.4	-50.8
11.00	0.97	0.43	1.40	.62	.95	1130	809.2	8.7	-52.4
12.00	1.02	0.45	1.47	.59	.93	1129	810.5	5.9	-53.9
13.00	1.13	0.47	1.59	.56	.89	1136	811.9	3.0	-55.5
14.00	0.95	0.48	1.43	.62	.94	1116	813.2	360.0	-57.1
15.00	0.70	0.49	1.19	.71	-17.02	1083	814.6	356.9	-58.6
16.00	0.54	0.50	1.04	.79	.08	1062	815.9	353.7	-60.2
17.00	0.45	0.52	0.96	.85	.12	1051	817.2	350.3	-61.7
18.00	0.38	0.53	0.91	.88	.14	1038	818.5	346.7	-63.2
19.00	0.26	0.53	0.79	.95	.21	1004	819.7	342.9	-64.7
20.00	0.15	0.54	0.69	-17.01	.27	972	820.9	338.9	-66.1
21.00	0.22	0.55	0.77	-16.97	.22	993	822.1	334.5	-67.6
22.00	0.37	0.55	0.92	.89	.14	1027	823.3	329.7	-69.0
23.00	0.30	0.56	0.86	.93	.17	1017	824.4	324.5	-70.3
24.00	0.18	0.56	0.74	-17.01	.24	993	825.4	318.5	-71.5
25.00	0.09	0.57	0.65	.06	.29	957	826.4	311.9	-72.7
26.00	0.06	0.57	0.63	.07	.30	947	827.4	304.2	-73.7
27.00	0.13	0.57	0.70	.02	.26	971	828.2	295.4	-74.6
28.00	0.12	0.57	0.69	.02	.26	963	829.1	285.3	-75.3
29.00	0.29	0.57	0.85	-16.93	.16	1014	829.8	274.0	-75.6
30.00	0.62	0.56	1.18	.79	.02	1086	830.5	261.6	-75.6
31.00	0.55	0.56	1.11	.80	.03	1064	831.2	248.9	-75.3
32.00	0.35	0.55	0.90	.89	.12	1015	831.7	236.4	-74.5
33.00	0.25	0.55	0.80	.95	.17	1004	832.2	224.8	-73.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40134.00	0.12	0.54	0.66	-17.04	-17.26	971	832.6	214.5	-72.0
35.00	0.07	0.53	0.60	.08	.30	945	832.9	205.4	-70.4
36.00	0.06	0.52	0.58	.10	.31	930	833.2	197.5	-68.5
40136.50	0.23	0.52	0.8	-16.95	-17.17	1003	833.3	193.8	-67.5
37.00	0.31	0.51	0.8	.95	.17	998	833.4	190.5	-66.5
37.50	0.34	0.50	0.8	.95	.17	1000	833.5	187.4	-65.5
38.00	0.34	0.50	0.8	.96	.17	1004	833.5	184.5	-64.4
38.50	0.21	0.49	0.7	-17.02	.23	971	833.6	181.7	-63.4
39.00	0.11	0.49	0.6	.09	.30	934	833.6	179.1	-62.3
39.50	0.11	0.48	0.6	.10	.30	936	833.6	176.6	-61.2
40.00	0.06	0.47	0.5	.18	.38	898	833.6	174.3	-60.1
40.50	0.06	0.47	0.5	.19	.39	900	833.6	172.0	-59.0
41.00	0.18	0.46	0.6	.10	.31	934	833.6	169.8	-57.8
41.50	0.52	0.45	1.0	-16.86	.08	1036	833.5	167.8	-56.7
42.00	0.69	0.44	1.1	.81	.04	1045	833.4	165.7	-55.6
42.50	0.39	0.43	0.8	.95	.18	975	833.4	163.8	-54.4
43.00	0.38	0.42	0.8	.96	.18	983	833.3	161.9	-53.2
43.50	0.25	0.41	0.7	-17.03	.24	958	833.1	160.1	-52.1
44.00	0.27	0.40	0.7	.03	.24	963	833.0	158.3	-50.9
44.50	0.26	0.39	0.7	.04	.25	968	832.9	156.6	-49.7
45.00	0.30	0.38	0.7	.04	.25	972	832.7	154.9	-48.6
45.50	0.27	0.37	0.6	.10	.31	932	832.5	153.2	-47.4
46.00	0.28	0.36	0.6	.10	.31	926	832.3	151.6	-46.2
46.50	0.27	0.35	0.6	.10	.32	924	832.1	150.0	-45.0
47.00	0.29	0.34	0.6	.09	.32	921	831.9	148.5	-43.8
47.50	0.33	0.32	0.6	.09	.32	921	831.7	146.9	-42.6
48.00	0.39	0.31	0.7	.03	.25	963	831.4	145.4	-41.4
48.50	0.42	0.30	0.7	.02	.25	960	831.2	143.9	-40.2
49.00	0.53	0.28	0.8	-16.95	.19	983	830.9	142.5	-39.0
49.50	0.52	0.27	0.8	.95	.19	982	830.7	141.0	-37.8
50.00	0.48	0.25	0.7	-17.02	.25	959	830.4	139.6	-36.7
50.50	0.46	0.23	0.7	.02	.25	965	830.1	138.2	-35.5
51.00	0.50	0.21	0.7	.02	.25	965	829.8	136.8	-34.3
51.50	0.55	0.19	0.7	.01	.25	964	829.5	135.4	-33.1
52.00	0.71	0.17	0.9	-16.90	.14	1021	829.2	134.1	-31.9
52.50	0.76	0.14	0.9	.90	.14	1018	828.9	132.7	-30.7
53.00	0.82	0.11	0.9	.89	.14	1014	828.5	131.4	-29.4
53.50	0.99	0.07	1.1	.80	.05	1053	828.2	130.1	-28.2
54.00	1.12	0.02	1.1	.79	.05	1050	827.9	128.7	-27.0
54.50	1.05	0.00	1.1	.78	.05	1046	827.5	127.4	-25.8
55.00	1.01	0.00	1.0	.82	.09	1028	827.2	126.1	-24.6
55.50	1.01	0.00	1.0	.83	.10	1031	826.9	124.8	-23.4
56.00	1.06	0.00	1.1	.78	.05	1047	826.5	123.5	-22.2
56.50	1.11	0.00	1.1	.77	.05	1044	826.2	122.3	-21.0
57.00	1.21	0.00	1.2	.74	.02	1066	825.8	121.0	-19.8
57.50	1.30	0.00	1.3	.70	-16.98	1083	825.5	119.7	-18.6
58.00	1.35	0.00	1.4	.66	.95	1092	825.1	118.5	-17.5
40158.25	1.4	0.0	1.4	-16.65	-16.94	1087	824.9	117.8	-16.9
58.50	1.7	0.0	1.7	.56	.86	1120	824.8	117.2	-16.3
58.75	1.7	0.0	1.7	.55	.85	1115	824.6	116.6	-15.7
59.00	1.8	0.0	1.8	.51	.82	1119	824.4	116.0	-15.1
59.25	1.8	0.0	1.8	.52	.82	1126	824.2	115.3	-14.5
59.50	1.9	0.0	1.9	.50	.80	1143	824.1	114.7	-13.9
59.75	1.8	0.0	1.8	.52	.82	1131	823.9	114.1	-13.3
60.00	1.8	0.0	1.8	.52	.83	1129	823.7	113.5	-12.7
60.25	1.5	0.0	1.5	.60	.91	1092	823.5	112.9	-12.1
60.50	2.1	0.0	2.1	.44	.76	1147	823.4	112.2	-11.5
60.75	2.8	0.0	2.8	.30	.62	1187	823.2	111.6	-10.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
40161.00	2.7	0.0	2.7	-16.31	-16.63	1177	823.0	111.0	-10.3
61.25	2.6	0.0	2.6	.35	.66	1182	822.9	110.4	-9.7
61.50	2.3	0.0	2.3	.41	.72	1168	822.7	109.8	-9.1
61.75	2.3	0.0	2.3	.40	.71	1158	822.5	109.2	-8.5
62.00	2.5	0.0	2.5	.33	.66	1158	822.4	108.6	-7.9
62.25	2.7	0.0	2.7	.30	.63	1173	822.2	107.9	-7.3
62.50	2.1	0.0	2.1	.43	.75	1137	822.0	107.3	-6.7
62.75	1.8	0.0	1.8	.51	.83	1117	821.9	106.7	-6.1
40163.00	1.78	0.00	1.8	-16.51	-16.83	1116	821.7	106.1	-5.5
63.50	1.45	0.00	1.5	.59	.91	1086	821.4	104.9	-4.3
64.00	0.88	0.00	0.9	.83	-17.13	988	821.1	103.7	-3.2
64.50	1.14	0.00	1.1	.74	.05	1030	820.8	102.5	-2.0
65.00	1.72	0.00	1.7	.55	-16.86	1116	820.5	101.3	-0.8
65.50	1.36	0.00	1.4	.65	.95	1086	820.2	100.0	0.4
66.00	0.95	0.00	1.0	.80	-17.09	1022	820.0	98.8	1.6
66.50	1.08	0.00	1.1	.76	.05	1044	819.7	97.6	2.7
67.00	1.24	0.00	1.2	.72	.01	1055	819.4	96.4	3.9
67.50	1.27	0.00	1.3	.67	-16.97	1064	819.2	95.2	5.1
68.00	1.33	0.00	1.3	.68	.98	1073	819.0	94.0	6.3
68.50	1.41	0.00	1.4	.65	.94	1088	818.7	92.8	7.4
69.00	1.52	0.00	1.5	.61	.91	1094	818.5	91.6	8.6
69.50	1.57	0.00	1.6	.57	.88	1102	818.3	90.4	9.8
70.00	1.70	0.00	1.7	.54	.85	1117	818.1	89.2	10.9
70.50	1.53	0.00	1.5	.60	.91	1096	818.0	88.0	12.1
71.00	1.51	0.00	1.5	.59	.90	1094	817.8	86.8	13.3
71.50	1.49	0.00	1.5	.59	.90	1094	817.6	85.6	14.4
72.00	1.44	0.00	1.4	.63	.93	1085	817.5	84.4	15.6
72.50	1.41	0.00	1.4	.64	.94	1091	817.4	83.2	16.7
73.00	1.36	0.00	1.4	.64	.94	1093	817.3	82.0	17.9
73.50	1.36	0.00	1.4	.64	.93	1091	817.2	80.8	19.0
74.00	1.34	0.00	1.3	.66	.96	1073	817.1	79.6	20.2
74.50	1.36	0.00	1.4	.63	.93	1089	817.0	78.4	21.3
75.00	1.38	0.00	1.4	.63	.93	1089	817.0	77.1	22.5
75.50	1.40	0.00	1.4	.63	.93	1089	816.9	75.9	23.6
76.00	1.61	0.00	1.6	.57	.87	1117	816.9	74.7	24.7
76.50	1.63	0.00	1.6	.56	.87	1110	816.9	73.5	25.9
77.00	1.70	0.00	1.7	.53	.84	1116	816.9	72.3	27.0
77.50	1.72	0.00	1.7	.53	.84	1116	816.9	71.1	28.2
78.00	1.81	0.00	1.8	.50	.81	1124	817.0	69.9	29.3
78.50	1.72	0.00	1.7	.51	.83	1113	817.0	68.6	30.4
79.00	1.64	0.00	1.6	.54	.85	1105	817.1	67.4	31.5
79.50	1.45	0.00	1.5	.57	.88	1096	817.2	66.2	32.7
80.00	1.27	0.00	1.3	.64	.94	1072	817.3	65.0	33.8
80.50	1.45	0.00	1.5	.58	.88	1097	817.4	63.7	34.9
81.00	1.59	0.00	1.6	.55	.85	1106	817.5	62.5	36.0
81.50	1.50	0.00	1.5	.58	.88	1099	817.7	61.3	37.1
82.00	1.46	0.00	1.5	.59	.88	1099	817.9	60.0	38.2
82.50	1.39	0.00	1.4	.62	.91	1084	818.0	58.8	39.4
83.00	1.40	0.00	1.4	.62	.91	1083	818.2	57.5	40.5
83.50	1.46	0.00	1.5	.59	.87	1097	818.5	56.3	41.6
84.00	1.46	0.00	1.5	.60	.87	1101	818.7	55.0	42.7
84.50	1.47	0.00	1.5	.60	.87	1101	819.0	53.8	43.8
85.00	1.47	0.00	1.5	.59	.87	1098	819.2	52.5	44.9
85.50	1.50	0.00	1.5	.59	.87	1095	819.5	51.3	46.0
86.00	1.65	0.00	1.6	.57	.84	1110	819.8	50.0	47.0
86.50	1.50	0.00	1.5	.60	.87	1096	820.2	48.7	48.1
87.00	1.40	0.00	1.4	.62	.89	1077	820.5	47.5	49.2
87.50	1.33	0.03	1.4	.63	.89	1078	820.9	46.2	50.3
88.00	1.25	0.11	1.4	.63	.89	1079	821.2	44.9	51.4

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40188.50	1.20	0.17	1.4	-16.63	-16.89	1079	821.6	43.6	52.5
89.00	1.10	0.21	1.3	.67	.92	1062	822.1	42.3	53.5
89.50	1.07	0.25	1.3	.67	.92	1064	822.5	41.0	54.6
90.00	1.01	0.28	1.3	.68	.92	1070	822.9	39.7	55.7
90.50	0.98	0.30	1.3	.68	.91	1074	823.4	38.3	56.7
91.00	0.90	0.32	1.2	.72	.95	1049	823.9	37.0	57.8
91.50	0.89	0.34	1.2	.71	.95	1040	824.4	35.7	58.8
92.00	1.03	0.35	1.4	.65	.88	1079	824.9	34.3	59.9
92.50	1.04	0.37	1.4	.65	-17.11	1081	825.3	33.0	60.9
93.00	1.04	0.39	1.4	.64	.11	1075	825.8	31.6	62.0
93.50	1.10	0.40	1.5	.61	.08	1086	826.4	30.3	63.0
94.00	1.07	0.42	1.5	.61	.08	1082	826.9	28.9	64.0
94.50	1.07	0.43	1.5	.61	.08	1080	827.5	27.5	65.1
95.00	1.02	0.44	1.5	.61	.08	1081	828.0	26.1	66.1
95.50	0.94	0.45	1.4	.64	.11	1061	828.6	24.6	67.2
96.00	0.72	0.46	1.2	.71	.17	1021	829.2	23.2	68.2
96.50	0.62	0.47	1.1	.76	.20	1009	829.8	21.8	69.2
97.00	0.57	0.48	1.0	.81	.23	992	830.4	20.3	70.3
97.50	0.55	0.49	1.0	.81	.22	994	831.0	18.8	71.3
98.00	0.47	0.49	1.0	.81	.22	991	831.6	17.3	72.3
98.50	0.48	0.50	1.0	.81	.22	985	832.2	15.8	73.3
99.00	0.48	0.51	1.0	.82	.22	984	832.8	14.3	74.3
99.50	0.46	0.51	1.0	.82	.21	989	833.4	12.7	75.3
40200.00	0.42	0.52	0.9	.87	.26	956	834.0	11.1	76.4
00.50	0.45	0.53	1.0	.82	.21	976	834.7	9.5	77.4
01.00	0.50	0.53	1.0	.82	.21	981	835.3	7.9	78.4
01.50	0.46	0.54	1.0	.83	.20	987	835.9	6.2	79.4
02.00	0.45	0.54	1.0	.83	.20	983	836.5	4.5	80.4
02.50	0.38	0.55	0.9	.88	.25	954	837.2	2.7	81.3
03.00	0.37	0.55	0.9	.88	.24	959	837.8	1.0	82.3
03.50	0.31	0.55	0.9	.88	.24	960	838.4	359.1	83.3
04.00	0.29	0.56	0.9	.89	.23	962	839.0	357.3	84.3
04.50	0.28	0.56	0.8	.94	.28	929	839.6	355.4	85.2
05.00	0.24	0.56	0.8	.94	.28	930	840.2	353.4	86.2
05.50	0.26	0.56	0.8	.94	.28	928	840.8	351.3	87.1
06.00	0.25	0.56	0.8	.95	.28	922	841.4	349.2	88.1
06.50	0.24	0.56	0.8	.95	.28	921	842.0	347.1	89.0
07.00	0.25	0.56	0.8	.95	.27	921	842.6	344.8	89.9
07.50	0.25	0.56	0.8	.95	.27	926	843.2	342.4	90.9
08.00	0.26	0.56	0.8	.95	.27	930	843.7	340.0	91.8
08.50	0.28	0.56	0.8	.96	.27	926	844.3	337.4	92.6
09.00	0.32	0.56	0.9	.90	.22	953	844.8	334.7	93.5
09.50	0.29	0.56	0.9	.91	.22	949	845.3	331.9	94.4
10.00	0.24	0.56	0.8	.96	.27	917	845.9	328.9	95.2
10.50	0.28	0.56	0.8	.96	.27	924	846.4	325.7	96.0
11.00	0.30	0.56	0.9	.91	.22	962	846.9	322.3	96.8
11.50	0.33	0.55	0.9	.91	.22	955	847.3	318.7	97.5
12.00	0.42	0.55	1.0	.86	.17	975	847.8	314.9	98.2
12.50	0.47	0.55	1.0	.87	.17	975	848.3	310.8	98.9
13.00	0.37	0.54	0.9	.91	.22	953	848.7	306.4	99.6
13.50	0.34	0.54	0.9	.91	.22	952	849.1	301.7	100.1
14.00	0.34	0.54	0.9	.91	.22	948	849.5	296.7	100.7
14.50	0.24	0.53	0.8	.97	.27	921	849.9	291.4	101.1
15.00	0.27	0.53	0.8	.97	.26	921	850.3	285.7	101.5
15.50	0.46	0.52	1.0	.87	.17	980	850.7	279.8	101.8
16.00	0.27	0.52	0.8	.97	.26	924	851.0	273.7	102.0
16.50	0.22	0.51	0.7	-17.03	.32	900	851.3	267.3	102.2
17.00	0.22	0.50	0.7	.02	.32	902	851.7	260.9	102.2
17.50	0.44	0.50	0.9	-16.91	.21	964	852.0	254.5	102.1
18.00	0.40	0.49	0.9	.91	.21	968	852.2	248.1	102.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40218.50	0.40	0.48	0.9	-16.91	-17.20	977	852.5	241.9	101.7
19.00	0.38	0.48	0.9	.91	.20	978	852.7	236.0	101.3
19.50	0.31	0.47	0.8	.96	.25	946	853.0	230.3	100.9
20.00	0.29	0.46	0.7	-17.02	.31	906	853.2	225.0	100.4
20.50	0.24	0.45	0.7	.02	.31	907	853.4	219.9	99.8
21.00	0.27	0.44	0.7	.02	.31	910	853.5	215.2	99.2
21.50	0.38	0.44	0.8	-16.97	.25	952	853.7	210.8	98.5
22.00	0.38	0.43	0.8	.97	.25	951	853.8	206.7	97.8
22.50	0.29	0.42	0.7	-17.03	.31	912	853.9	202.8	97.0
23.00	0.27	0.41	0.7	.03	.31	919	854.0	199.2	96.2
23.50	0.25	0.40	0.6	.10	.38	883	854.1	195.8	95.4
24.00	0.26	0.39	0.6	.10	.38	889	854.2	192.6	94.5
24.50	0.29	0.38	0.7	.04	.32	935	854.2	189.6	93.6
25.00	0.27	0.37	0.6	.10	.39	894	854.3	186.8	92.7
25.50	0.30	0.36	0.7	.04	.32	936	854.3	184.1	91.8
26.00	0.31	0.35	0.7	.04	.32	934	854.3	181.5	90.8
26.50	0.31	0.34	0.7	.04	.33	936	854.3	179.0	89.9
27.00	0.32	0.32	0.6	.11	.39	898	854.2	176.7	88.9
27.50	0.33	0.31	0.6	.11	.40	901	854.2	174.4	87.9
28.00	0.39	0.30	0.7	.04	.33	943	854.1	172.2	86.9
28.50	0.39	0.28	0.7	.04	.34	936	854.0	170.1	85.9
29.00	0.45	0.27	0.7	.04	.34	929	853.9	168.1	84.8
29.50	0.41	0.26	0.7	.04	.34	934	853.8	166.1	83.8
30.00	0.42	0.25	0.7	.04	.35	936	853.7	164.2	82.8
30.50	0.40	0.24	0.6	.11	.41	899	853.5	162.3	81.7
31.00	0.41	0.22	0.6	.11	.42	906	853.4	160.5	80.7
31.50	0.42	0.21	0.6	.11	.42	908	853.2	158.7	79.6
32.00	0.43	0.20	0.6	.12	.42	912	853.0	157.0	78.6
32.50	0.43	0.18	0.6	.12	.42	913	852.8	155.3	77.5
33.00	0.42	0.17	0.6	.12	.42	910	852.6	153.6	76.4
33.50	0.38	0.16	0.5	.20	.50	862	852.4	152.0	75.3
34.00	0.36	0.14	0.5	.20	.51	869	852.2	150.4	74.2
34.50	0.39	0.13	0.5	.20	.51	877	851.9	148.8	73.1
35.00	0.45	0.11	0.6	.12	.43	925	851.7	147.3	72.0
35.50	0.51	0.10	0.6	.12	.43	921	851.4	145.7	70.9
36.00	0.57	0.08	0.6	.12	.44	917	851.1	144.2	69.8
36.50	0.60	0.07	0.7	.05	.37	960	850.8	142.7	68.7
37.00	0.66	0.05	0.7	.06	.37	964	850.6	141.3	67.6
37.50	0.66	0.04	0.7	.05	.38	964	850.3	139.8	66.5
38.00	0.62	0.03	0.7	.05	.38	965	850.0	138.4	65.4
38.50	0.58	0.01	0.6	.12	.45	922	849.6	136.9	64.3
39.00	0.56	0.00	0.6	.12	.45	922	849.3	135.5	63.2
39.50	0.52	-0.02	0.5	.20	.53	875	849.0	134.1	62.0
40.00	0.53	-0.03	0.5	.20	.53	879	848.7	132.7	60.9
40.50	0.54	-0.04	0.5	.20	.53	887	848.4	131.4	59.8
41.00	0.52	-0.06	0.5	.20	.53	892	848.0	130.0	58.6
41.50	0.53	-0.07	0.5	.20	.53	896	847.7	128.7	57.5
42.00	0.56	-0.08	0.5	.20	.53	900	847.4	127.3	56.4
42.50	0.59	-0.09	0.5	.20	.54	905	847.0	126.0	55.2
43.00	0.59	-0.10	0.5	.20	.54	913	846.7	124.7	54.1
43.50	0.60	-0.11	0.5	.20	.54	917	846.3	123.3	53.0
44.00	0.63	-0.12	0.5	.20	.54	922	846.0	122.0	51.8
44.50	0.66	-0.13	0.5	.20	.54	923	845.7	120.7	50.7
45.00	0.69	-0.14	0.5	.20	.54	923	845.3	119.4	49.5
45.50	0.77	-0.15	0.6	.12	.47	972	845.0	118.1	48.4
46.00	0.82	-0.16	0.7	.04	.41	1004	844.7	116.9	47.2
46.50	0.83	-0.16	0.7	.03	.41	994	844.3	115.6	46.1
47.00	0.85	-0.17	0.7	.03	.42	992	844.0	114.3	44.9
47.50	1.00	-0.17	0.8	-16.97	.36	1033	843.7	113.1	43.8
48.00	0.74	-0.17	0.6	-17.09	.48	969	843.4	111.8	42.6

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40248.50	0.69	-0.16	0.5	-17.17	-17.57	923	843.1	110.5	41.5
49.00	0.67	-0.15	0.5	.17	.57	925	842.8	109.3	40.3
49.50	0.67	-0.14	0.5	.17	.56	939	842.5	108.1	39.1
50.00	0.67	-0.13	0.5	.18	.56	948	842.2	106.8	38.0
40251.00	0.62	-0.05	0.57	-17.11	-17.51	983	841.3	104.3	35.6
52.00	0.61	0.01	0.62	.07	.48	1005	840.8	101.9	33.3
40252.50	0.59	0.00	0.6	-17.08	-17.49	1001	840.5	100.7	32.1
53.00	0.58	0.00	0.6	.07	.49	999	840.3	99.4	31.0
53.50	0.65	0.00	0.6	.07	.49	1006	840.1	98.2	29.8
54.00	0.68	0.00	0.7	.00	.43	1046	839.9	97.0	28.7
54.50	0.86	0.00	0.9	-16.88	.32	1098	839.7	95.8	27.5
55.00	1.66	0.00	1.7	.58	.06	1211	839.5	94.6	26.3
55.50	1.40	0.00	1.4	.65	.15	1163	839.4	93.4	25.1
56.00	0.89	0.00	0.9	.84	.34	1079	839.2	92.2	24.0
56.50	0.90	0.00	0.9	.85	.34	1088	839.1	91.0	22.8
57.00	0.88	0.00	0.9	.85	.34	1092	839.0	89.8	21.6
57.50	0.89	0.00	0.9	.85	.34	1096	838.9	88.6	20.5
58.00	0.99	0.00	1.0	.80	.29	1120	838.8	87.4	19.3
58.50	1.17	0.00	1.2	.71	.22	1155	838.8	86.2	18.1
59.00	1.08	0.00	1.1	.75	.25	1142	838.7	85.0	17.0
59.50	1.02	0.00	1.0	.79	.29	1124	838.7	83.8	15.8
60.00	1.03	0.00	1.0	.78	.30	1122	838.7	82.6	14.6
60.50	1.03	0.00	1.0	.78	.30	1124	838.7	81.4	13.4
61.00	1.07	0.00	1.1	.74	.25	1146	838.7	80.2	12.3
61.50	1.08	0.00	1.1	.74	.25	1150	838.8	79.0	11.1
62.00	1.11	0.00	1.1	.74	.25	1151	838.8	77.8	9.9
62.50	1.17	0.00	1.2	.70	.21	1165	838.9	76.6	8.7
63.00	1.20	0.00	1.2	.68	.22	1159	839.0	75.4	7.6
63.50	1.49	0.00	1.5	.57	.12	1193	839.1	74.3	6.4
64.00	1.92	0.00	1.9	.47	.02	1236	839.2	73.1	5.2
64.50	1.24	0.00	1.2	.68	.21	1162	839.3	71.9	4.0
65.00	1.11	0.00	1.1	.72	.25	1150	839.5	70.7	2.9
65.50	1.03	0.00	1.0	.76	.29	1129	839.7	69.5	1.7
66.00	0.97	0.00	1.0	.76	.29	1130	839.8	68.3	0.5
66.50	0.97	0.00	1.0	.76	.29	1132	840.0	67.1	-0.7
67.00	1.02	0.00	1.0	.76	.29	1132	840.3	65.9	-1.9
67.50	1.06	0.00	1.1	.71	.25	1146	840.5	64.7	-3.0
68.00	1.14	0.00	1.1	.71	.25	1146	840.7	63.5	-4.2
68.50	1.07	0.00	1.1	.71	.25	1147	841.0	62.3	-5.4
69.00	1.07	0.00	1.1	.71	.25	1152	841.3	61.1	-6.6
69.50	1.08	0.00	1.1	.71	.24	1157	841.6	59.9	-7.8
70.00	1.09	0.00	1.1	.71	.24	1159	841.9	58.7	-8.9
70.50	1.15	0.00	1.1	.71	.24	1160	842.2	57.5	-10.1
71.00	1.31	0.00	1.3	.63	.17	1190	842.5	56.3	-11.3
71.50	1.45	0.00	1.5	.56	.11	1212	842.9	55.1	-12.5
40272.00	1.53	-0.01	1.53	-16.55	-17.10	1215	843.2	53.9	-13.7
73.00	1.83	-0.01	1.82	.46	.03	1247	844.0	51.5	-16.0
74.00	2.01	0.00	2.01	.42	-16.98	1268	844.8	49.0	-18.4
40275.00	2.18	0.02	2.2	-16.37	-16.94	1285	845.5	46.5	-20.7
75.50	2.18	0.03	2.2	.36	.94	1284	845.9	45.3	-21.9
76.00	2.16	0.04	2.2	.36	.94	1285	846.3	44.1	-23.1
76.50	2.16	0.06	2.2	.36	.94	1287	846.8	42.8	-24.3
77.00	2.18	0.07	2.3	.34	.92	1296	847.2	41.6	-25.5
77.50	2.20	0.09	2.3	.34	.92	1296	847.7	40.3	-26.6
78.00	2.27	0.10	2.4	.32	.90	1303	848.2	39.0	-27.8
78.50	2.34	0.11	2.4	.32	.90	1300	848.7	37.7	-29.0

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40279.00	2.33	0.13	2.5	-16.30	-16.88	1305	849.2	36.5	-30.2
79.50	2.34	0.14	2.5	.31	.88	1300	849.7	35.2	-31.4
80.00	2.75	0.16	2.9	.24	.81	1325	850.2	33.9	-32.5
80.50	2.27	0.17	2.4	.33	.90	1292	850.7	32.5	-33.7
81.00	1.97	0.19	2.2	.37	.94	1276	851.2	31.2	-34.9
81.50	1.73	0.20	1.9	.45	-17.00	1249	851.8	29.9	-36.1
82.00	1.60	0.22	1.8	.48	.02	1236	852.3	28.5	-37.3
82.50	1.42	0.23	1.6	.54	.08	1212	852.9	27.2	-38.4
83.00	1.31	0.25	1.6	.56	.07	1215	853.4	25.8	-39.6
83.50	1.15	0.26	1.4	.63	.25	1192	854.4	24.5	-40.7
84.00	1.07	0.27	1.3	.67	.28	1179	855.0	23.0	-41.9
84.50	1.01	0.29	1.3	.68	.28	1178	855.6	21.6	-43.1
85.00	0.96	0.30	1.3	.67	.28	1171	856.2	20.2	-44.2
85.50	0.90	0.31	1.2	.71	.32	1149	856.8	18.7	-45.4
86.00	0.86	0.32	1.2	.72	.32	1149	857.4	17.2	-46.6
86.50	0.85	0.34	1.2	.72	.31	1148	858.0	15.7	-47.8
87.00	0.92	0.35	1.3	.69	.28	1159	858.7	14.2	-48.9
87.50	1.11	0.36	1.5	.63	.22	1185	859.3	12.6	-50.1
88.00	1.02	0.37	1.4	.67	.25	1171	859.9	11.1	-51.3
88.50	0.73	0.38	1.1	.78	.35	1124	860.6	9.4	-52.4
89.00	0.59	0.39	1.0	.83	.39	1105	861.2	7.8	-53.6
89.50	0.56	0.40	1.0	.83	.38	1104	861.9	6.1	-54.8
90.00	0.50	0.42	0.9	.88	.43	1081	862.5	4.3	-55.9
90.50	0.53	0.42	0.9	.89	.43	1083	863.1	2.5	-57.1
91.00	0.55	0.43	1.0	.85	.38	1106	863.7	0.7	-58.2
91.50	0.58	0.44	1.0	.85	.38	1100	864.4	358.8	-59.3
92.00	0.61	0.45	1.1	.80	.34	1107	865.0	356.8	-60.5
92.50	0.59	0.46	1.0	.84	.39	1079	865.6	354.8	-61.6
93.00	0.48	0.46	0.9	.90	.43	1063	866.2	352.7	-62.7
93.50	0.37	0.47	0.8	.97	.47	1045	866.8	350.5	-63.8
94.00	0.36	0.47	0.8	.98	.47	1045	867.4	348.2	-64.9
94.50	0.35	0.48	0.8	.98	.47	1045	868.0	345.8	-66.0
95.00	0.29	0.49	0.8	.99	.47	1040	868.5	343.3	-67.1
95.50	0.21	0.49	0.7	-17.04	.53	998	869.1	340.6	-68.2
96.00	0.55	0.50	1.0	-16.88	.38	1081	869.6	337.8	-69.2
96.50	0.96	0.50	1.5	.70	.21	1166	870.2	334.8	-70.3
97.00	1.07	0.50	1.6	.67	.18	1176	870.7	331.7	-71.3
97.50	0.80	0.51	1.3	.76	.28	1127	871.2	328.3	-72.2
98.00	0.65	0.51	1.2	.79	.32	1107	871.7	324.7	-73.2
98.50	0.62	0.51	1.1	.83	.35	1091	872.2	320.8	-74.1
99.00	0.61	0.52	1.1	.83	.35	1095	872.6	316.7	-75.0
40299.20	0.4	0.5	0.9	-16.92	-17.44	1050	872.8	314.9	-75.3
99.40	0.7	0.5	1.3	.76	.28	1134	873.0	313.2	-75.7
99.60	0.9	0.5	1.4	.73	.25	1148	873.2	311.3	-76.0
99.80	1.1	0.5	1.6	.67	.19	1177	873.3	309.4	-76.3
40300.00	3.1	0.5	3.6	.31	-16.84	1335	873.5	307.5	-76.6
00.20	2.3	0.5	2.8	.41	.96	1273	873.7	305.5	-76.9
00.40	1.4	0.5	1.9	.58	-17.12	1195	873.8	303.4	-77.2
00.60	1.2	0.5	1.8	.62	.14	1193	874.0	301.3	-77.5
00.80	1.1	0.5	1.6	.67	.19	1171	874.2	299.2	-77.7
40301.00	1.00	0.52	1.5	-16.70	-17.22	1154	874.3	296.9	-78.0
01.50	0.95	0.52	1.5	.70	.22	1154	874.7	291.2	-78.5
02.00	0.91	0.52	1.4	.73	.24	1139	875.1	285.2	-79.0
02.50	0.97	0.52	1.5	.69	.21	1154	875.4	278.9	-79.4
03.00	1.01	0.52	1.5	.70	.21	1157	875.8	272.5	-79.7
40303.20	1.0	0.5	1.5	-16.70	-17.21	1159	875.9	270.0	-79.8
03.40	1.2	0.5	1.7	.65	.15	1190	876.0	267.4	-79.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40303.60	1.5	0.5	2.0	-16.58	-17.07	1224	876.1	264.8	-80.0
03.80	1.9	0.5	2.5	.48	-16.98	1265	876.2	262.2	-80.0
04.00	2.5	0.5	3.1	.37	.89	1295	876.4	259.7	-80.0
04.20	5.8	0.5	6.3	.04	.59	1418	876.5	257.2	-80.0
04.40	4.2	0.5	4.7	.16	.72	1358	876.6	254.7	-80.0
04.60	2.7	0.5	3.2	.34	.88	1287	876.7	252.2	-80.0
04.80	-0.2	0.5	0.3	-17.38	-17.89	708	876.8	249.8	-80.0
40305.00	0.21	0.51	0.7	-17.03	-17.52	957	876.9	247.4	-79.9
05.50	0.58	0.51	1.1	-16.84	.31	1082	877.1	241.6	-79.8
06.00	0.81	0.50	1.3	.77	.23	1121	877.4	236.1	-79.5
06.50	0.83	0.50	1.3	.78	.22	1129	877.6	231.0	-79.2
07.00	0.64	0.50	1.1	.86	.29	1091	877.7	226.1	-78.8
07.50	0.55	0.49	1.0	.90	.33	1068	877.9	221.6	-78.3
08.00	0.34	0.49	0.8	-17.00	.42	1015	878.1	217.5	-77.9
08.50	0.19	0.48	0.7	.06	.48	979	878.2	213.6	-77.3
09.00	0.11	0.48	0.6	.13	.54	935	878.3	209.9	-76.7
09.50	0.32	0.47	0.8	.00	.42	1006	878.4	206.5	-76.1
10.00	0.45	0.47	0.9	-16.95	.37	1027	878.5	203.3	-75.5
10.50	0.45	0.46	0.9	.95	.37	1029	878.5	200.3	-74.8
11.00	0.67	0.45	1.1	.86	.28	1078	878.6	197.5	-74.2
11.50	0.45	0.44	0.9	.95	.37	1021	878.6	194.8	-73.5
12.00	0.24	0.44	0.7	-17.06	.47	957	878.6	192.3	-72.8
12.50	0.34	0.43	0.8	.00	.42	991	878.6	189.9	-72.0
13.00	0.34	0.42	0.8	.00	.42	983	878.5	187.6	-71.3
13.50	0.29	0.41	0.7	.06	.48	947	878.5	185.3	-70.5
14.00	0.67	0.40	1.1	-16.86	.28	1065	878.4	183.2	-69.8
14.50	0.67	0.40	1.1	.86	.28	1066	878.4	181.2	-69.0
15.00	0.38	0.39	0.8	-17.01	.42	985	878.3	179.2	-68.2
15.50	0.25	0.38	0.6	.13	.54	905	878.2	177.3	-67.4
16.00	0.40	0.37	0.8	.01	.41	984	878.0	175.5	-66.6
16.50	0.36	0.36	0.7	.07	.47	949	877.9	173.7	-65.8
17.00	0.30	0.35	0.6	.14	.53	907	877.8	171.9	-65.0
17.50	0.36	0.34	0.7	.08	.47	949	877.6	170.2	-64.2
18.00	0.35	0.32	0.7	.07	.47	944	877.5	168.5	-63.4
18.50	0.46	0.31	0.8	.02	.41	975	877.2	166.9	-62.5
19.00	0.36	0.30	0.7	.08	.46	942	877.0	165.3	-61.7
19.50	0.20	0.29	0.5	.23	.61	860	876.8	163.8	-60.9
20.00	0.24	0.28	0.5	.23	.61	865	876.5	162.2	-60.0
20.50	0.27	0.26	0.5	.23	.61	861	876.2	160.7	-59.2
21.00	0.33	0.25	0.6	.15	.53	907	876.0	159.2	-58.4
21.50	0.34	0.24	0.6	.15	.53	909	875.7	157.8	-57.5
22.00	0.38	0.23	0.6	.15	.53	910	875.4	156.3	-56.7
22.50	0.42	0.22	0.6	.15	.53	909	875.0	154.9	-55.8
23.00	0.43	0.20	0.6	.15	.53	914	874.7	153.5	-55.0
23.50	0.47	0.19	0.7	.09	.46	959	874.4	152.1	-54.1
24.00	0.48	0.18	0.7	.08	.46	946	874.0	150.8	-53.2
24.50	0.52	0.16	0.7	.07	.47	937	873.6	149.4	-52.4
25.00	0.54	0.15	0.7	.07	.47	936	873.3	148.1	-51.5
25.50	0.57	0.14	0.7	.07	.47	938	872.9	146.7	-50.7
26.00	0.59	0.12	0.7	.07	.47	941	872.5	145.4	-49.8
26.50	0.61	0.11	0.7	.06	.48	937	872.1	144.1	-48.9
27.00	0.65	0.09	0.7	.06	.48	941	871.7	142.8	-48.0
27.50	0.71	0.08	0.8	.00	.42	977	871.3	141.5	-47.2
28.00	0.80	0.07	0.9	-16.95	.37	1004	870.9	140.2	-46.3
28.50	0.79	0.05	0.8	-17.00	.42	972	870.4	139.0	-45.4
29.00	0.68	0.04	0.7	.06	.48	938	870.0	137.7	-44.6
29.50	0.60	0.03	0.6	.13	.54	904	869.6	136.4	-43.7
30.00	0.59	0.02	0.6	.13	.54	914	869.1	135.2	-42.8
30.50	0.58	0.00	0.6	.14	.54	923	868.7	133.9	-41.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
40331.00	0.52	-0.01	0.5	-17.22	-17.61	878	868.2	132.7	-41.0
31.50	0.61	-0.02	0.6	.14	.54	925	867.8	131.5	-40.2
32.00	0.72	-0.03	0.7	.06	.47	963	867.3	130.2	-39.3
32.50	0.76	-0.05	0.7	.06	.47	966	866.9	129.0	-38.4
33.00	0.80	-0.06	0.7	.06	.47	970	866.4	127.8	-37.5
33.50	0.78	-0.07	0.7	.05	.48	962	866.0	126.6	-36.6
34.00	0.79	-0.08	0.7	.05	.48	966	865.5	125.4	-35.7
34.50	0.78	-0.09	0.7	.06	.48	975	865.0	124.2	-34.9
35.00	0.81	-0.10	0.7	.05	.48	974	864.6	123.0	-34.0
35.50	0.80	-0.11	0.7	.05	.48	974	864.1	121.8	-33.1
36.00	0.81	-0.12	0.7	.05	.48	974	863.7	120.6	-32.2
36.50	0.79	-0.12	0.7	.05	.49	975	863.2	119.4	-31.3
37.00	0.77	-0.13	0.6	.11	.55	940	862.8	118.2	-30.4
37.50	0.75	-0.13	0.6	.11	.55	946	862.3	117.0	-29.5
38.00	0.73	-0.13	0.6	.11	.56	943	861.9	115.8	-28.6
38.50	0.75	-0.13	0.6	.10	.56	940	861.5	114.6	-27.7
39.00	0.78	-0.12	0.7	.03	.50	980	861.0	113.4	-26.9
39.50	0.97	-0.11	0.9	-16.91	.40	1031	860.6	112.2	-26.0
40.00	1.07	-0.10	1.0	.86	.35	1061	860.2	111.1	-25.1
40.50	0.85	-0.09	0.8	.97	.44	1025	859.8	109.9	-24.2
41.00	0.84	-0.07	0.8	.97	.44	1022	859.3	108.7	-23.3
41.50	1.06	-0.05	1.0	.86	.35	1070	858.9	107.5	-22.4
42.00	0.63	-0.03	0.6	-17.09	.57	948	858.5	106.3	-21.5
42.50	0.52	-0.01	0.5	.17	.65	913	858.1	105.2	-20.6
43.00	0.41	0.00	0.4	.27	.75	863	857.7	104.0	-19.7
43.50	0.69	0.00	0.7	.02	.51	1002	857.4	102.8	-18.8
44.00	1.00	0.00	1.0	-16.85	.36	1082	857.0	101.6	-18.0
44.50	0.81	0.00	0.8	.95	.46	1032	856.6	100.4	-17.1
45.00	0.54	0.00	0.5	-17.15	.66	922	856.2	99.3	-16.2
45.50	0.50	0.00	0.5	.15	.66	930	855.9	98.1	-15.3
46.00	0.74	0.00	0.7	.00	.52	1017	855.5	96.9	-14.4
46.50	0.76	0.00	0.8	-16.94	.47	1050	854.9	95.7	-13.5
47.00	0.80	0.00	0.8	.93	.47	1051	854.6	94.6	-12.6
47.50	0.84	0.00	0.8	.92	.48	1054	854.3	93.4	-11.7
48.00	0.77	0.00	0.8	.92	.48	1058	854.1	92.2	-10.8
48.50	0.68	0.00	0.7	.98	.53	1031	853.8	91.0	-10.0
49.00	0.75	0.00	0.7	.99	.53	1039	853.6	89.8	-9.1
49.50	0.87	0.00	0.9	.88	.42	1097	853.3	88.6	-8.2
50.00	0.98	0.00	1.0	.83	.38	1117	853.1	87.5	-7.3
50.50	1.12	0.00	1.1	.78	.35	1135	852.9	86.3	-6.4
51.00	1.05	0.00	1.1	.77	.35	1133	852.7	85.1	-5.5
51.50	1.03	0.00	1.0	.81	.39	1114	852.6	83.9	-4.7
52.00	1.01	0.00	1.0	.81	.39	1121	852.4	82.7	-3.8
52.50	1.06	0.00	1.1	.77	.35	1145	852.3	81.5	-2.9
53.00	1.10	0.00	1.1	.77	.35	1148	852.1	80.3	-2.0
53.50	1.21	0.00	1.2	.72	.32	1168	852.0	79.1	-1.1
54.00	1.59	0.00	1.6	.58	.21	1215	851.9	77.9	-0.3
54.50	1.70	0.00	1.7	.53	.19	1220	851.9	76.7	0.6
55.00	1.56	0.00	1.6	.55	.22	1208	851.8	75.5	1.5
55.50	1.64	0.00	1.6	.55	.22	1211	851.7	74.3	2.4
56.00	1.86	0.00	1.9	.47	.15	1240	851.7	73.1	3.3
56.50	2.13	0.00	2.1	.41	.11	1251	851.7	71.8	4.1
57.00	2.30	0.00	2.3	.36	.08	1270	851.7	70.6	5.0
57.50	1.14	0.00	1.1	.70	.39	1146	851.7	69.4	5.9
58.00	1.13	0.00	1.1	.71	.39	1155	851.7	68.2	6.8
58.50	1.19	0.00	1.2	.68	.35	1177	851.7	66.9	7.7
59.00	1.18	0.00	1.2	.67	.35	1179	851.8	65.7	8.5
59.50	1.16	0.00	1.2	.67	.35	1179	851.8	64.4	9.4
60.00	1.36	0.00	1.4	.60	.29	1208	851.9	63.2	10.3
60.50	1.37	0.00	1.4	.60	.29	1210	852.0	61.9	11.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40361.00	1.37	0.00	1.4	-16.60	-17.29	1213	852.1	60.7	12.1
61.50	1.37	0.00	1.4	.61	.28	1216	852.2	59.4	12.9
62.00	1.25	0.00	1.2	.67	.35	1190	852.3	58.1	13.8
62.50	1.25	0.00	1.2	.67	.36	1189	852.5	56.9	14.7
63.00	1.19	0.00	1.2	.66	.36	1192	852.6	55.6	15.6
63.50	1.17	0.00	1.2	.66	.36	1194	852.8	54.3	16.5
64.00	1.11	0.00	1.1	.69	.40	1181	853.0	53.0	17.3
64.50	1.03	0.00	1.0	.73	.44	1167	853.2	51.7	18.2
65.00	1.00	0.00	1.0	.73	.44	1168	853.4	50.3	19.1
65.50	0.99	0.00	1.0	.74	.44	1170	853.6	49.0	20.0
66.00	0.98	0.00	1.0	.74	.44	1170	853.8	47.7	20.9
66.50	0.92	0.01	0.9	.79	.49	1155	854.1	46.3	21.7
67.00	0.86	0.02	0.9	.79	.49	1158	854.3	44.9	22.6
67.50	0.82	0.03	0.8	.85	.54	1138	854.6	43.6	23.5
68.00	0.78	0.04	0.8	.85	.54	1140	854.8	42.2	24.4
68.50	0.77	0.05	0.8	.86	.54	1141	855.1	40.8	25.3
69.00	0.73	0.06	0.8	.86	.54	1141	855.4	39.3	26.1
69.50	0.65	0.08	0.7	.92	.60	1113	855.7	37.9	27.0
70.00	0.61	0.09	0.7	.93	.60	1114	856.0	36.5	27.9
70.50	0.60	0.10	0.7	.94	.59	1117	856.3	35.0	28.8
71.00	0.56	0.11	0.7	.95	.59	1116	856.6	33.5	29.7
71.50	0.52	0.12	0.6	-17.02	.66	1084	856.9	32.0	30.5
72.00	0.46	0.14	0.6	.03	.66	1082	857.2	30.4	31.4
72.50	0.47	0.15	0.6	.03	.66	1084	857.6	28.9	32.3
73.00	0.48	0.16	0.6	.04	.66	1084	857.9	27.3	33.2
73.50	0.35	0.18	0.5	.13	.73	1052	858.3	25.7	34.1
74.00	0.31	0.19	0.5	.14	.73	1058	858.6	24.0	34.9
74.50	0.30	0.20	0.5	.14	.73	1058	859.0	22.4	35.8
75.00	0.32	0.22	0.5	.14	.73	1058	859.3	20.7	36.7
75.50	0.34	0.23	0.6	.06	.66	1097	859.7	18.9	37.5
76.00	0.37	0.24	0.6	.06	.66	1097	860.1	17.1	38.4
76.50	0.40	0.25	0.6	.05	.66	1096	860.5	15.3	39.3
77.00	0.47	0.26	0.7	-16.98	.60	1127	860.8	13.4	40.1
77.50	0.53	0.27	0.8	.92	.55	1153	861.2	11.4	41.0
78.00	0.61	0.28	0.9	.86	.50	1176	861.5	9.4	41.8
78.50	0.64	0.30	0.9	.86	.50	1179	861.9	7.3	42.7
79.00	0.59	0.31	0.9	.85	.51	1177	862.2	5.1	43.5
79.50	0.58	0.32	0.9	.84	.51	1175	862.6	2.9	44.3
80.00	0.69	0.32	1.0	.79	.47	1195	863.0	0.6	45.1
80.50	0.79	0.33	1.1	.74	.43	1213	863.3	358.1	46.0
81.00	0.87	0.34	1.2	.70	.39	1228	863.7	355.6	46.8
81.50	0.89	0.35	1.2	.70	.39	1229	864.0	352.9	47.5
82.00	0.96	0.36	1.3	.66	.36	1242	864.3	350.1	48.3
82.50	0.66	0.37	1.0	.78	.48	1196	864.7	347.1	49.1
83.00	0.52	0.38	0.9	.84	.52	1181	865.0	343.9	49.8
83.50	0.48	0.39	0.9	.84	.52	1182	865.4	340.6	50.5
84.00	0.73	0.40	1.1	.75	.44	1215	865.7	337.0	51.2
84.50	1.25	0.40	1.6	.59	.28	1279	866.0	333.2	51.9
85.00	0.95	0.41	1.4	.65	.34	1255	866.4	329.1	52.5
85.50	0.68	0.42	1.1	.76	.44	1212	866.7	324.8	53.1
86.00	0.55	0.43	1.0	.81	.49	1195	867.0	320.2	53.6
86.50	0.76	0.43	1.2	.73	.41	1223	867.3	315.2	54.1
87.00	0.90	0.44	1.3	.71	.37	1237	867.6	310.0	54.5
87.50	0.74	0.44	1.2	.75	.41	1229	868.0	304.5	54.9
88.00	0.53	0.45	1.0	.85	.49	1199	868.3	298.7	55.1
88.50	0.42	0.45	0.9	.90	.53	1176	868.6	292.7	55.4
89.00	0.36	0.46	0.8	.96	.58	1152	868.8	286.5	55.5
89.50	0.29	0.46	0.8	.97	.57	1158	869.1	280.2	55.5
90.00	0.25	0.47	0.7	-17.05	.62	1141	869.4	274.0	55.4
90.50	0.16	0.47	0.6	.14	.68	1122	869.7	267.8	55.3

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40391.00	0.09	0.48	0.6	-17.15	-17.67	1129	870.0	261.8	55.1
91.50	0.03	0.48	0.5	.22	.75	1087	870.2	256.0	54.7
92.00	0.06	0.48	0.5	.22	.75	1085	870.5	250.4	54.3
92.50	0.06	0.49	0.5	.22	.75	1086	870.7	245.2	53.9
93.00	0.05	0.49	0.5	.23	.74	1091	871.0	240.2	53.4
93.50	-0.07	0.49	0.4	.33	.84	1045	871.2	235.6	52.8
94.00	-0.16	0.49	0.3	.47	.96	979	871.4	231.3	52.2
94.50	-0.19	0.49	0.3	.48	.95	987	871.7	227.2	51.5
95.00	-0.18	0.49	0.3	.48	.95	989	871.9	223.4	50.8
95.50	-0.14	0.49	0.3	.48	.95	986	872.1	219.8	50.1
96.00	-0.15	0.49	0.3	.48	.95	980	872.3	216.4	49.3
96.50	-0.16	0.49	0.3	.48	.95	976	872.5	213.3	48.6
97.00	-0.19	0.49	0.3	.48	.95	978	872.7	210.3	47.8
97.50	-0.19	0.49	0.3	.49	.95	982	872.8	207.4	46.9
98.00	-0.21	0.49	0.3	.49	.95	980	873.0	204.8	46.1
98.50	-0.21	0.49	0.3	.50	.95	983	873.2	202.2	45.3
99.00	-0.25	0.49	0.2	.68	-18.12	881	873.3	199.7	44.4
99.50	-0.32	0.49	0.2	.69	.12	886	873.5	197.4	43.5
40400.00	-0.33	0.49	0.2	.70	.12	888	873.6	195.2	42.6
00.50	-0.34	0.48	0.1	-18.00	.42	727	873.7	193.0	41.7
01.00	-0.32	0.48	0.2	-17.71	.12	894	873.8	190.9	40.8
01.50	-0.31	0.48	0.2	.71	.12	892	873.9	188.9	39.9
02.00	-0.31	0.48	0.2	.71	.12	890	874.0	186.9	39.0
02.50	-0.28	0.47	0.2	.71	.12	889	874.1	185.0	38.1
03.00	-0.21	0.47	0.3	.52	-17.95	990	874.2	183.2	37.2
03.50	0.05	0.47	0.5	.29	.74	1106	874.3	181.4	36.3
04.00	0.00	0.46	0.5	.28	.74	1099	874.3	179.6	35.4
04.50	-0.19	0.46	0.3	.51	.96	978	874.4	177.9	34.4
05.00	-0.21	0.46	0.2	.69	-18.13	880	874.4	176.2	33.5
05.50	-0.18	0.45	0.3	.52	-17.96	987	874.4	174.5	32.6
06.00	-0.17	0.45	0.3	.51	.96	984	874.5	172.9	31.6
06.50	-0.16	0.44	0.3	.51	.96	984	874.5	171.3	30.7
40407.00	-0.17	0.43	0.26	-17.58	-18.03	946	874.5	169.8	29.7
08.00	-0.11	0.43	0.32	.49	-17.94	999	874.5	166.7	27.8
09.00	-0.11	0.41	0.30	.52	.97	976	874.5	163.7	26.0
10.00	-0.08	0.40	0.32	.49	.94	990	874.4	160.8	24.1
11.00	-0.01	0.39	0.38	.42	.86	1032	874.4	158.0	22.2
12.00	0.00	0.38	0.37	.43	.87	1022	874.3	155.2	20.2
13.00	0.00	0.36	0.36	.45	.88	1016	874.2	152.5	18.3
14.00	-0.03	0.34	0.31	.51	.95	973	874.1	149.8	16.4
15.00	-0.02	0.33	0.31	.51	.95	966	874.0	147.1	14.5
16.00	0.01	0.31	0.32	.50	.93	971	873.9	144.5	12.6
17.00	0.01	0.29	0.30	.54	.95	961	873.8	141.9	10.7
18.00	-0.01	0.27	0.26	.61	-18.00	927	873.7	139.4	8.8
19.00	-0.03	0.25	0.22	.68	.07	883	873.6	136.8	6.9
20.00	-0.04	0.22	0.18	.77	.15	833	873.6	134.3	5.0
21.00	-0.02	0.20	0.18	.77	.14	836	873.5	131.8	3.1
22.00	0.02	0.17	0.19	.74	.12	850	873.5	129.4	1.3
23.00	0.07	0.13	0.20	.72	.09	861	873.5	126.9	-0.6
24.00	0.10	0.08	0.18	.76	.13	827	873.5	124.5	-2.5
25.00	0.14	0.00	0.14	.86	.23	745	873.6	122.0	-4.4
26.00	0.17	0.00	0.17	.77	.14	808	873.7	119.6	-6.2
27.00	0.19	0.00	0.19	.72	.09	838	873.8	117.2	-8.1
28.00	0.23	0.00	0.23	.63	.00	882	874.0	114.8	-10.0
40428.50	0.33	0.00	0.3	-17.50	-17.88	945	874.1	113.6	-10.9
29.00	0.40	0.00	0.4	.36	.76	1005	874.2	112.4	-11.8
29.50	0.49	0.00	0.5	.26	.66	1061	874.3	111.2	-12.7
30.00	0.29	0.00	0.3	.49	.88	939	874.4	110.1	-13.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40430.50	0.20	0.00	0.2	-17.67	-18.04	843	874.6	108.9	-14.6
31.00	0.22	0.00	0.2	.66	.04	846	874.7	107.7	-15.5
31.50	0.26	0.00	0.3	.48	-17.86	954	874.9	106.5	-16.4
40432.00	0.30	0.00	0.30	-17.48	-17.86	950	875.1	105.3	-17.3
33.00	0.39	0.00	0.39	.35	.74	1011	875.5	102.9	-19.2
34.00	0.39	0.00	0.39	.33	.74	1009	875.9	100.6	-21.0
35.00	0.41	0.00	0.41	.30	.71	1025	876.4	98.2	-22.8
36.00	0.49	0.00	0.49	.20	.63	1063	876.9	95.8	-24.6
37.00	0.66	0.00	0.66	.05	.50	1125	877.5	93.5	-26.4
38.00	0.72	0.00	0.72	.01	.46	1146	878.1	91.1	-28.2
39.00	0.69	0.00	0.69	.03	.47	1142	878.8	88.7	-30.0
40.00	0.68	0.00	0.68	.04	.46	1141	879.6	86.3	-31.8
41.00	0.72	0.00	0.72	.02	.43	1153	880.3	84.0	-33.6
42.00	0.75	0.00	0.75	.00	.40	1158	881.1	81.6	-35.4
43.00	0.76	0.00	0.76	.00	.38	1162	882.0	79.2	-37.1
44.00	0.61	0.00	0.61	.10	.47	1117	882.9	76.8	-38.9
45.00	0.58	0.00	0.58	.12	.48	1099	883.9	74.4	-40.6
46.00	0.64	0.00	0.64	.07	.44	1117	884.9	71.9	-42.4
47.00	0.51	0.00	0.51	.17	.53	1064	885.9	69.5	-44.1
48.00	0.47	0.00	0.47	.21	.55	1047	887.0	67.0	-45.9
49.00	0.42	0.00	0.42	.26	.60	1019	888.1	64.5	-47.6
50.00	0.47	0.00	0.47	.21	.54	1044	889.2	62.0	-49.3
51.00	0.43	0.00	0.43	.25	.58	1016	890.4	59.4	-51.0
40452.00	0.42	0.00	0.4	-17.29	-17.60	993	891.6	56.9	-52.7
52.50	0.49	0.00	0.5	.19	.51	1050	892.2	55.6	-53.5
53.00	0.49	0.00	0.5	.19	.51	1045	892.8	54.2	-54.4
53.50	0.39	0.00	0.4	.29	.60	987	893.4	52.9	-55.2
54.00	0.33	0.00	0.3	.41	.72	913	894.0	51.6	-56.1
54.50	0.41	0.00	0.4	.29	.60	992	894.6	50.2	-56.9
55.00	0.41	0.00	0.4	.29	.60	991	895.2	48.9	-57.7
55.50	0.53	0.00	0.5	.19	.50	1051	895.8	47.5	-58.6
40456.00	0.53	0.00	0.53	-17.16	-17.48	1060	896.4	46.1	-59.4
57.00	0.52	0.00	0.52	.17	.49	1049	897.7	43.3	-61.0
58.00	0.48	0.01	0.49	.20	.51	1035	899.0	40.4	-62.7
59.00	0.50	0.09	0.59	.12	.44	1082	900.2	37.4	-64.3
60.00	0.61	0.16	0.77	.00	.33	1140	901.5	34.3	-66.0
61.00	0.46	0.21	0.67	.06	.39	1101	902.8	31.0	-67.6
62.00	0.48	0.26	0.74	.03	.35	1133	904.0	27.6	-69.2
63.00	0.44	0.29	0.73	.04	.35	1130	905.2	24.0	-70.7
64.00	0.40	0.32	0.72	.05	.36	1123	906.4	20.2	-72.3
65.00	0.38	0.34	0.72	.06	.36	1121	907.6	16.2	-73.8
66.00	0.33	0.36	0.69	.09	.38	1111	908.8	11.8	-75.3
67.00	0.28	0.38	0.65	.12	.41	1094	909.9	6.9	-76.7
68.00	0.26	0.39	0.65	.13	.41	1088	910.9	1.6	-78.1
69.00	0.26	0.40	0.66	.13	.41	1084	912.0	355.6	-79.4
70.00	0.22	0.41	0.64	.15	.43	1062	912.9	348.8	-80.6
71.00	0.12	0.42	0.54	.23	.51	1009	913.8	341.0	-81.7
72.00	0.06	0.43	0.49	.28	.55	980	914.7	331.9	-82.6
73.00	0.04	0.43	0.47	.31	.58	968	915.5	321.6	-83.2
74.00	-0.03	0.44	0.41	.38	.64	935	916.3	310.0	-83.6
75.00	-0.08	0.44	0.36	.44	.70	898	916.9	297.4	-83.6
76.00	-0.14	0.45	0.31	.51	.77	859	917.5	284.4	-83.2
77.00	-0.12	0.45	0.32	.51	.76	872	918.1	271.9	-82.4
78.00	-0.10	0.45	0.35	.47	.72	896	918.6	260.4	-81.2
79.00	-0.05	0.45	0.39	.42	.68	913	919.0	250.2	-79.7
80.00	-0.03	0.44	0.41	.40	.66	922	919.3	241.3	-78.0
81.00	-0.03	0.44	0.41	.40	.66	929	919.6	233.6	-76.2

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40482.00	0.01	0.44	0.45	-17.36	-17.62	949	919.8	226.9	-74.2
83.00	0.01	0.43	0.44	.37	.63	938	919.9	221.0	-72.1
84.00	-0.05	0.43	0.38	.44	.69	903	920.0	215.7	-69.9
85.00	-0.08	0.42	0.34	.49	.75	878	920.0	211.0	-67.6
86.00	-0.06	0.41	0.36	.47	.72	896	919.9	206.6	-65.3
87.00	-0.05	0.41	0.36	.47	.73	896	919.8	202.6	-63.0
88.00	0.01	0.40	0.41	.41	.67	924	919.6	198.8	-60.7
89.00	0.02	0.39	0.41	.41	.67	917	919.4	195.2	-58.3
90.00	0.05	0.38	0.43	.39	.66	929	919.1	191.9	-55.9
40490.50	0.09	0.38	0.5	-17.32	-17.59	971	919.0	190.3	-54.6
91.00	0.04	0.37	0.4	.42	.69	914	918.8	188.7	-53.4
91.50	0.07	0.37	0.4	.42	.69	915	918.6	187.1	-52.2
92.00	0.10	0.36	0.5	.32	.59	965	918.4	185.6	-51.0
92.50	0.20	0.35	0.6	.24	.52	994	918.2	184.1	-49.8
93.00	0.16	0.35	0.5	.32	.60	939	918.0	182.6	-48.5
93.50	0.16	0.34	0.5	.31	.60	935	917.8	181.1	-47.3
94.00	0.17	0.34	0.5	.31	.60	918	917.5	179.7	-46.1
94.50	0.39	0.33	0.7	.16	.46	1008	917.3	178.3	-44.9
95.00	0.30	0.32	0.6	.24	.52	982	917.0	176.9	-43.6
95.50	0.11	0.32	0.4	.42	.70	883	916.8	175.5	-42.4
96.00	0.12	0.31	0.4	.42	.70	883	916.5	174.1	-41.1
96.50	0.02	0.30	0.3	.54	.82	804	916.2	172.8	-39.9
40497.00	0.05	0.30	0.35	-17.48	-17.76	847	916.0	171.4	-38.7
98.00	0.11	0.28	0.39	.43	.71	879	915.4	168.8	-36.2
99.00	0.03	0.27	0.29	.56	.84	806	914.8	166.2	-33.7
40500.00	0.03	0.25	0.28	.57	.85	792	914.2	163.7	-31.2
01.00	0.12	0.24	0.36	.46	.75	855	913.6	161.1	-28.7
02.00	0.12	0.22	0.34	.49	.77	846	913.0	158.6	-26.2
03.00	0.12	0.21	0.33	.50	.78	841	912.4	156.2	-23.7
04.00	0.19	0.19	0.38	.43	.72	864	911.7	153.7	-21.2
05.00	0.22	0.18	0.39	.42	.71	861	911.1	151.3	-18.7
06.00	0.17	0.16	0.33	.49	.78	822	910.5	148.9	-16.2
07.00	0.18	0.14	0.33	.49	.78	827	910.0	146.5	-13.7
08.00	0.18	0.13	0.31	.52	.81	816	909.4	144.1	-11.2
09.00	0.18	0.11	0.29	.54	.83	797	908.9	141.7	-8.7
10.00	0.23	0.10	0.33	.48	.77	828	908.3	139.4	-6.3
40510.50	0.22	0.09	0.3	-17.52	-17.82	802	907.9	138.2	-5.0
11.00	0.20	0.09	0.3	.52	.81	798	907.7	137.0	-3.8
11.50	0.22	0.08	0.3	.52	.81	800	907.5	135.8	-2.5
12.00	0.38	0.07	0.4	.39	.69	871	907.3	134.6	-1.3
12.50	0.27	0.06	0.3	.51	.81	790	907.0	133.5	0.0
13.00	0.23	0.06	0.3	.51	.81	791	906.8	132.3	1.2
13.50	0.34	0.05	0.4	.38	.69	861	906.6	131.1	2.5
14.00	0.37	0.05	0.4	.38	.69	860	906.4	129.9	3.7
14.50	0.43	0.04	0.5	.28	.59	924	906.2	128.8	4.9
15.00	0.44	0.03	0.5	.27	.59	922	906.1	127.6	6.2
15.50	0.62	0.03	0.7	.11	.44	1004	905.9	126.4	7.4
16.00	0.56	0.02	0.6	.17	.51	958	905.7	125.2	8.6
16.50	0.57	0.02	0.6	.17	.51	956	905.6	124.1	9.9
17.00	0.53	0.02	0.5	.24	.59	909	905.4	122.9	11.1
17.50	0.49	0.01	0.5	.24	.59	915	905.3	121.7	12.3
18.00	0.65	0.01	0.7	.09	.44	998	905.2	120.6	13.6
18.50	0.73	0.01	0.7	.07	.44	987	905.1	119.4	14.8
19.00	0.71	0.01	0.7	.07	.44	986	904.9	118.2	16.0
19.50	0.77	0.01	0.8	.01	.38	1029	904.9	117.0	17.2
20.00	0.76	0.00	0.8	.01	.38	1031	904.8	115.8	18.4
20.50	0.81	0.00	0.8	.00	.38	1029	904.7	114.7	19.7

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40521.00	0.82	0.00	0.8	-17.00	-17.38	1031	904.7	113.5	20.9
21.50	0.85	0.00	0.9	-16.95	.32	1058	904.6	112.3	22.1
22.00	0.93	0.00	0.9	.94	.32	1051	904.6	111.1	23.3
22.50	0.94	0.00	0.9	.94	.32	1053	904.6	109.9	24.5
23.00	0.92	0.00	0.9	.94	.32	1056	904.6	108.7	25.7
23.50	0.81	0.00	0.8	-17.00	.36	1026	904.6	107.5	26.9
24.00	0.74	0.00	0.7	.06	.42	994	904.6	106.4	28.1
24.50	0.74	0.00	0.7	.07	.41	996	904.6	105.2	29.3
25.00	0.75	0.00	0.8	.01	.35	1033	904.7	104.0	30.5
25.50	0.76	0.00	0.8	.01	.35	1026	904.8	102.8	31.7
26.00	0.76	0.00	0.8	.01	.34	1024	904.8	101.5	32.9
26.50	0.77	0.00	0.8	.01	.34	1030	904.9	100.3	34.1
27.00	0.75	0.00	0.7	.07	.39	991	905.0	99.1	35.3
27.50	0.77	0.00	0.8	.01	.33	1019	905.1	97.9	36.5
28.00	0.78	0.00	0.8	.00	.33	1010	905.3	96.7	37.6
28.50	0.76	0.00	0.8	.00	.33	1007	905.4	95.5	38.8
29.00	0.74	0.00	0.7	.06	.38	972	905.6	94.2	40.0
29.50	0.72	0.00	0.7	.06	.38	977	905.7	93.0	41.2
30.00	0.69	0.00	0.7	.06	.37	983	905.9	91.8	42.4
30.50	0.70	0.00	0.7	.06	.37	981	906.1	90.5	43.5
31.00	0.70	0.00	0.7	.06	.37	982	906.3	89.3	44.7
31.50	0.65	0.00	0.7	.06	.36	986	906.5	88.0	45.9
32.00	0.63	0.00	0.6	.12	.43	938	906.8	86.8	47.0
32.50	0.66	0.00	0.7	.05	.36	970	907.0	85.5	48.2
33.00	0.73	0.00	0.7	.05	.36	966	907.2	84.2	49.4
33.50	0.73	0.00	0.7	.04	.36	966	907.5	82.9	50.5
34.00	0.81	0.00	0.8	-16.98	.30	996	907.8	81.7	51.7
34.50	0.86	0.00	0.9	.93	.25	1014	908.1	80.4	52.8
35.00	0.86	0.00	0.9	.93	.25	1016	908.3	79.0	54.0
35.50	0.86	0.00	0.9	.93	.24	1017	908.6	77.7	55.1
36.00	0.78	0.00	0.8	.98	.29	984	909.0	76.4	56.3
36.50	0.66	0.00	0.7	-17.04	.34	956	909.3	75.1	57.4
37.00	0.59	0.00	0.6	.11	.40	916	909.6	73.7	58.6
37.50	0.59	0.00	0.6	.11	.40	921	909.9	72.4	59.7
40538.00	0.60	0.00	0.60	-17.11	-17.40	922	910.3	71.0	60.8
39.00	0.64	0.00	0.64	.08	.36	943	911.0	68.2	63.1
40.00	0.67	0.00	0.67	.06	.34	958	911.7	65.4	65.3
41.00	0.68	0.00	0.68	.05	.33	961	912.5	62.5	67.6
42.00	0.70	0.00	0.70	.03	.31	964	913.2	59.5	69.8
43.00	0.76	0.00	0.76	-16.99	.27	981	914.0	56.5	72.0
44.00	0.79	0.00	0.79	.97	.26	986	914.8	53.3	74.2
45.00	0.81	0.00	0.81	.96	.25	987	915.7	50.0	76.4
46.00	0.82	0.00	0.82	.95	.24	991	916.5	46.6	78.5
47.00	0.85	0.00	0.85	.94	.22	997	917.3	43.0	80.6
48.00	0.92	0.00	0.92	.90	.19	1014	918.1	39.2	82.7
49.00	0.92	0.00	0.92	.91	.19	1012	918.9	35.2	84.8
50.00	0.83	0.04	0.87	.93	.21	991	919.8	30.9	86.8
51.00	0.78	0.15	0.92	.91	.18	1005	920.6	26.2	88.8
52.00	0.76	0.21	0.97	.90	.16	1014	921.3	21.1	90.8
53.00	0.73	0.26	0.99	.89	.14	1019	922.1	15.5	92.6
54.00	0.48	0.29	0.78	-17.00	.24	952	922.9	9.2	94.4
55.00	0.57	0.32	0.88	-16.95	.19	982	923.6	2.0	96.1
56.00	0.46	0.34	0.79	-17.00	.24	954	924.3	353.9	97.6
57.00	0.39	0.35	0.74	.04	.27	944	925.0	344.6	98.9
58.00	0.35	0.36	0.71	.06	.29	935	925.6	333.9	100.0
59.00	0.31	0.37	0.68	.09	.31	917	926.2	322.1	100.8
60.00	0.34	0.37	0.71	.07	.30	920	926.8	309.5	101.2
61.00	0.46	0.38	0.84	.01	.23	959	927.3	296.7	101.3
62.00	0.33	0.38	0.70	.09	.31	912	927.8	284.3	100.9

Table 4 (Cont.)

1963 53A (Explorer 19)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40563.00	0.18	0.38	0.56	-17.19	-17.41	864	928.2	273.0	100.2
64.00	0.15	0.37	0.52	.22	.44	845	928.6	262.9	99.3
65.00	0.16	0.37	0.53	.22	.44	852	929.0	254.1	98.1
66.00	0.15	0.36	0.52	.23	.45	849	929.3	246.4	96.7
67.00	0.19	0.36	0.55	.21	.42	863	929.5	239.6	95.2
68.00	0.22	0.35	0.57	.20	.41	881	929.7	233.5	93.6
69.00	0.19	0.34	0.53	.23	.45	868	929.9	228.1	91.9
70.00	0.20	0.33	0.53	.24	.45	870	930.0	223.1	90.2
71.00	0.22	0.32	0.53	.24	.45	868	930.0	218.6	88.4
72.00	0.22	0.31	0.53	.24	.46	871	930.0	214.4	86.5
73.00	0.23	0.29	0.52	.26	.47	873	929.9	210.4	84.6
40573.50	0.24	0.29	0.5	-17.28	-17.49	867	929.8	208.5	83.6
74.00	0.25	0.28	0.5	.28	.49	870	929.8	206.6	82.6
74.50	0.27	0.27	0.5	.28	.50	871	929.7	204.8	81.7
75.00	0.26	0.26	0.5	.28	.50	872	929.7	203.0	80.7
75.50	0.30	0.26	0.6	.21	.42	922	929.6	201.3	79.7
76.00	0.27	0.25	0.5	.29	.51	877	929.5	199.6	78.7
76.50	0.32	0.24	0.6	.21	.43	926	929.4	198.0	77.7
77.00	0.29	0.23	0.5	.29	.51	882	929.3	196.3	76.7
77.50	0.31	0.23	0.5	.30	.51	879	929.2	194.7	75.7
78.00	0.33	0.22	0.5	.30	.51	878	929.1	193.1	74.7
78.50	0.40	0.21	0.6	.22	.44	926	929.0	191.6	73.6
79.00	0.43	0.20	0.6	.22	.44	925	928.8	190.0	72.6
79.50	0.35	0.19	0.5	.30	.52	882	928.7	188.5	71.6
80.00	0.33	0.18	0.5	.31	.53	887	928.5	187.0	70.5
80.50	0.26	0.17	0.4	.41	.63	834	928.4	185.5	69.5
81.00	0.29	0.16	0.5	.31	.53	891	928.2	184.0	68.5
81.50	0.34	0.15	0.5	.31	.53	896	928.0	182.6	67.4
82.00	0.47	0.14	0.6	.24	.46	942	927.8	181.2	66.4
82.50	0.45	0.13	0.6	.24	.46	944	927.7	179.7	65.3
83.00	0.40	0.12	0.5	.32	.54	907	927.5	178.3	64.2
83.50	0.36	0.11	0.5	.32	.54	914	927.3	176.9	63.2
84.00	0.29	0.10	0.4	.42	.64	859	927.1	175.5	62.1
84.50	0.33	0.09	0.4	.42	.65	860	926.9	174.1	61.0
85.00	0.33	0.08	0.4	.43	.65	865	926.6	172.8	60.0
85.50	0.37	0.08	0.4	.43	.65	871	926.4	171.4	58.9
86.00	0.33	0.06	0.4	.43	.65	874	926.2	170.0	57.8
86.50	0.36	0.05	0.4	.43	.66	876	926.0	168.7	56.7
87.00	0.40	0.04	0.4	.43	.66	878	925.8	167.4	55.6
87.50	0.36	0.03	0.4	.43	.66	877	925.6	166.0	54.6
88.00	0.42	0.02	0.4	.43	.66	874	925.4	164.7	53.5
88.50	0.45	0.01	0.5	.34	.57	924	925.2	163.4	52.4
89.00	0.63	0.00	0.6	.26	.49	975	924.9	162.1	51.3
89.50	0.42	-0.01	0.4	.44	.67	880	924.7	160.8	50.2
90.00	0.41	-0.02	0.4	.44	.67	893	924.5	159.4	49.1
90.50	0.38	-0.03	0.3	.56	.80	830	924.3	158.1	48.0
40591.00	0.39	-0.04	0.35	-17.50	-17.73	870	924.1	156.9	46.9
92.00	0.40	-0.06	0.34	.51	.75	867	923.7	154.3	44.7
93.00	0.40	-0.08	0.32	.54	.77	860	923.3	151.7	42.4
94.00	0.41	-0.10	0.31	.55	.79	859	923.0	149.2	40.2
95.00	0.45	-0.12	0.32	.54	.78	870	922.6	146.6	37.9
96.00	0.54	-0.14	0.40	.44	.68	934	922.3	144.1	35.7
97.00	0.56	-0.16	0.40	.44	.69	944	922.0	141.6	33.4
98.00	0.52	-0.18	0.35	.50	.75	915	921.8	139.1	31.1
99.00	0.60	-0.20	0.41	.42	.69	958	921.5	136.6	28.9
40600.00	0.68	-0.21	0.47	.35	.63	1003	921.4	134.1	26.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7\dot{P}$	$10^7 P_r$	$-10^7\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38425.00	11.5	0.0	12.	-17.56	-17.71	762	1053.6	180.2	99.1
25.50	11.3	0.0	11.	.60	.75	744	1053.4	169.4	99.1
26.00	9.3	0.0	9.	.72	.88	693	1053.2	158.9	98.7
26.50	7.2	0.0	7.	.90	.97	643	1052.8	149.0	98.2
27.00	7.4	0.0	7.	.90	.97	643	1052.4	140.1	97.4
27.50	7.7	0.0	8.	.84	.97	646	1052.0	132.4	96.5
28.00	7.9	0.0	8.	.83	.97	648	1051.5	125.6	95.5
28.50	7.6	0.0	8.	.83	.97	649	1050.9	119.8	94.4
29.00	7.8	0.0	8.	.83	.97	651	1050.3	114.7	93.2
29.50	7.7	0.0	8.	.83	.97	653	1049.6	110.3	92.0
30.00	8.6	0.0	9.	.71	.87	705	1048.9	106.3	90.7
30.50	9.4	-0.1	9.	.71	.87	707	1048.1	102.8	89.4
31.00	11.2	-0.3	11.	.59	.75	765	1047.3	99.7	88.1
31.50	11.1	-0.5	11.	.59	.75	768	1046.4	96.8	86.8
32.00	10.8	-0.6	10.	.64	.80	746	1045.5	94.1	85.4
32.50	10.7	-0.8	10.	.64	.80	748	1044.6	91.7	84.1
33.00	10.5	-1.1	9.	.71	.87	718	1043.6	89.4	82.7
33.50	11.3	-1.4	10.	.63	.80	754	1042.5	87.3	81.4
34.00	12.1	-1.7	10.	.63	.80	757	1041.5	85.3	80.0
34.50	12.7	-2.0	11.	.58	.74	785	1040.4	83.4	78.6
35.00	12.0	-2.2	10.	.63	.80	762	1039.2	81.5	77.3
35.50	11.4	-2.5	9.	.70	.87	731	1038.1	79.8	75.9
36.00	11.7	-2.8	9.	.70	.87	734	1036.9	78.1	74.6
36.50	12.4	-3.1	9.	.69	.87	736	1035.7	76.5	73.3
37.00	14.1	-3.3	11.	.57	.75	802	1034.5	75.0	71.9
37.50	15.9	-3.5	12.	.53	.70	828	1033.3	73.4	70.6
38.00	17.3	-3.7	14.	.46	.63	872	1032.0	72.0	69.3
38.50	17.1	-3.9	13.	.49	.66	856	1030.7	70.5	68.0
39.00	16.5	-4.0	12.	.53	.70	839	1029.5	69.1	66.6
39.50	15.2	-4.2	11.	.57	.75	819	1028.2	67.8	65.3
40.00	15.2	-4.3	11.	.57	.75	822	1026.9	66.4	64.1
40.50	15.3	-4.5	11.	.57	.75	826	1025.6	65.1	62.8
41.00	15.3	-4.6	11.	.57	.76	829	1024.3	63.8	61.5
41.50	14.8	-4.7	10.	.62	.81	804	1023.1	62.6	60.2
42.00	15.2	-4.8	10.	.62	.81	807	1021.8	61.3	59.0
42.50	15.5	-4.9	11.	.57	.76	839	1020.5	60.1	57.7
43.00	15.9	-4.9	11.	.57	.76	843	1019.3	58.9	56.5
43.50	16.4	-5.0	11.	.57	.77	846	1018.0	57.7	55.2
44.00	16.6	-5.0	12.	.53	.72	875	1016.8	56.5	54.0
44.50	16.9	-5.1	12.	.53	.73	878	1015.6	55.3	52.8
45.00	17.4	-5.2	12.	.53	.73	882	1014.4	54.2	51.6
45.50	17.7	-5.2	13.	.50	.70	908	1013.2	53.0	50.3
46.00	17.5	-5.2	12.	.54	.74	889	1012.0	51.9	49.2
46.50	16.7	-5.2	11.	.58	.78	866	1010.9	50.7	48.0
47.00	16.0	-5.2	11.	.58	.79	869	1009.8	49.6	46.8
47.50	15.3	-5.2	10.	.63	.84	842	1008.7	48.5	45.6
48.00	14.7	-5.2	9.	.70	.91	805	1007.6	47.4	44.5
48.50	14.9	-5.1	10.	.64	.85	848	1006.6	46.3	43.3
49.00	15.3	-5.1	10.	.64	.85	852	1005.6	45.2	42.2
49.50	18.5	-5.0	13.	.51	.72	935	1004.6	44.1	41.0
50.00	19.1	-5.0	14.	.48	.69	960	1003.6	43.1	39.9
50.50	18.9	-4.9	14.	.49	.70	963	1002.7	42.0	38.8
51.00	18.1	-4.9	13.	.52	.73	945	1001.8	40.9	37.6
51.50	17.8	-4.8	13.	.52	.74	947	1000.9	39.9	36.5
52.00	17.2	-4.7	13.	.52	.74	950	1000.1	38.8	35.4
52.50	16.4	-4.6	12.	.56	.78	929	999.2	37.8	34.3
53.00	16.5	-4.5	12.	.57	.79	932	998.4	36.7	33.2
53.50	16.2	-4.4	12.	.57	.79	935	997.7	35.7	32.1
54.00	15.6	-4.3	11.	.61	.84	910	996.9	34.6	31.1
54.50	15.4	-4.3	11.	.61	.84	913	996.2	33.6	30.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38455.00	15.0	-4.2	11.	-17.62	-17.84	915	995.5	32.6	28.9
55.50	15.0	-4.0	11.	.62	.85	917	994.8	31.5	27.8
56.00	15.3	-3.9	11.	.62	.85	920	994.2	30.5	26.8
38461.00	12.9	-2.6	10.4	-17.67	-17.92	918	987.6	20.4	16.3
62.00	12.8	-2.3	10.5	.67	.92	924	986.8	18.4	14.2
63.00	12.4	-2.0	10.5	.68	.92	926	986.2	16.4	12.1
64.00	12.2	-1.6	10.6	.68	.93	931	985.7	14.4	10.0
65.00	11.6	-1.3	10.3	.70	.94	924	985.4	12.4	7.8
66.00	11.1	-0.9	10.1	.71	.96	919	985.2	10.4	5.7
67.00	10.4	-0.6	9.8	.73	.98	910	985.2	8.4	3.6
68.00	10.5	-0.3	10.2	.71	.96	923	985.4	6.4	1.4
69.00	10.5	0.1	10.5	.70	.95	933	985.7	4.4	-0.7
70.00	9.8	0.4	10.2	.72	.97	923	986.1	2.4	-2.8
71.00	8.9	0.7	9.6	.75	.99	903	986.8	0.4	-5.0
72.00	8.3	1.0	9.3	.77	-18.01	892	987.6	358.4	-7.1
73.00	7.8	1.4	9.2	.77	.02	887	988.5	356.4	-9.3
74.00	7.6	1.7	9.3	.77	.01	889	989.6	354.4	-11.4
75.00	7.3	2.0	9.3	.77	.01	887	990.8	352.4	-13.6
76.00	7.1	2.3	9.4	.77	.00	888	992.1	350.3	-15.7
77.00	7.9	2.6	10.5	.71	-17.95	919	993.6	348.3	-17.8
78.00	8.2	2.9	11.1	.69	.92	932	995.2	346.3	-20.0
79.00	6.9	3.1	10.0	.74	.96	898	996.9	344.3	-22.1
80.00	5.5	3.3	8.8	.80	-18.02	855	998.7	342.2	-24.3
81.00	5.5	3.6	9.1	.78	.00	862	1000.6	340.2	-26.4
82.00	5.4	3.8	9.2	.77	-17.99	861	1002.7	338.1	-28.6
83.00	5.4	4.0	9.5	.76	.97	866	1004.8	336.1	-30.8
84.00	5.3	4.2	9.5	.76	.97	861	1007.0	334.0	-32.9
85.00	5.2	4.4	9.6	.75	.96	859	1009.3	331.9	-35.1
38485.50	5.3	4.5	10.	-17.73	-17.94	868	1010.4	330.8	-36.2
86.00	5.0	4.6	10.	.73	.93	865	1011.6	329.8	-37.3
86.50	5.8	4.6	10.	.73	.93	863	1012.8	328.7	-38.4
87.00	8.3	4.7	13.	.61	.81	930	1014.1	327.7	-39.5
87.50	6.4	4.7	11.	.69	.88	883	1015.3	326.6	-40.6
88.00	6.4	4.8	11.	.69	.88	880	1016.6	325.5	-41.8
88.50	5.9	4.3	10.	.73	.92	852	1017.8	324.4	-42.9
89.00	5.4	4.9	10.	.73	.92	849	1019.1	323.3	-44.0
89.50	3.7	4.9	9.	.77	.97	818	1020.4	322.2	-45.2
38490.00	4.2	4.9	9.1	-17.77	-17.96	818	1021.7	321.1	-46.3
91.00	4.5	5.0	9.5	.75	.93	824	1024.4	318.9	-48.6
92.00	4.5	5.0	9.5	.75	.93	819	1027.1	316.6	-51.0
93.00	5.0	5.0	10.0	.72	.90	827	1029.8	314.2	-53.4
94.00	5.3	5.0	10.3	.71	.88	829	1032.6	311.8	-55.9
95.00	5.0	4.9	9.9	.72	.89	814	1035.4	309.3	-58.4
96.00	4.2	4.9	9.1	.76	.93	788	1038.2	306.6	-61.0
97.00	3.8	4.7	8.5	.79	.96	766	1041.1	303.9	-63.7
38498.00	3.8	4.6	8.	-17.82	-17.98	747	1046.0	300.8	-66.8
98.50	3.8	4.5	8.	.82	.98	745	1047.4	299.2	-68.2
99.00	3.8	4.4	8.	.82	.97	743	1048.9	297.6	-69.6
99.50	4.3	4.3	9.	.76	.91	772	1050.3	295.9	-71.0
38500.00	4.5	4.2	9.	.76	.90	770	1051.7	294.2	-72.5
00.50	5.0	4.1	9.	.75	.90	768	1053.1	292.3	-73.9
01.00	4.8	4.0	9.	.75	.89	767	1054.4	290.4	-75.3
01.50	5.2	3.8	9.	.75	.89	765	1055.8	288.3	-76.7
02.00	4.7	3.7	8.	.81	.95	734	1057.1	286.1	-78.2
02.50	4.7	3.5	8.	.81	.95	733	1058.4	283.7	-79.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7\dot{P}$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38503.00	4.7	3.4	8.	-17.81	-17.94	732	1059.6	281.1	-81.1
03.50	4.9	3.2	8.	.81	.94	731	1060.8	278.3	-82.5
04.00	5.0	3.0	8.	.80	.93	730	1061.9	275.2	-83.9
04.50	5.7	2.9	9.	.74	.86	760	1063.0	271.7	-85.3
05.00	6.3	2.7	9.	.73	.86	759	1064.1	267.7	-86.7
05.50	6.9	2.5	9.	.73	.85	759	1065.1	263.2	-88.1
06.00	7.5	2.3	10.	.67	.79	783	1066.1	257.9	-89.4
06.50	6.5	2.1	9.	.72	.84	758	1067.0	251.8	-90.6
07.00	6.4	1.9	8.	.79	.91	727	1067.8	244.7	-91.7
07.50	6.3	1.7	8.	.78	.90	727	1068.6	236.3	-92.7
08.00	6.5	1.4	8.	.78	.90	727	1069.3	226.7	-93.5
08.50	6.4	1.2	8.	.78	.90	726	1070.0	216.0	-94.0
09.00	6.2	1.0	7.	.91	-18.02	663	1070.5	204.6	-94.3
09.50	5.4	0.8	6.	.98	.02	658	1071.1	193.2	-94.3
10.00	5.8	0.6	6.	.98	.02	658	1071.5	182.4	-94.0
10.50	6.8	0.5	7.	.91	.02	657	1071.9	172.7	-93.5
11.00	8.5	0.3	9.	.72	-17.83	750	1072.2	164.3	-92.8
11.50	8.8	0.1	9.	.72	.83	749	1072.4	157.1	-91.9
12.00	10.5	0.0	10.	.66	.77	773	1072.6	150.9	-90.9
12.50	12.6	0.0	13.	.54	.64	833	1072.6	145.6	-89.8
13.00	10.2	0.0	10.	.66	.77	771	1072.6	141.0	-88.6
13.50	9.6	0.0	10.	.66	.77	771	1072.6	137.0	-87.4
14.00	9.0	0.0	9.	.72	.83	745	1072.4	133.4	-86.1
14.50	7.7	0.0	8.	.79	.91	711	1072.2	130.2	-84.8
15.00	7.5	0.0	8.	.80	.91	711	1071.9	127.4	-83.5
15.50	8.0	0.0	8.	.80	.91	710	1071.6	124.7	-82.1
16.00	8.3	0.0	8.	.80	.91	710	1071.2	122.3	-80.7
16.50	10.0	0.0	10.	.67	.78	770	1070.7	120.1	-79.4
17.00	9.8	0.0	10.	.67	.78	770	1070.1	118.0	-77.9
17.50	9.4	0.0	9.	.72	.84	744	1069.5	116.0	-76.5
18.00	9.2	0.0	9.	.72	.84	745	1068.8	114.2	-75.1
18.50	9.2	0.0	9.	.72	.84	745	1068.1	112.4	-73.7
19.00	8.8	0.0	9.	.72	.84	746	1067.3	110.7	-72.3
19.50	8.4	0.0	8.	.80	.92	708	1066.5	109.0	-70.9
20.00	8.5	0.0	8.	.80	.93	708	1065.6	107.4	-69.5
20.50	8.3	0.0	8.	.81	.93	708	1064.7	105.9	-68.1
21.00	8.1	0.0	8.	.81	.93	708	1063.7	104.4	-66.6
21.50	7.9	0.0	8.	.81	.93	708	1062.6	103.0	-65.2
22.00	8.1	0.0	8.	.81	.94	708	1061.6	101.6	-63.9
22.50	8.2	0.0	8.	.81	.94	708	1060.5	100.2	-62.5
23.00	8.2	0.0	8.	.81	.95	707	1059.3	98.9	-61.1
23.50	8.7	0.0	9.	.73	.86	754	1058.2	97.5	-59.7
24.00	9.2	0.0	9.	.73	.86	755	1057.0	96.2	-58.4
24.50	9.4	0.0	9.	.73	.87	756	1055.8	95.0	-57.0
25.00	9.2	0.0	9.	.73	.87	757	1054.5	93.7	-55.7
25.50	9.2	0.0	9.	.73	.87	758	1053.3	92.5	-54.4
26.00	10.0	0.0	10.	.67	.82	791	1052.0	91.2	-53.1
26.50	10.7	0.0	11.	.63	.77	817	1050.7	90.0	-51.8
27.00	9.6	0.0	10.	.68	.82	793	1049.4	88.8	-50.6
27.50	7.8	0.0	8.	.85	.98	701	1048.1	87.7	-49.3
28.00	7.3	0.0	7.	.91	.98	702	1046.8	86.5	-48.1
28.50	7.8	0.0	8.	.85	.98	706	1045.5	85.3	-46.9
29.00	8.8	0.0	9.	.75	.90	765	1044.2	84.2	-45.7
29.50	10.2	0.0	10.	.69	.84	800	1042.9	83.0	-44.5
30.00	13.2	0.0	13.	.57	.72	873	1041.6	81.9	-43.3
30.50	11.8	0.0	12.	.61	.76	854	1040.3	80.8	-42.2
31.00	9.6	0.0	10.	.70	.86	804	1039.0	79.6	-41.0
31.50	9.2	0.0	9.	.76	.93	768	1037.7	78.5	-39.9
32.00	8.3	-0.2	8.	.86	.99	721	1036.4	77.4	-38.8
32.50	8.3	-0.3	8.	.86	.99	723	1035.1	76.3	-37.8

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38533.00	8.6	-0.5	8.	-17.86	-17.99	725	1033.9	75.2	-36.7
33.50	8.9	-0.9	8.	.86	-18.00	727	1032.6	74.1	-35.7
34.00	9.6	-1.3	8.	.87	.00	729	1031.4	73.0	-34.7
34.50	9.9	-1.6	8.	.87	.00	731	1030.2	72.0	-33.7
35.00	10.8	-2.0	9.	.79	-17.96	770	1029.0	70.9	-32.7
35.50	11.6	-2.1	9.	.79	.97	770	1027.8	69.8	-31.7
36.00	11.9	-2.3	10.	.73	.91	814	1026.7	68.7	-30.7
36.50	11.5	-2.4	9.	.80	.98	769	1025.6	67.6	-29.8
37.00	10.8	-2.5	8.	.88	-18.01	739	1024.5	66.6	-28.8
37.50	10.0	-2.6	7.	.94	.01	741	1023.5	65.5	-27.9
38.00	9.8	-2.7	7.	.94	.02	743	1022.5	64.5	-27.0
38.50	10.1	-2.8	7.	.96	.04	747	1020.7	62.9	-22.8
39.00	10.1	-2.8	7.	.97	.04	748	1019.7	61.8	-21.9
39.50	10.5	-2.9	8.	.91	.04	751	1018.7	60.8	-21.0
40.00	11.8	-2.9	9.	.85	.03	771	1017.8	59.7	-20.2
40.50	13.8	-2.9	11.	.74	-17.93	859	1016.9	58.7	-19.3
41.00	13.2	-2.9	10.	.79	.98	827	1016.0	57.6	-18.4
41.50	11.1	-2.8	8.	.92	-18.05	754	1015.1	56.6	-17.5
42.00	11.1	-2.8	8.	.93	.05	757	1014.3	55.5	-16.7
42.50	10.8	-2.8	8.	.93	.06	758	1013.5	54.4	-15.8
43.00	10.9	-2.8	8.	.93	.06	760	1012.7	53.4	-15.0
43.50	10.4	-2.7	8.	.94	.06	761	1012.0	52.3	-14.2
44.00	10.6	-2.7	8.	.94	.07	762	1011.3	51.3	-13.3
44.50	10.1	-2.6	7.	-18.00	.07	763	1010.6	50.2	-12.5
45.00	9.8	-2.6	7.	.00	.07	763	1009.9	49.2	-11.7
45.50	9.7	-2.5	7.	.01	.08	764	1009.3	48.1	-10.8
46.00	10.3	-2.5	8.	-17.95	.08	765	1008.7	47.0	-10.0
46.50	10.2	-2.4	8.	.96	.08	766	1008.1	46.0	-9.2
47.00	10.6	-2.3	8.	.96	.09	767	1007.5	44.9	-8.4
47.50	10.3	-2.2	8.	.96	.09	768	1007.0	43.9	-7.6
48.00	9.5	-2.0	8.	.97	.09	768	1006.5	42.8	-6.8
48.50	9.5	-1.9	8.	.97	.10	769	1006.0	41.7	-6.0
49.00	8.9	-1.8	7.	-18.03	.10	769	1005.5	40.7	-5.2
49.50	8.6	-1.7	7.	.03	.10	770	1005.1	39.6	-4.4
50.00	8.5	-1.6	7.	.04	.11	771	1004.7	38.5	-3.6
50.50	7.9	-1.5	6.	.11	.11	771	1004.3	37.5	-2.8
51.00	7.8	-1.4	6.	.11	.11	771	1003.9	36.4	-2.0
51.50	7.7	-1.3	6.	.11	.12	771	1003.6	35.3	-1.2
52.00	7.8	-1.2	7.	.05	.12	772	1003.3	34.3	-0.4
52.50	8.2	-1.1	7.	.05	.12	772	1003.0	33.2	0.4
53.00	8.3	-1.0	7.	.06	.13	772	1002.7	32.1	1.2
53.50	7.7	-0.9	7.	.06	.13	772	1002.5	31.0	1.9
54.00	8.1	-0.8	7.	.06	.13	772	1002.3	30.0	2.7
54.50	8.2	-0.6	8.	.01	.14	772	1002.1	28.9	3.5
55.00	8.5	-0.5	8.	.01	.14	772	1001.9	27.8	4.3
55.50	8.3	-0.4	8.	.01	.14	772	1001.7	26.7	5.1
56.00	11.6	-0.3	11.	-17.87	.08	877	1001.6	25.6	5.9
56.50	13.1	-0.1	13.	.80	.02	928	1001.5	24.5	6.6
57.00	9.3	0.0	9.	.97	.15	770	1001.4	23.4	7.4
57.50	8.6	0.1	9.	.97	.16	779	1001.4	22.4	8.2
58.00	8.2	0.3	9.	.97	.16	783	1001.3	21.3	9.0
58.50	7.4	0.4	8.	-18.03	.16	770	1001.3	20.2	9.8
59.00	7.2	0.5	8.	.03	.17	770	1001.3	19.1	10.5
59.50	7.0	0.7	8.	.03	.17	769	1001.4	17.9	11.3
60.00	6.2	0.8	7.	.09	.17	769	1001.4	16.8	12.1
60.50	5.3	0.9	6.	.16	.18	768	1001.5	15.7	12.9
61.00	4.8	1.0	6.	.17	.18	767	1001.6	14.6	13.7
61.50	4.4	1.2	6.	.17	.18	767	1001.8	13.5	14.4
62.00	4.2	1.3	5.	.25	.19	766	1001.9	12.4	15.2
62.50	4.0	1.4	5.	.25	.19	765	1002.1	11.2	16.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38563.00	4.7	1.5	6.	-18.17	-18.19	765	1002.4	10.1	16.7
63.50	4.7	1.6	6.	.18	.20	764	1002.6	9.0	17.5
64.00	4.6	1.8	6.	.18	.20	763	1002.9	7.8	18.3
64.50	4.6	1.9	6.	.18	.20	762	1003.1	6.7	19.1
65.00	4.4	2.0	6.	.18	.21	761	1003.5	5.5	19.8
65.50	4.3	2.1	6.	.19	.21	760	1003.8	4.4	20.6
66.00	4.7	2.2	7.	.12	.21	759	1004.2	3.2	21.4
66.50	3.3	2.3	6.	.19	.22	758	1004.6	2.0	22.2
67.00	3.3	2.4	6.	.19	.22	757	1005.0	0.9	23.0
67.50	3.0	2.6	6.	.19	.22	756	1005.4	359.7	23.7
68.00	2.9	2.7	6.	.20	.22	755	1005.9	358.5	24.5
38569.00	3.0	2.5	5.5	-18.24	-18.23	753	1012.6	356.8	24.0
70.00	2.8	2.7	5.5	.25	.23	751	1013.6	354.4	25.6
71.00	2.7	2.9	5.6	.24	.24	749	1014.6	352.0	27.1
72.00	1.2	3.1	4.3	.36	.24	746	1015.6	349.5	28.7
73.00	0.7	3.3	4.0	.40	.25	744	1016.7	347.0	30.3
74.00	0.8	3.5	4.2	.38	.26	742	1017.8	344.4	31.9
75.00	1.3	3.6	5.0	.30	.26	739	1019.0	341.8	33.5
76.00	1.4	3.8	5.2	.29	.27	736	1020.2	339.1	35.2
77.00	-0.3	3.9	3.6	.45	.27	734	1021.5	336.3	36.8
78.00	-0.6	4.0	3.4	.48	.28	732	1022.9	333.4	38.5
79.00	-0.8	4.1	3.4	.49	.29	729	1024.4	330.4	40.2
80.00	-0.2	4.3	4.0	.42	.29	727	1026.0	327.2	41.9
81.00	-0.4	4.4	3.9	.43	.30	725	1027.6	323.9	43.6
82.00	-0.5	4.4	4.0	.42	.30	723	1029.4	320.3	45.3
83.00	-0.5	4.5	4.0	.43	.30	721	1031.2	316.5	47.0
84.00	-0.5	4.6	4.1	.42	.31	719	1033.1	312.3	48.7
85.00	-1.0	4.6	3.6	.48	.31	718	1035.1	307.7	50.4
86.00	-1.1	4.6	3.6	.48	.32	717	1037.2	302.5	52.1
87.00	-1.1	4.6	3.5	.49	.32	716	1039.3	296.5	53.7
88.00	-1.1	4.6	3.5	.50	.32	715	1041.4	289.6	55.3
89.00	-1.1	4.6	3.5	.50	.32	715	1043.6	281.3	56.7
90.00	-1.3	4.6	3.2	.54	.32	715	1045.8	271.3	58.1
91.00	-1.3	4.5	3.2	.54	.32	715	1048.1	259.4	59.2
92.00	-1.0	4.5	3.5	.50	.32	715	1050.3	245.5	59.9
93.00	-0.3	4.4	4.1	.43	.33	715	1052.5	230.3	60.3
94.00	1.4	4.3	5.7	.29	.33	715	1054.7	215.1	60.1
95.00	0.0	4.1	4.2	.43	.33	714	1056.8	201.1	59.6
96.00	-0.9	4.0	3.1	.56	.33	713	1058.9	189.0	58.7
97.00	-0.7	3.8	3.1	.57	.33	711	1060.9	179.0	57.4
98.00	0.0	3.6	3.7	.49	.34	710	1062.8	170.6	56.0
99.00	1.1	3.4	4.4	.42	.34	708	1064.6	163.6	54.4
38600.00	1.0	3.1	4.0	.47	.34	707	1066.2	157.6	52.7
01.00	0.8	2.8	3.6	.52	.34	707	1067.8	152.3	50.8
02.00	1.8	2.4	4.2	.45	.34	706	1069.1	147.6	48.9
03.00	2.8	1.8	4.6	.41	.34	704	1070.9	143.4	46.8
04.00	4.3	1.1	5.4	.35	.34	705	1072.5	139.5	44.6
05.00	5.6	0.5	6.1	.30	.34	705	1073.9	135.9	42.5
06.00	5.7	0.0	5.7	.33	.34	705	1075.1	132.6	40.3
07.00	5.2	0.0	5.2	.37	.34	705	1076.1	129.6	38.2
08.00	5.0	0.0	5.0	.38	.34	706	1077.0	126.7	36.0
09.00	5.5	0.0	5.5	.34	.33	707	1077.7	123.9	33.9
10.00	5.8	0.0	5.8	.31	.33	709	1078.2	121.2	31.8
11.00	6.6	0.0	6.6	.25	.32	710	1078.7	118.6	29.7
12.00	6.0	0.0	6.0	.29	.32	712	1079.0	116.1	27.5
13.00	5.1	0.0	5.1	.36	.31	714	1079.3	113.6	25.4
14.00	6.0	0.0	6.0	.28	.31	716	1079.4	111.2	23.3

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38616.00	5.76	0.00	5.76	-18.29	-18.29	721	1079.7	106.5	19.0
18.00	6.03	0.00	6.03	.25	.27	726	1079.8	102.0	14.8
20.00	6.58	0.00	6.58	.20	.25	731	1080.0	97.6	10.6
22.00	6.42	0.00	6.42	.19	.23	737	1080.2	93.2	6.5
24.00	6.48	0.00	6.48	.16	.21	743	1080.5	89.0	2.5
26.00	6.76	0.00	6.76	.12	.19	749	1081.0	84.8	-1.3
28.00	6.68	0.00	6.68	.11	.16	755	1081.7	80.6	-4.8
30.00	6.39	0.00	6.39	.10	.14	760	1082.5	76.5	-8.2
38631.00	6.1	0.0	6.1	-18.12	-18.13	762	1083.0	74.5	-9.8
32.00	7.0	0.0	7.0	.04	.11	780	1083.5	72.5	-11.3
33.00	7.8	0.0	7.8	-17.96	.03	842	1084.1	70.5	-12.7
34.00	7.5	0.0	7.5	.97	.04	828	1084.7	68.5	-14.1
35.00	6.4	0.0	6.4	-18.06	.09	770	1085.4	66.6	-15.4
36.00	6.3	0.0	6.3	.06	.09	774	1086.1	64.6	-16.6
37.00	6.9	0.0	6.9	.02	.08	775	1086.8	62.6	-17.7
38.00	7.9	0.0	7.9	-17.91	-17.98	859	1087.6	60.7	-18.8
39.00	9.1	0.0	9.1	.83	.90	909	1088.5	58.8	-19.9
40.00	7.2	0.0	7.2	.96	-18.02	821	1089.4	56.8	-20.9
41.00	6.8	0.1	6.9	-18.00	.06	781	1090.4	54.9	-21.8
42.00	6.8	0.3	7.1	-17.96	.02	817	1091.4	53.0	-22.7
43.00	7.3	0.5	7.7	.90	-17.97	858	1090.8	51.1	-23.2
44.00	7.7	0.7	8.3	.86	.92	888	1091.7	49.2	-24.1
45.00	7.8	0.8	8.6	.84	.90	901	1092.7	47.2	-25.1
46.00	7.5	1.0	8.4	.85	.91	895	1093.9	45.3	-26.2
47.00	6.4	1.1	7.5	.91	.97	853	1095.1	43.3	-27.2
48.00	6.5	1.2	7.7	.89	.95	866	1096.4	41.4	-28.3
49.00	6.4	1.2	7.7	.89	.94	867	1097.7	39.4	-29.2
50.00	6.3	1.3	7.6	.90	.95	863	1099.2	37.4	-30.2
51.00	6.0	1.4	7.3	.93	.97	847	1100.7	35.5	-31.1
52.00	5.6	1.5	7.1	.95	.99	834	1102.2	33.5	-31.8
53.00	5.5	1.5	7.0	.96	-18.00	828	1103.8	31.6	-32.6
54.00	6.0	1.6	7.5	.92	-17.96	862	1105.4	29.7	-33.2
55.00	6.2	1.6	7.8	.90	.94	878	1107.0	27.8	-33.7
56.00	5.4	1.6	7.0	.97	-18.00	833	1108.7	25.9	-34.2
57.00	4.8	1.6	6.4	-18.05	.06	784	1110.3	24.0	-34.6
58.00	4.3	1.6	5.9	.09	.07	784	1112.0	22.2	-34.9
38658.50	3.8	1.6	5.	-18.16	-18.07	783	1112.9	21.2	-35.0
59.00	4.0	1.6	6.	.09	.07	783	1113.7	20.3	-35.1
59.50	4.1	1.6	6.	.09	.07	783	1114.6	19.4	-35.2
60.00	5.9	1.6	8.	-17.92	-17.94	890	1115.4	18.5	-35.3
60.50	9.6	1.6	11.	.77	.79	989	1116.3	17.5	-35.4
61.00	7.1	1.6	9.	.87	.89	928	1117.1	16.6	-35.5
61.50	5.7	1.6	7.	-18.00	-18.02	839	1118.0	15.7	-35.5
62.00	4.4	1.6	6.	.11	.09	780	1118.8	14.8	-35.6
62.50	4.2	1.6	6.	.11	.09	780	1119.7	13.9	-35.6
38663.00	4.5	1.6	6.1	-18.11	-18.09	779	1120.6	13.0	-35.6
64.00	4.5	1.5	6.1	.11	.10	779	1122.3	11.1	-35.7
65.00	4.7	1.5	6.2	.12	.11	777	1124.0	9.3	-35.7
66.00	6.3	1.5	7.7	-17.99	-17.99	876	1125.7	7.5	-35.8
67.00	6.5	1.5	8.0	.98	.98	888	1127.4	5.7	-35.8
68.00	6.4	1.4	7.8	-18.00	-18.00	878	1129.1	3.9	-35.8
69.00	5.7	1.4	7.0	.07	.06	838	1130.7	2.0	-35.8
70.00	5.6	1.3	6.9	.08	.08	830	1132.4	0.2	-35.8
71.00	6.8	1.3	8.1	.01	.01	886	1134.1	358.4	-35.7
72.00	8.7	1.3	10.0	-17.93	-17.92	947	1135.7	356.6	-35.6
73.00	9.3	1.2	10.6	.92	.90	961	1137.3	354.8	-35.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
38683.00	8.5	0.1	8.5	-18.11	-18.09	878	1147.4	339.9	-20.4
84.00	8.3	0.0	8.2	.13	.10	866	1147.4	339.0	-15.9
85.00	7.8	-0.1	7.7	.16	.13	845	1147.3	338.0	-11.1
86.00	7.8	-0.1	7.7	.15	.12	842	1147.1	337.0	-6.0
38686.50	8.2	-0.1	8.	-18.13	-18.10	852	1147.0	336.5	-3.5
87.00	10.8	-0.2	11.	-17.99	-17.96	938	1146.9	336.0	-0.9
87.50	13.3	-0.2	13.	.91	.88	982	1146.8	335.5	1.7
88.00	12.2	-0.2	12.	.94	.91	957	1146.8	335.0	4.2
88.50	10.8	-0.2	11.	.96	.94	930	1146.7	334.5	6.8
89.00	10.3	-0.2	10.	-18.00	.97	902	1146.7	333.9	9.3
89.50	9.2	-0.2	9.	.03	-18.01	871	1146.7	333.4	11.8
90.00	8.1	-0.3	8.	.08	.05	835	1146.8	332.8	14.2
90.50	7.8	-0.3	8.	.07	.04	832	1146.8	332.3	16.6
91.00	8.3	-0.3	8.	.06	.03	829	1146.9	331.7	18.9
91.50	8.5	-0.3	8.	.05	.02	826	1146.9	331.2	21.1
92.00	8.7	-0.3	8.	.04	.02	822	1147.0	330.6	23.2
92.50	9.2	-0.3	9.	-17.98	-17.95	851	1147.0	330.0	25.3
93.00	9.6	-0.4	9.	.97	.94	848	1147.1	329.4	27.2
93.50	10.3	-0.4	10.	.92	.89	871	1147.1	328.8	29.1
94.00	11.2	-0.4	11.	.87	.84	892	1147.1	328.1	30.9
94.50	10.5	-0.4	10.	.90	.88	864	1147.0	327.5	32.6
95.00	9.1	-0.4	9.	.95	.92	833	1146.9	326.9	34.1
95.50	8.9	-0.4	8.	-18.00	.97	798	1146.8	326.2	35.6
38696.00	9.3	-0.4	8.9	-17.94	-17.91	824	1146.7	325.5	37.0
97.00	9.3	-0.5	8.8	.94	.91	814	1146.2	324.1	39.6
98.00	9.3	-0.5	8.8	.94	.91	807	1145.6	322.7	41.8
99.00	9.2	-0.5	8.7	.94	.91	798	1144.9	321.2	43.7
38700.00	9.9	-0.5	9.	-17.92	-17.89	800	1144.0	319.7	45.3
00.50	10.8	-0.5	10.	.87	.84	823	1143.5	318.9	46.0
01.00	11.2	-0.5	11.	.82	.80	843	1143.0	318.1	46.7
01.50	11.2	-0.5	11.	.82	.80	839	1142.5	317.3	47.3
02.00	9.6	-0.5	9.	.92	.90	788	1141.9	316.5	47.8
02.50	9.4	-0.4	9.	.92	.90	785	1141.3	315.6	48.3
38703.00	9.2	-0.4	8.8	-17.93	-17.91	777	1140.7	314.8	48.7
04.00	9.0	-0.4	8.6	.94	.93	765	1139.4	313.1	49.4
05.00	8.6	-0.3	8.3	.97	.95	750	1138.0	311.3	50.0
06.00	7.9	-0.2	7.7	-18.01	-18.00	723	1136.6	309.5	50.3
38706.50	7.5	-0.2	7.	-18.09	-18.08	672	1135.9	308.6	50.4
07.00	8.2	-0.1	8.	.00	-17.99	729	1135.1	307.7	50.5
07.50	9.5	-0.1	9.	-17.94	.93	757	1134.4	306.7	50.5
08.00	10.0	0.0	10.	.89	.88	779	1133.7	305.8	50.5
08.50	9.8	0.0	10.	.89	.89	776	1132.9	304.8	50.4
09.00	10.0	0.0	10.	.89	.89	774	1132.2	303.9	50.3
09.50	9.4	0.0	9.	.95	.95	747	1131.4	302.9	50.2
38710.00	8.9	0.0	8.9	-17.96	-17.96	741	1130.7	301.9	50.0
11.00	8.7	0.0	8.7	.98	.98	731	1129.2	299.9	49.5
12.00	8.0	0.0	8.0	-18.04	-18.04	703	1127.7	297.9	48.9
13.00	8.1	0.0	8.1	.04	.05	702	1126.2	295.8	48.1
38713.50	8.4	0.0	8.	-18.06	-18.07	696	1125.5	294.8	47.6
14.00	9.6	0.0	10.	-17.95	-17.96	749	1124.8	293.8	47.1
14.50	11.3	0.0	11.	.91	.92	768	1124.1	292.7	46.6
15.00	11.5	0.0	12.	.88	.89	784	1123.4	291.7	46.0
15.50	10.2	0.0	10.	.97	.98	742	1122.8	290.6	45.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38716.00	9.8	0.0	10.	-17.98	-17.99	740	1122.1	289.5	44.8
16.50	8.8	0.0	9.	-18.04	-18.05	714	1121.5	288.5	44.1
17.00	8.6	0.0	9.	.04	.06	712	1120.8	287.4	43.4
17.50	8.2	0.0	8.	.11	.13	678	1120.2	286.3	42.7
18.00	8.1	0.0	8.	.12	.14	676	1119.6	285.2	41.9
18.50	8.2	0.0	8.	.13	.15	674	1119.1	284.1	41.1
38719.00	8.8	0.0	8.8	-18.09	-18.10	705	1124.4	283.0	40.0
20.00	8.7	0.0	8.7	.11	.13	699	1123.4	280.8	38.3
21.00	8.4	0.0	8.4	.15	.16	686	1122.4	278.6	36.4
22.00	8.8	0.0	8.8	.15	.16	695	1121.4	276.4	34.4
23.00	9.0	0.0	9.0	.16	.18	697	1120.5	274.1	32.3
24.00	8.2	0.0	8.2	.22	.24	671	1119.6	271.9	30.1
25.00	8.5	0.0	8.5	.22	.24	678	1118.8	269.6	27.7
26.00	9.7	0.0	9.7	.20	.22	707	1118.1	267.3	25.2
27.00	8.1	0.0	8.1	.28	.30	661	1117.4	265.0	22.5
28.00	7.7	0.0	7.7	.31	.33	640	1116.8	262.7	19.7
29.00	8.6	0.0	8.6	.30	.33	676	1116.2	260.3	16.9
30.00	9.8	0.0	9.8	.28	.31	706	1115.8	258.0	13.9
31.00	7.9	0.0	7.9	.35	.37	649	1115.4	255.6	10.8
32.00	7.1	0.0	7.1	.37	.35	620	1115.1	253.2	7.6
33.00	6.8	0.0	6.8	.39	.36	621	1114.9	250.7	4.4
34.00	7.2	0.0	7.2	.37	.37	623	1114.8	248.3	1.2
35.00	7.9	0.0	7.9	.39	.41	655	1114.7	245.7	-2.1
36.00	9.2	0.0	9.2	.39	.41	702	1114.6	243.2	-5.4
37.00	8.4	0.0	8.4	.40	.43	681	1114.6	240.6	-8.6
38.00	7.5	0.0	7.5	.37	.38	635	1114.6	238.0	-11.9
39.00	7.8	0.0	7.8	.39	.41	660	1114.5	235.3	-15.1
40.00	9.3	-0.4	8.9	.40	.42	709	1114.4	232.6	-18.2
41.00	9.7	-1.2	8.5	.40	.42	700	1114.2	229.8	-21.2
42.00	10.6	-1.7	8.9	.39	.42	718	1114.0	227.0	-24.2
43.00	10.3	-1.9	8.4	.39	.41	706	1113.7	224.0	-27.0
44.00	10.2	-2.2	8.0	.38	.40	692	1113.3	221.0	-29.8
45.00	11.9	-2.4	9.5	.36	.39	749	1112.7	217.9	-32.4
46.00	11.0	-2.5	8.5	.37	.40	723	1112.1	214.6	-34.9
47.00	11.0	-2.7	8.3	.36	.39	719	1111.4	211.2	-37.3
48.00	10.5	-2.8	7.7	.33	.36	680	1110.7	207.7	-39.5
49.00	11.3	-2.9	8.4	.35	.38	731	1109.8	204.0	-41.7
50.00	10.8	-3.1	7.7	.32	.34	684	1108.9	200.1	-43.7
51.00	10.5	-3.2	7.3	.33	.34	686	1107.9	195.9	-45.7
52.00	10.1	-3.3	6.8	.36	.33	690	1106.8	191.4	-47.5
53.00	10.0	-3.4	6.6	.36	.33	693	1105.7	186.5	-49.3
54.00	9.9	-3.4	6.4	.37	.32	696	1104.6	181.0	-50.9
55.00	9.8	-3.5	6.3	.37	.32	699	1103.5	174.6	-52.6
56.00	9.8	-3.6	6.2	.37	.31	703	1102.3	167.2	-54.1
57.00	9.4	-3.3	6.1	.37	.31	708	1098.3	153.7	-56.2
58.00	8.8	-3.4	5.4	.41	.30	712	1095.9	138.8	-57.5
59.00	8.9	-3.5	5.4	.40	.29	717	1093.4	121.0	-58.3
60.00	9.3	-3.5	5.7	.37	.29	722	1090.6	102.3	-58.3
61.00	10.0	-3.6	6.5	.30	.28	727	1087.8	85.2	-57.6
62.00	10.3	-3.6	6.7	.28	.28	731	1085.0	71.1	-56.5
63.00	10.1	-3.7	6.5	.28	.27	736	1082.0	60.1	-55.1
64.00	10.2	-3.7	6.5	.27	.26	740	1079.1	51.3	-53.4
65.00	10.1	-3.7	6.4	.27	.26	744	1076.2	44.3	-51.7
66.00	10.4	-3.7	6.7	.24	.26	747	1073.2	38.4	-50.0
67.00	11.0	-3.7	7.3	.19	.25	750	1070.4	33.3	-48.2
68.00	11.0	-3.7	7.4	.18	.25	753	1067.6	28.8	-46.5
69.00	11.0	-3.6	7.4	.17	.25	755	1064.8	24.8	-44.8
70.00	10.7	-3.6	7.1	.18	.24	757	1062.1	21.2	-43.1
71.00	10.4	-3.6	6.9	.19	.24	759	1059.6	17.8	-41.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
38772.00	10.0	-3.5	6.5	-18.21	-18.24	760	1057.0	14.6	-39.9
73.00	9.7	-3.4	6.3	.22	.24	761	1054.6	11.6	-38.3
74.00	9.6	-3.3	6.3	.21	.24	761	1052.3	8.7	-36.8
75.00	9.9	-3.2	6.7	.18	.24	761	1050.0	5.9	-35.4
76.00	9.7	-3.1	6.6	.18	.24	761	1047.9	3.3	-33.9
77.00	9.5	-3.0	6.5	.19	.24	760	1045.8	0.6	-32.5
78.00	9.2	-2.9	6.4	.19	.24	759	1043.8	358.1	-31.2
79.00	9.1	-2.7	6.3	.19	.24	758	1041.8	355.6	-29.8
80.00	9.0	-2.6	6.4	.18	.24	757	1039.9	353.2	-28.5
81.00	9.1	-2.5	6.6	.17	.24	755	1038.0	350.8	-27.2
82.00	9.6	-2.3	7.3	.12	.25	754	1036.2	348.4	-25.8
83.00	9.0	-2.1	6.9	.14	.25	751	1034.5	346.0	-24.5
84.00	7.9	-2.0	6.0	.20	.25	749	1032.8	343.7	-23.2
85.00	7.6	-1.8	5.8	.21	.25	746	1031.1	341.4	-21.9
86.00	7.5	-1.6	5.8	.21	.26	744	1029.5	339.2	-20.5
87.00	7.4	-1.5	6.0	.19	.26	741	1027.9	336.9	-19.2
88.00	7.4	-1.3	6.1	.19	.26	737	1026.4	334.7	-17.8
89.00	7.2	-1.1	6.2	.18	.27	734	1025.0	332.4	-16.5
90.00	7.1	-0.8	6.3	.17	.27	730	1023.6	330.2	-15.1
91.00	7.1	-0.6	6.5	.15	.27	726	1022.3	328.0	-13.6
92.00	6.9	-0.4	6.5	.15	.28	723	1021.1	325.8	-12.2
93.00	6.7	-0.2	6.5	.15	.28	719	1020.0	323.6	-10.8
94.00	6.3	0.0	6.3	.16	.28	714	1019.1	321.5	-9.3
95.00	6.3	0.2	6.5	.15	.29	710	1018.4	319.3	-7.8
96.00	6.3	0.4	6.6	.14	.29	706	1019.1	317.2	-6.3
97.00	6.6	0.5	7.2	.10	.28	742	1018.6	315.0	-4.9
98.00	6.7	0.7	7.4	.09	.28	751	1018.2	312.9	-3.5
99.00	6.4	0.8	7.2	.10	.29	738	1017.9	310.8	-2.2
38800.00	6.1	1.0	7.1	.11	.29	730	1017.6	308.8	-0.8
01.00	5.9	1.1	6.9	.12	.30	713	1017.5	306.7	0.5
02.00	5.8	1.1	6.9	.12	.31	712	1017.5	304.6	1.9
03.00	5.6	1.0	6.7	.14	.31	689	1017.5	302.5	3.3
04.00	5.5	0.9	6.4	.16	.31	674	1017.7	300.5	4.7
05.00	6.0	0.8	6.7	.14	.32	689	1017.9	298.4	6.2
06.00	7.2	0.4	7.6	.08	.28	736	1018.2	296.3	7.6
07.00	7.4	0.0	7.4	.09	.29	726	1018.7	294.2	9.1
08.00	7.0	0.0	7.0	.12	.31	705	1019.2	292.2	10.7
09.00	6.7	0.0	6.7	.14	.32	684	1019.8	290.1	12.3
10.00	7.0	0.0	7.0	.12	.31	701	1020.5	288.0	13.9
11.00	7.5	0.0	7.5	.08	.28	720	1021.2	285.9	15.6
12.00	7.4	0.0	7.4	.09	.28	714	1022.1	283.8	17.3
13.00	7.5	0.0	7.5	.08	.28	715	1023.0	281.7	19.1
14.00	7.8	0.0	7.8	.06	.26	724	1023.9	279.6	20.9
15.00	8.3	0.0	8.3	.03	.23	737	1024.9	277.5	22.8
16.00	8.8	0.0	8.8	.00	.20	748	1026.0	275.4	24.7
17.00	8.4	0.0	8.4	.02	.22	735	1027.1	273.2	26.7
18.00	8.5	0.0	8.5	.02	.21	737	1028.3	271.0	28.8
19.00	8.6	0.0	8.6	.01	.20	738	1029.5	268.9	30.8
20.00	8.6	0.0	8.6	.01	.19	737	1030.6	266.6	33.0
21.00	8.7	0.0	8.7	.00	.18	739	1031.8	264.4	35.1
22.00	9.0	0.0	9.0	-17.98	.16	746	1033.0	262.2	37.3
23.00	9.4	0.0	9.4	.95	.13	756	1034.1	259.9	39.6
24.00	9.7	0.0	9.7	.93	.11	763	1035.2	257.5	41.9
25.00	9.6	0.0	9.6	.93	.11	762	1036.3	255.1	44.2
26.00	9.2	0.0	9.2	.95	.12	753	1037.3	252.7	46.5
27.00	9.1	0.0	9.1	.95	.12	752	1038.1	250.2	48.9
28.00	9.1	0.0	9.1	.94	.11	754	1038.9	247.6	51.2
29.00	9.0	0.0	9.0	.94	.11	754	1039.5	244.9	53.6
30.00	8.8	0.0	8.8	.94	.11	751	1040.0	242.1	56.0
31.00	8.6	0.0	8.6	.95	.11	749	1040.4	239.2	58.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38832.00	8.7	0.0	8.7	-17.93	-18.10	755	1040.5	236.1	60.7
33.00	8.7	0.0	8.7	.93	.09	758	1040.5	232.7	63.1
34.00	9.2	0.0	9.2	.89	.06	776	1040.3	229.1	65.4
35.00	9.3	0.0	9.3	.88	.05	782	1039.9	225.2	67.6
36.00	9.1	0.0	9.1	.89	.05	781	1039.2	220.7	69.8
37.00	8.9	-0.5	8.4	.92	.09	764	1038.3	215.6	71.9
38.00	9.7	-1.4	8.3	.92	.09	764	1036.7	209.6	73.9
39.00	11.3	-2.0	9.3	.86	.03	798	1035.5	202.4	75.8
40.00	12.2	-2.6	9.6	.84	.01	810	1034.2	193.6	77.4
41.00	12.8	-3.1	9.7	.83	.01	816	1032.7	182.4	78.7
42.00	13.5	-3.6	9.9	.82	.00	825	1031.1	168.4	79.7
43.00	14.0	-4.0	10.0	.82	-17.99	832	1029.3	151.6	80.1
44.00	14.9	-4.3	10.6	.79	.96	851	1027.5	133.5	79.8
45.00	15.2	-4.6	10.5	.79	.97	853	1025.5	116.4	78.9
46.00	15.3	-4.9	10.4	.79	.97	856	1023.5	102.0	77.4
47.00	15.1	-5.2	10.0	.81	.99	850	1021.4	90.5	75.6
38848.00	15.27	-5.36	9.91	-17.81	-18.00	852	1019.2	81.4	73.5
50.00	15.53	-5.77	9.76	.81	.01	858	1014.6	68.0	69.1
52.00	16.00	-5.85	10.15	.79	-17.99	877	1009.9	58.3	64.5
54.00	16.41	-5.92	10.49	.77	.98	895	1005.0	50.6	59.8
56.00	16.82	-5.90	10.92	.75	.97	913	1000.1	44.1	55.2
58.00	17.14	-5.76	11.38	.73	.96	931	995.3	38.3	50.6
60.00	17.34	-5.58	11.76	.71	.96	944	990.6	33.0	46.1
62.00	17.31	-5.29	12.02	.70	.96	953	986.1	28.0	41.7
64.00	16.94	-4.92	12.02	.71	.97	955	981.9	23.3	37.4
38865.00	16.7	-4.7	12.0	-17.71	-17.98	954	979.9	21.0	35.3
66.00	15.7	-4.5	11.1	.75	-18.01	931	977.9	18.7	33.2
38866.50	15.4	-4.4	11.	-17.75	-18.02	928	977.0	17.6	32.1
67.00	16.4	-4.3	12.	.71	-17.99	953	976.1	16.5	31.0
67.50	16.7	-4.2	13.	.67	.95	975	975.2	15.3	30.0
68.00	24.3	-4.0	20.	.44	.78	1093	974.4	14.2	29.0
68.50	22.3	-3.9	18.	.50	.83	1064	973.5	13.2	27.9
69.00	18.3	-3.8	14.	.63	.93	994	972.7	12.1	26.9
69.50	17.4	-3.7	14.	.64	.93	993	972.0	11.0	25.9
70.00	16.3	-3.5	13.	.67	.97	971	971.2	9.9	24.8
38871.00	15.1	-3.2	11.9	-17.72	-18.01	943	969.8	7.7	22.8
72.00	14.5	-3.0	11.5	.74	.03	931	968.5	5.6	20.7
73.00	13.7	-2.7	11.1	.76	.04	917	967.3	3.5	18.7
74.00	12.8	-2.3	10.4	.79	.08	894	966.3	1.4	16.7
75.00	12.0	-2.0	9.9	.82	.10	874	965.3	359.3	14.6
76.00	11.6	-1.7	9.9	.82	.10	870	964.5	357.2	12.6
77.00	11.2	-1.4	9.8	.82	.11	862	963.8	355.1	10.6
78.00	10.4	-1.0	9.4	.85	.13	843	963.3	353.0	8.6
79.00	9.5	-0.7	8.8	.88	.16	812	962.8	350.9	6.5
80.00	8.7	-0.4	8.3	.92	.18	768	962.5	348.9	4.5
81.00	8.5	0.0	8.4	.91	.18	774	962.3	346.8	2.4
82.00	7.8	0.3	8.1	.94	.18	744	962.7	344.7	0.3
83.00	7.2	0.6	7.8	.95	.18	740	962.8	342.6	-1.7
84.00	6.9	1.0	7.9	.94	.18	735	963.0	340.6	-3.8
85.00	6.9	1.3	8.2	.93	.18	731	963.4	338.5	-5.8
86.00	8.4	1.6	10.1	.80	.09	823	963.9	336.4	-7.9
87.00	6.2	1.9	8.2	.92	.18	722	964.6	334.4	-10.0
88.00	6.0	2.2	8.3	.92	.17	717	965.3	332.3	-12.1
89.00	6.1	2.5	8.6	.88	.16	742	966.3	330.2	-14.2
90.00	6.1	2.8	8.9	.86	.14	753	967.3	328.1	-16.3
91.00	5.2	3.1	8.2	.92	.17	701	968.5	326.1	-18.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38892.00	4.5	3.3	7.8	-17.94	-18.16	696	969.8	324.0	-20.5
93.00	3.6	3.5	7.1	.97	.16	691	971.3	321.9	-22.7
94.00	3.5	3.8	7.4	.95	.16	686	972.9	319.8	-24.8
95.00	4.2	3.9	8.2	.91	.15	680	974.6	317.7	-27.0
96.00	5.1	4.1	9.2	.83	.10	728	976.4	315.6	-29.2
97.00	4.5	4.2	8.7	.86	.13	698	978.4	313.4	-31.4
98.00	4.0	4.3	8.3	.90	.14	665	980.5	311.3	-33.6
99.00	3.8	4.4	8.2	.90	.14	661	982.7	309.1	-35.9
38900.00	4.1	4.4	8.5	.89	.14	656	985.0	307.0	-38.2
01.00	4.2	4.4	8.7	.86	.12	672	987.3	304.8	-40.5
02.00	4.4	4.4	8.8	.84	.11	673	989.8	302.6	-42.9
03.00	5.0	4.4	9.3	.81	.07	689	992.4	300.4	-45.3
04.00	5.2	4.3	9.5	.79	.05	690	995.0	298.1	-47.8
05.00	4.8	4.1	8.9	.83	.09	661	997.7	295.9	-50.2
06.00	4.1	4.0	8.1	.90	.10	630	1000.4	293.5	-52.8
07.00	4.1	3.8	7.8	.92	.10	627	1003.2	291.2	-55.4
08.00	4.1	3.6	7.7	.92	.09	624	1006.0	288.8	-58.0
09.00	4.1	3.3	7.5	.93	.09	621	1008.8	286.3	-60.7
10.00	4.2	3.1	7.3	.94	.08	618	1011.6	283.8	-63.4
11.00	4.4	2.8	7.2	.95	.07	616	1014.3	281.2	-66.2
12.00	4.6	2.5	7.0	.96	.06	614	1017.1	278.6	-69.0
13.00	4.8	2.1	6.9	.96	.05	612	1019.7	275.8	-71.9
14.00	5.6	1.8	7.4	.93	.04	611	1022.3	272.8	-74.9
15.00	6.6	1.5	8.1	.88	.03	610	1024.8	269.7	-77.8
16.00	7.0	1.3	8.2	.87	.02	610	1027.1	266.4	-80.8
17.00	7.4	1.0	8.4	.86	.01	610	1029.3	262.7	-83.9
18.00	8.1	0.8	8.9	.83	.00	610	1031.3	258.7	-86.9
19.00	8.8	0.6	9.4	.79	-17.98	619	1033.1	254.0	-90.0
20.00	9.1	0.5	9.5	.77	.96	624	1034.6	248.6	-93.0
21.00	8.8	0.4	9.1	.80	.97	612	1035.9	241.9	-96.0
22.00	9.3	0.2	9.5	.77	.95	617	1036.9	233.3	-98.8
23.00	9.7	0.1	9.8	.73	.91	634	1037.6	221.7	-101.3
24.00	9.2	0.0	9.1	.79	.94	614	1038.0	205.5	-103.4
25.00	7.9	-0.2	7.7	.85	.93	620	1038.0	184.0	-104.6
38926.00	10.9	-0.5	10.	-17.71	-17.90	636	1037.7	160.0	-104.6
38926.60	11.	-1.	11.	-17.66	-17.85	660	1036.8	145.8	-103.9
26.80	13.	-1.	12.	.57	.76	696	1036.6	141.8	-103.7
27.00	13.	-1.	12.	.57	.76	697	1036.4	138.1	-103.3
27.20	13.	-1.	12.	.57	.76	697	1036.3	134.6	-103.0
27.40	14.	-1.	13.	.50	.69	723	1036.1	131.3	-102.6
27.60	17.	-1.	16.	.41	.59	765	1035.9	128.3	-102.2
27.80	23.	-1.	22.	.27	.44	832	1035.7	125.4	-101.8
28.00	16.	-1.	15.	.45	.63	747	1035.5	122.7	-101.3
28.20	15.	-1.	13.	.50	.69	725	1035.2	120.2	-100.9
28.40	13.	-1.	12.	.56	.75	699	1035.0	117.9	-100.4
28.60	12.	-1.	11.	.65	.84	662	1034.7	115.7	-99.9
28.80	11.	-1.	9.	.76	.91	628	1034.5	113.6	-99.4
29.00	11.	-1.	9.	.76	.91	628	1034.2	111.7	-98.9
29.20	11.	-1.	9.	.76	.90	629	1033.9	109.9	-98.4
38930.00	10.2	-1.7	8.5	-17.79	-17.90	632	1032.7	103.5	-96.3
31.00	10.4	-2.0	8.3	.80	.89	635	1030.9	97.0	-93.6
32.00	10.6	-2.4	8.2	.80	.89	639	1029.0	91.7	-90.8
33.00	10.3	-2.7	7.6	.83	.88	644	1026.8	87.1	-88.0
34.00	10.8	-3.1	7.7	.81	.88	648	1024.4	83.1	-85.2
35.00	11.5	-3.4	8.0	.79	.87	653	1021.8	79.5	-82.4
36.00	13.2	-3.7	9.5	.71	.87	658	1019.1	76.1	-79.7
37.00	13.3	-4.0	9.4	.71	.87	663	1016.3	73.0	-77.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38938.00	12.7	-4.2	8.4	-17.72	-17.83	691	1013.4	70.1	-74.3
39.00	12.1	-4.5	7.6	.80	.86	673	1010.4	67.3	-71.6
40.00	13.4	-4.7	8.7	.74	.86	678	1007.3	64.6	-69.0
41.00	15.1	-4.9	10.2	.66	.86	683	1004.2	62.0	-66.4
42.00	13.5	-5.1	8.4	.75	.86	688	1001.0	59.4	-63.9
43.00	13.6	-5.2	8.3	.75	.87	692	997.8	57.0	-61.4
44.00	13.7	-5.3	8.3	.75	.87	697	994.7	54.5	-59.0
45.00	13.8	-5.4	8.4	.75	.87	702	991.5	52.1	-56.5
46.00	14.0	-5.5	8.5	.75	.88	706	988.4	49.8	-54.1
47.00	14.2	-5.5	8.7	.74	.88	711	985.4	47.5	-51.8
48.00	15.0	-5.4	9.6	.70	.89	715	982.4	45.2	-49.5
49.00	15.1	-5.4	9.7	.70	.90	719	979.5	43.0	-47.2
50.00	14.6	-5.3	9.3	.72	.90	723	976.7	40.7	-44.9
51.00	14.7	-5.2	9.4	.72	.91	727	974.0	38.5	-42.7
52.00	14.2	-5.1	9.1	.74	.92	730	971.4	36.3	-40.5
53.00	13.8	-5.0	8.8	.76	.93	733	968.9	34.1	-38.3
54.00	13.6	-4.9	8.7	.77	.94	736	966.5	31.9	-36.2
55.00	13.7	-4.7	9.0	.76	.95	739	964.3	29.8	-34.1
56.00	13.7	-4.5	9.2	.76	.96	741	962.2	27.6	-32.0
57.00	13.5	-4.3	9.2	.77	.97	743	960.2	25.5	-29.9
58.00	13.1	-4.1	9.0	.79	.98	745	958.4	23.4	-27.8
59.00	12.7	-3.8	8.8	.81	-18.00	747	956.7	21.2	-25.8
60.00	12.5	-3.6	8.9	.81	.01	748	955.2	19.1	-23.7
61.00	13.0	-3.3	9.7	.78	.02	750	953.8	17.0	-21.7
62.00	12.3	-3.0	9.3	.81	.03	751	952.6	14.9	-19.7
63.00	11.9	-2.7	9.2	.82	.05	752	951.5	12.8	-17.7
64.00	11.4	-2.4	9.0	.84	.06	752	950.6	10.7	-15.7
65.00	11.0	-2.1	8.9	.86	.07	752	949.8	8.6	-13.7
66.00	10.3	-1.8	8.5	.89	.08	752	949.2	6.5	-11.8
67.00	9.8	-1.5	8.3	.90	.10	752	948.6	4.5	-9.8
68.00	9.4	-1.2	8.2	.91	.11	751	948.2	2.4	-7.8
69.00	9.2	-0.9	8.3	.92	.12	751	947.9	0.3	-5.9
70.00	9.6	-0.5	9.1	.88	.14	750	947.2	358.2	-3.9
71.00	9.3	-0.2	9.1	.89	.15	749	947.0	356.1	-1.9
72.00	8.4	0.1	8.5	.93	.16	747	946.9	354.0	0.1
73.00	7.6	0.5	8.1	.96	.17	746	947.0	351.9	2.1
74.00	7.3	0.8	8.1	.97	.18	744	947.2	349.8	4.1
75.00	7.0	1.1	8.1	.97	.20	743	947.5	347.7	6.1
76.00	6.6	1.4	8.1	.98	.21	741	948.0	345.5	8.2
77.00	6.5	1.7	8.2	.97	.22	739	948.6	343.4	10.2
78.00	6.1	2.0	8.2	.98	.23	736	949.3	341.3	12.3
79.00	5.9	2.3	8.2	.98	.24	734	950.2	339.1	14.3
80.00	5.4	2.6	8.0	-18.00	.25	731	951.1	337.0	16.4
81.00	4.6	2.9	7.6	.03	.26	729	952.2	334.8	18.5
82.00	4.0	3.2	7.2	.06	.27	727	953.4	332.6	20.6
83.00	3.7	3.5	7.1	.06	.27	724	954.7	330.4	22.7
84.00	3.3	3.7	7.0	.07	.28	722	956.1	328.2	24.8
85.00	2.7	3.9	6.6	.10	.29	719	957.6	325.9	26.9
86.00	1.9	4.0	5.9	.15	.30	717	959.2	323.6	29.1
87.00	1.5	4.3	5.8	.16	.30	715	960.8	321.3	31.2
88.00	1.3	4.6	5.9	.15	.31	712	962.6	318.9	33.4
89.00	1.1	4.7	5.9	.15	.31	710	964.4	316.5	35.6
90.00	1.0	4.8	5.8	.16	.32	708	966.2	314.1	37.8
91.00	1.5	4.9	6.4	.12	.32	706	968.1	311.6	40.0
92.00	1.1	4.9	6.0	.14	.32	704	970.1	309.0	42.2
93.00	0.5	4.9	5.4	.19	.32	703	972.1	306.3	44.5
94.00	0.4	4.9	5.3	.20	.33	701	974.1	303.5	46.8
95.00	0.3	4.8	5.1	.22	.33	700	976.1	300.5	49.0
96.00	0.2	4.6	4.8	.24	.33	699	978.2	297.5	51.3
97.00	0.1	4.4	4.5	.27	.33	698	980.2	294.2	53.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38998.00	0.5	4.0	4.5	-18.26	-18.32	698	982.2	290.6	55.9
99.00	0.9	3.6	4.5	.26	.32	697	984.2	286.7	58.2
39000.00	1.8	2.9	4.7	.24	.32	697	986.1	282.4	60.5
01.00	2.7	1.7	4.4	.26	.31	698	988.0	277.6	62.8
02.00	3.9	0.0	4.0	.30	.31	698	989.8	271.9	65.0
03.00	5.6	0.0	5.6	.15	.30	699	991.6	265.2	67.2
04.00	7.5	0.0	7.5	-17.99	.23	781	993.3	257.1	69.2
05.00	6.9	0.0	6.9	-18.02	.26	754	994.9	246.9	71.1
06.00	6.4	0.0	6.4	.07	.28	711	996.4	234.2	72.7
07.00	7.0	0.0	7.0	.00	.23	761	997.7	218.8	73.9
08.00	7.0	0.0	7.0	.00	.22	764	999.0	201.4	74.5
09.00	7.4	0.0	7.4	-17.97	.20	778	1000.1	184.2	74.5
10.00	6.7	0.0	6.7	-18.02	.24	740	1001.1	169.0	73.9
11.00	6.7	0.0	6.7	.02	.24	736	1002.3	156.6	72.8
12.00	6.6	0.0	6.6	.03	.24	726	1003.0	146.6	71.4
13.00	6.8	0.0	6.8	.01	.22	740	1003.4	138.5	69.8
14.00	7.0	0.0	7.0	-17.99	.21	750	1003.8	131.9	68.1
15.00	7.0	0.0	7.0	.98	.20	748	1003.9	126.4	66.2
16.00	7.0	0.0	7.0	.98	.20	748	1003.9	121.6	64.3
17.00	7.5	0.0	7.5	.94	.16	771	1003.8	117.4	62.3
18.00	7.9	0.0	7.9	.91	.13	787	1003.4	113.6	60.4
19.00	8.4	0.0	8.4	.87	.09	806	1003.0	110.1	58.3
20.00	9.1	0.0	9.1	.82	.05	830	1002.3	106.9	56.3
21.00	8.9	0.0	8.9	.83	.05	824	1001.6	103.9	54.3
22.00	8.5	0.0	8.5	.84	.07	812	1000.7	101.1	52.3
23.00	8.1	0.0	8.1	.86	.09	797	999.7	98.3	50.3
24.00	8.0	0.0	8.0	.87	.10	791	998.6	95.7	48.3
25.00	8.4	0.0	8.4	.84	.07	808	997.5	93.2	46.3
26.00	8.7	0.0	8.7	.82	.05	819	996.2	90.8	44.3
27.00	8.6	0.0	8.6	.82	.05	816	994.9	88.4	42.4
28.00	8.9	0.0	8.9	.80	.03	828	993.5	86.0	40.5
29.00	9.1	0.0	9.1	.78	.01	838	992.1	83.7	38.6
30.00	9.8	0.0	9.8	.74	-17.98	859	990.6	81.5	36.7
31.00	11.3	0.0	11.3	.67	.91	903	989.1	79.3	34.9
32.00	10.5	0.0	10.5	.70	.94	884	987.6	77.1	33.1
33.00	10.4	0.0	10.4	.70	.95	881	986.2	74.9	31.3
34.00	10.6	0.0	10.6	.69	.94	888	984.7	72.8	29.5
35.00	11.0	0.0	11.0	.67	.92	902	983.3	70.7	27.8
36.00	11.4	0.0	11.4	.65	.90	913	981.9	68.6	26.1
37.00	11.6	0.0	11.6	.64	.90	919	980.5	66.5	24.5
38.00	12.1	0.0	12.1	.62	.88	933	979.2	64.4	22.8
39.00	12.4	-0.4	12.1	.62	.88	933	978.0	62.3	21.2
40.00	12.8	-1.2	11.6	.64	.90	922	976.8	60.3	19.6
41.00	13.7	-1.7	12.0	.62	.89	932	975.7	58.2	18.0
42.00	13.7	-1.9	11.8	.63	.90	929	974.7	56.2	16.5
43.00	13.5	-2.0	11.5	.65	.92	920	973.8	54.1	15.0
44.00	12.7	-2.0	10.7	.69	.95	896	973.0	52.1	13.5
45.00	12.5	-2.0	10.5	.70	.97	891	972.3	50.1	12.0
46.00	12.2	-1.9	10.3	.71	.98	884	971.7	48.0	10.5
47.00	11.7	-1.8	9.8	.74	-18.01	867	971.2	46.0	9.0
48.00	11.1	-1.7	9.4	.77	.03	850	970.8	44.0	7.6
49.00	10.7	-1.5	9.1	.79	.06	833	970.6	42.0	6.1
50.00	10.1	-1.4	8.8	.83	.09	800	970.5	39.9	4.7
51.00	9.6	-1.2	8.4	.87	.10	784	970.5	37.9	3.2
52.00	9.4	-1.0	8.4	.87	.10	784	970.6	35.8	1.8
53.00	9.3	-0.8	8.5	.87	.11	784	970.8	33.8	0.3
54.00	9.4	-0.5	8.9	.85	.10	811	971.2	31.8	-1.1
55.00	9.5	-0.3	9.1	.83	.09	830	971.7	29.7	-2.6
56.00	10.2	-0.1	10.1	.78	.05	875	972.3	27.6	-4.1
57.00	11.4	0.1	11.6	.72	-17.99	921	972.9	25.5	-5.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39058.00	12.9	0.4	13.3	-17.66	-17.94	962	973.6	23.5	-7.0
59.00	10.1	0.6	10.7	.78	-18.04	893	974.3	21.4	-8.4
60.00	9.1	0.8	9.9	.83	.09	863	975.2	19.3	-9.8
61.00	9.6	1.0	10.6	.80	.06	890	976.1	17.2	-11.2
62.00	9.4	1.3	10.7	.80	.06	892	977.1	15.1	-12.5
63.00	9.2	1.5	10.6	.82	.08	888	978.2	12.9	-13.9
64.00	8.8	1.7	10.4	.84	.09	881	979.4	10.8	-15.3
65.00	8.2	1.9	10.1	.86	.11	869	980.7	8.6	-16.7
66.00	7.9	2.1	10.1	.88	.12	866	982.1	6.5	-18.1
67.00	7.3	2.3	9.6	.91	.15	848	983.6	4.3	-19.5
68.00	7.7	2.5	10.2	.89	.13	868	985.3	2.1	-20.9
69.00	7.9	2.7	10.6	.89	.13	876	987.0	359.8	-22.4
70.00	8.8	2.9	11.6	.85	.10	904	988.8	357.6	-23.8
71.00	9.9	3.0	12.9	.82	.06	931	990.7	355.3	-25.3
72.00	8.0	3.2	11.2	.89	.13	888	992.7	353.0	-26.8
73.00	6.6	3.4	10.0	.95	.18	852	994.8	350.6	-28.3
74.00	6.0	3.5	9.5	.99	.20	835	997.0	348.2	-29.8
75.00	5.9	3.7	9.5	-18.00	.21	834	999.2	345.7	-31.3
76.00	5.8	3.8	9.6	.00	.22	834	1001.6	343.2	-32.9
77.00	5.6	3.9	9.5	.02	.23	831	1004.0	340.7	-34.4
78.00	6.7	4.0	10.7	-17.98	.19	863	1006.4	338.0	-36.0
79.00	4.9	4.1	9.0	-18.06	.26	809	1008.9	335.3	-37.6
80.00	4.6	4.2	8.8	.08	.27	802	1011.4	332.5	-39.3
81.00	4.3	4.3	8.6	.10	.28	790	1014.0	329.5	-40.9
82.00	4.7	4.3	9.0	.09	.27	806	1016.6	326.4	-42.6
83.00	5.4	4.4	9.8	.07	.25	827	1019.1	323.1	-44.3
84.00	6.2	4.4	10.6	.05	.23	849	1021.7	319.5	-46.0
85.00	5.8	4.5	10.3	.07	.24	839	1024.3	315.7	-47.7
86.00	5.3	4.5	9.8	.09	.26	824	1026.8	311.5	-49.4
87.00	4.8	4.5	9.2	.12	.29	807	1029.3	306.9	-51.1
88.00	4.5	4.5	9.0	.14	.30	798	1031.8	301.5	-52.8
89.00	4.0	4.4	8.4	.16	.32	780	1034.2	295.3	-54.4
90.00	4.3	4.4	8.7	.16	.31	790	1036.5	287.9	-55.9
91.00	4.3	4.3	8.6	.17	.31	786	1038.8	278.8	-57.4
92.00	4.2	4.3	8.5	.17	.31	784	1041.0	267.6	-58.6
93.00	4.2	4.2	8.4	.18	.32	781	1043.0	253.7	-59.4
94.00	4.5	4.1	8.6	.17	.31	789	1045.0	237.4	-59.9
95.00	5.0	4.0	9.0	.16	.30	802	1046.8	220.0	-59.7
96.00	4.4	3.9	8.3	.19	.32	775	1048.5	203.5	-58.9
97.00	4.1	3.8	7.8	.21	.33	752	1050.1	189.4	-57.7
98.00	3.6	3.6	7.2	.23	.32	706	1051.6	177.9	-56.0
99.00	3.6	3.4	7.0	.25	.32	705	1052.9	168.7	-54.2
39100.00	3.6	3.2	6.8	.26	.32	704	1054.0	161.1	-52.1
01.00	3.9	2.9	6.8	.27	.33	703	1055.0	154.8	-50.0
02.00	4.5	2.5	7.0	.26	.33	702	1056.0	149.6	-47.9
03.00	5.1	1.9	7.0	.26	.33	702	1057.0	144.6	-45.4
04.00	5.7	1.0	6.7	.28	.32	701	1057.9	140.2	-42.9
05.00	7.8	0.3	8.1	.23	.34	746	1058.6	136.1	-40.4
06.00	8.7	0.0	8.7	.22	.33	769	1059.3	132.5	-37.9
07.00	8.1	0.0	8.1	.23	.34	742	1059.8	129.0	-35.3
08.00	7.3	0.0	7.3	.26	.31	701	1060.2	125.7	-32.7
09.00	7.3	0.0	7.3	.25	.31	702	1060.5	122.7	-30.1
10.00	7.2	0.0	7.3	.25	.31	704	1060.7	119.7	-27.4
11.00	7.4	0.0	7.4	.24	.30	705	1060.8	116.8	-24.8
12.00	7.4	0.0	7.4	.24	.30	706	1060.9	114.1	-22.3
13.00	7.6	0.0	7.6	.23	.29	707	1060.9	111.4	-19.7
14.00	8.0	0.0	8.0	.20	.28	709	1060.8	108.8	-17.2
15.00	7.8	0.0	7.8	.20	.27	711	1060.7	106.2	-14.6
16.00	7.6	0.0	7.6	.21	.26	713	1060.6	103.7	-12.2
17.00	7.0	0.0	7.0	.24	.25	714	1060.4	101.2	-9.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39118.00	7.4	0.0	7.4	-18.21	-18.24	717	1060.2	98.8	-7.4
19.00	7.7	0.0	7.7	.18	.23	718	1060.0	96.4	-5.0
20.00	7.8	0.0	7.8	.16	.22	721	1059.8	94.0	-2.7
21.00	8.0	0.0	8.0	.14	.21	723	1059.6	91.7	-0.5
22.00	8.1	0.0	8.1	.13	.19	725	1059.5	89.3	1.6
23.00	8.8	0.0	8.8	.08	.18	738	1059.3	87.0	3.7
24.00	8.8	0.0	8.8	.06	.17	726	1059.2	84.8	5.8
25.00	8.6	0.0	8.6	.06	.15	731	1059.1	82.5	7.8
26.00	8.0	0.0	8.0	.08	.14	733	1059.0	80.2	9.7
27.00	8.0	0.0	8.0	.07	.12	734	1059.0	78.0	11.5
28.00	8.3	0.0	8.3	.04	.11	736	1059.0	75.8	13.2
29.00	8.6	0.0	8.6	.01	.10	738	1059.1	73.6	14.9
30.00	9.5	0.0	9.5	-17.94	.06	781	1059.2	71.4	16.6
31.00	8.7	0.0	8.7	.99	.07	741	1059.4	69.2	18.1
32.00	8.5	0.0	8.5	.98	.06	742	1059.6	67.1	19.6
33.00	8.3	0.0	8.3	.98	.05	743	1060.0	64.9	21.0
34.00	8.9	0.0	8.9	.94	.04	745	1060.4	62.8	22.3
35.00	9.5	0.0	9.5	.89	.00	779	1060.9	60.7	23.6
36.00	8.3	0.0	8.2	.96	.02	742	1061.5	58.5	24.8
37.00	8.3	0.2	8.5	.94	.01	748	1062.3	56.4	26.0
38.00	7.8	0.5	8.3	.94	.00	749	1063.2	54.3	27.0
39.00	7.9	0.7	8.6	.92	-17.99	750	1064.2	52.3	28.1
40.00	8.2	0.8	9.0	.89	.98	750	1065.4	50.2	29.1
41.00	8.4	0.9	9.3	.86	.96	765	1066.7	48.1	30.0
42.00	8.6	1.0	9.6	.82	.93	791	1068.3	46.0	30.9
43.00	8.8	1.1	9.9	.80	.90	808	1070.0	44.0	31.8
44.00	9.2	1.1	10.3	.76	.86	826	1072.0	41.9	32.7
45.00	9.7	1.2	10.9	.73	.82	847	1074.3	39.8	33.5
46.00	10.2	1.2	11.4	.70	.79	863	1076.9	37.8	34.4
39192.50	7.7	0.2	8.	-18.13	-18.16	814	1113.5	316.3	0.3
93.00	8.0	0.1	8.	.14	.17	813	1113.3	315.5	-0.7
93.50	8.3	0.0	8.	.14	.17	812	1113.2	314.7	-1.7
94.00	8.0	0.0	8.	.15	.17	811	1113.0	314.0	-2.7
94.50	7.8	-0.1	8.	.15	.18	810	1112.9	313.2	-3.6
95.00	8.1	-0.1	8.	.15	.18	809	1112.7	312.5	-4.6
95.50	8.4	-0.1	8.	.15	.18	807	1112.5	311.7	-5.6
96.00	8.9	-0.1	9.	.11	.14	837	1112.4	311.0	-6.5
96.50	8.8	-0.1	9.	.11	.14	835	1112.3	310.2	-7.4
97.00	8.8	-0.1	9.	.11	.14	834	1112.1	309.4	-8.3
97.50	9.1	-0.1	9.	.11	.14	832	1112.0	308.7	-9.2
98.00	9.9	-0.1	10.	.07	.10	857	1111.8	307.9	-10.0
98.50	14.0	-0.1	14.	-17.93	-17.96	942	1111.7	307.1	-10.8
99.00	12.0	-0.1	12.	.99	-18.02	900	1111.5	306.3	-11.6
99.50	10.9	-0.1	11.	-18.03	.06	876	1111.4	305.5	-12.4
39200.00	10.3	0.0	10.	.08	.11	850	1111.2	304.8	-13.1
00.50	9.9	0.0	10.	.08	.11	848	1111.1	304.0	-13.8
01.00	9.9	0.0	10.	.08	.11	847	1110.9	303.2	-14.4
01.50	9.7	0.0	10.	.08	.11	845	1110.7	302.4	-15.0
02.00	10.0	0.0	10.	.08	.11	843	1110.5	301.5	-15.6
02.50	10.4	0.0	10.	.08	.12	841	1110.4	300.7	-16.1
03.00	10.9	0.0	11.	.04	.08	862	1110.2	299.9	-16.6
03.50	11.2	0.0	11.	.04	.08	860	1110.0	299.1	-17.0
04.00	16.4	0.0	16.	-17.88	-17.92	954	1109.8	298.2	-17.4
04.50	11.0	0.0	11.	-18.05	-18.08	856	1109.6	297.4	-17.8
05.00	10.1	0.0	10.	.09	.13	830	1109.3	296.5	-18.0
05.50	9.4	0.0	9.	.14	.18	803	1109.1	295.7	-18.3
06.00	10.1	0.0	10.	.10	.13	826	1108.9	294.8	-18.5
06.50	11.9	0.0	12.	.02	.05	868	1108.6	293.9	-18.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39207.00	12.8	0.0	13.	-17.98	-18.02	885	1108.3	293.0	-18.7
07.50	15.1	0.0	15.	.92	-17.96	919	1108.1	292.1	-18.7
08.00	14.4	0.0	14.	.96	.99	899	1107.8	291.2	-18.7
08.50	11.0	0.0	11.	-18.07	-18.10	838	1107.5	290.3	-18.6
09.00	10.8	0.0	11.	.07	.11	835	1107.2	289.4	-18.5
09.50	11.0	0.0	11.	.07	.11	836	1106.9	288.5	-18.3
10.00	10.6	0.0	11.	.07	.12	830	1106.6	287.5	-18.1
10.50	9.7	0.0	10.	.12	.16	806	1106.3	286.6	-17.8
11.00	9.5	0.0	9.	.17	.21	779	1106.0	285.6	-17.5
11.50	9.7	0.0	10.	.13	.17	801	1105.6	284.7	-17.1
12.00	11.3	0.0	11.	.09	.13	821	1105.3	283.7	-16.7
12.50	13.5	0.0	13.	.02	.06	858	1105.0	282.7	-16.2
13.00	12.4	0.0	12.	.06	.11	837	1104.7	281.7	-15.7
13.50	10.3	0.0	10.	.15	.19	792	1104.3	280.8	-15.1
14.00	10.1	0.0	10.	.15	.20	790	1104.0	279.8	-14.4
14.50	10.1	0.0	10.	.16	.20	788	1103.7	278.8	-13.8
15.00	10.5	0.0	11.	.12	.17	807	1103.3	277.7	-13.0
15.50	10.5	0.0	11.	.13	.17	805	1103.0	276.7	-12.3
16.00	10.1	0.0	10.	.17	.22	781	1102.7	275.7	-11.4
16.50	9.4	0.0	9.	.22	.27	755	1102.4	274.7	-10.6
17.00	11.2	0.0	11.	.14	.19	799	1102.1	273.6	-9.6
17.50	11.2	0.0	11.	.15	.20	797	1101.8	272.6	-8.7
18.00	10.3	0.0	10.	.20	.25	773	1101.6	271.5	-7.7
18.50	9.9	0.0	10.	.20	.26	771	1101.3	270.5	-6.7
19.00	10.3	0.0	10.	.21	.26	769	1101.1	269.4	-5.6
19.50	10.3	0.0	10.	.22	.27	768	1100.8	268.4	-4.5
20.00	9.9	0.0	10.	.22	.28	766	1100.6	267.3	-3.3
20.50	9.2	0.0	9.	.27	.33	740	1100.4	266.2	-2.2
21.00	9.9	0.0	10.	.24	.29	763	1100.3	265.1	-1.0
21.50	10.1	0.0	10.	.24	.29	761	1100.1	264.1	0.3
22.00	12.8	0.0	13.	.14	.19	819	1100.0	263.0	1.5
22.50	12.6	0.0	13.	.14	.19	817	1099.9	261.9	2.8
23.00	12.1	0.0	12.	.18	.24	798	1099.8	260.8	4.1
23.50	11.5	0.0	11.	.22	.28	777	1099.8	259.7	5.5
24.00	11.3	0.0	11.	.23	.28	776	1099.7	258.5	6.8
24.50	11.1	0.0	11.	.23	.29	775	1099.7	257.4	8.2
25.00	10.9	0.0	11.	.24	.29	775	1099.7	256.3	9.6
25.50	11.3	0.0	11.	.24	.30	774	1099.7	255.2	11.0
26.00	11.6	0.0	12.	.21	.27	793	1099.7	254.0	12.4
26.50	11.4	0.0	11.	.25	.30	773	1099.8	252.9	13.8
27.00	11.4	0.0	11.	.25	.31	773	1099.8	251.7	15.2
27.50	11.9	0.0	12.	.22	.27	793	1099.9	250.5	16.6
28.00	12.2	0.0	12.	.22	.28	793	1099.9	249.4	18.1
28.50	12.4	0.0	12.	.23	.28	793	1100.0	248.2	19.5
29.00	12.9	0.0	13.	.19	.25	811	1100.0	247.0	21.0
29.50	13.0	0.0	13.	.19	.25	812	1100.1	245.8	22.4
30.00	12.6	0.0	13.	.20	.25	812	1100.1	244.6	23.8
30.50	11.7	0.0	12.	.23	.28	795	1100.1	243.3	25.3
31.00	11.8	0.0	12.	.23	.28	796	1100.2	242.1	26.7
31.50	11.6	0.0	12.	.23	.28	797	1100.2	240.8	28.1
32.00	11.2	0.0	11.	.26	.31	779	1100.1	239.6	29.6
32.50	11.3	0.0	11.	.26	.31	780	1100.1	238.3	31.0
33.00	11.3	0.0	11.	.26	.31	781	1100.0	237.0	32.4
33.50	11.0	0.0	11.	.26	.31	783	1099.9	235.6	33.8
34.00	11.1	0.0	11.	.26	.31	784	1099.7	234.3	35.2
34.50	10.9	0.0	11.	.25	.31	786	1099.5	232.9	36.6
35.00	10.8	0.0	11.	.25	.30	787	1099.3	231.4	38.0
35.50	10.6	0.0	11.	.25	.30	789	1099.0	230.0	39.4
36.00	10.3	-0.2	10.	.28	.33	769	1098.7	228.5	40.8
36.50	12.0	-0.4	12.	.20	.26	813	1098.3	226.9	42.2

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7\dot{P}$	$10^7 P_r$	$-10^7\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39237.00	15.0	-0.5	14.	-18.14	-18.19	852	1097.9	225.3	43.6
37.50	13.8	-0.7	13.	.16	.22	837	1097.4	223.6	45.0
38.00	13.6	-0.8	13.	.16	.22	839	1096.8	221.9	46.4
38.50	12.9	-1.0	12.	.19	.24	823	1096.2	220.1	47.9
39.00	13.0	-1.1	12.	.18	.24	825	1095.5	218.1	49.3
39.50	13.4	-1.3	12.	.18	.24	828	1094.7	216.1	50.7
40.00	13.5	-1.4	12.	.17	.23	830	1093.9	213.8	52.1
39241.00	13.8	-1.6	12.2	-18.16	-18.22	839	1093.3	209.3	54.6
42.00	13.2	-1.8	11.4	.18	.24	827	1091.9	204.7	56.5
43.00	13.1	-2.0	11.1	.18	.25	823	1090.3	199.5	58.3
44.00	13.0	-2.1	10.9	.18	.25	822	1088.7	193.8	59.9
45.00	13.5	-2.2	11.3	.16	.23	835	1086.9	187.2	61.3
46.00	14.3	-2.3	12.0	.13	.20	853	1085.0	179.5	62.6
47.00	15.1	-2.4	12.6	.10	.18	868	1083.1	170.5	63.7
48.00	14.9	-2.5	12.4	.10	.18	867	1081.1	159.9	64.6
49.00	15.0	-2.7	12.3	.10	.18	868	1079.1	147.6	65.1
50.00	14.4	-2.8	11.6	.11	.20	856	1077.0	134.0	65.3
51.00	14.4	-2.8	11.6	.11	.20	860	1075.0	119.9	65.1
52.00	14.3	-2.9	11.3	.11	.20	856	1072.8	106.2	64.6
53.00	14.2	-3.0	11.2	.10	.20	857	1070.7	93.9	63.7
54.00	14.3	-3.1	11.2	.10	.20	860	1068.6	83.2	62.5
55.00	14.4	-3.1	11.3	.08	.19	866	1066.4	74.1	61.2
56.00	14.8	-3.2	11.6	.07	.17	876	1064.3	66.4	59.8
57.00	15.0	-3.2	11.8	.05	.16	884	1062.1	59.8	58.3
58.00	15.2	-3.2	12.0	.04	.15	891	1060.0	54.1	56.7
59.00	15.5	-3.2	12.3	.02	.14	901	1057.9	49.0	55.1
60.00	15.8	-3.2	12.6	.00	.13	910	1055.8	44.4	53.5
61.00	15.9	-3.2	12.7	-17.99	.12	914	1053.7	40.3	51.8
62.00	16.1	-3.2	12.9	.98	.11	921	1051.6	36.5	50.2
63.00	16.4	-3.2	13.2	.96	.10	929	1049.5	33.0	48.6
64.00	16.6	-3.2	13.4	.95	.09	934	1047.5	29.6	46.9
65.00	16.7	-3.1	13.6	.94	.08	940	1045.5	26.5	45.3
66.00	16.7	-3.1	13.6	.93	.08	941	1043.5	23.5	43.8
67.00	16.6	-3.0	13.6	.93	.08	942	1041.6	20.6	42.2
68.00	16.0	-2.9	13.0	.94	.09	930	1039.6	17.8	40.7
69.00	15.6	-2.9	12.7	.95	.10	923	1037.8	15.1	39.1
39269.50	14.4	-2.9	12.	-17.97	-18.12	908	1036.8	13.8	38.4
70.00	14.7	-2.8	12.	.97	.12	908	1035.9	12.5	37.6
70.50	16.4	-2.8	14.	.90	.07	950	1035.0	11.2	36.9
71.00	17.8	-2.8	15.	.87	.04	968	1034.1	10.0	36.2
71.50	18.7	-2.7	16.	.84	.01	985	1033.2	8.7	35.5
72.00	23.1	-2.7	20.	.73	-17.92	1046	1032.3	7.5	34.7
72.50	17.5	-2.6	15.	.87	-18.04	966	1031.5	6.2	34.0
73.00	17.0	-2.6	14.	.90	.07	947	1030.6	5.0	33.3
73.50	16.0	-2.5	13.	.93	.10	926	1029.8	3.8	32.6
74.00	15.3	-2.5	13.	.93	.10	926	1029.0	2.6	31.9
74.50	15.2	-2.4	13.	.93	.10	925	1028.1	1.4	31.2
75.00	14.7	-2.4	12.	.96	.13	902	1027.3	0.2	30.5
75.50	14.6	-2.3	12.	.96	.13	901	1026.6	359.1	29.8
76.00	14.9	-2.2	13.	.92	.10	922	1025.8	357.9	29.2
76.50	18.0	-2.2	16.	.83	.02	977	1025.0	356.7	28.5
77.00	20.1	-2.1	18.	.78	-17.97	1008	1024.3	355.6	27.8
77.50	17.3	-2.1	15.	.86	-18.05	957	1023.6	354.4	27.1
78.00	16.7	-2.0	15.	.86	.05	956	1022.9	353.3	26.4
78.50	15.2	-2.0	13.	.92	.10	917	1022.2	352.1	25.8
39279.00	14.7	-1.9	12.8	-17.93	-18.11	911	1021.5	351.0	25.1
80.00	13.7	-1.8	11.9	.96	.14	888	1020.2	348.7	23.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39281.00	13.2	-1.6	11.6	-17.97	-18.15	878	1019.0	346.5	22.3
82.00	12.9	-1.5	11.4	.98	.16	870	1017.4	344.2	20.7
83.00	12.3	-1.3	11.0	.99	.18	857	1016.6	341.9	19.2
84.00	12.0	-1.1	10.9	.99	.18	850	1015.9	339.7	17.8
85.00	11.3	-0.9	10.3	-18.02	.21	830	1015.4	337.5	16.3
86.00	10.9	-0.8	10.1	.03	.22	820	1015.0	335.3	14.8
87.00	10.4	-0.6	9.8	.04	.23	807	1014.8	333.1	13.4
88.00	10.4	-0.4	10.0	.03	.22	809	1014.6	330.9	11.9
89.00	10.6	-0.3	10.3	.03	.22	814	1014.5	328.7	10.5
90.00	11.2	-0.1	11.1	.00	.19	829	1014.5	326.5	9.0
91.00	11.3	0.0	11.4	-17.99	.19	831	1014.6	324.4	7.6
92.00	11.2	0.2	11.4	.99	.19	826	1014.8	322.2	6.2
93.00	11.0	0.4	11.4	-18.00	.19	821	1015.1	320.1	4.7
94.00	11.0	0.5	11.5	.00	.19	818	1015.4	317.9	3.3
95.00	11.0	0.7	11.7	-17.99	.19	817	1015.7	315.8	1.9
96.00	10.6	0.8	11.5	-18.00	.19	808	1016.2	313.7	0.5
97.00	9.8	1.0	10.8	.02	.22	787	1016.7	311.6	-0.9
98.00	9.3	1.1	10.4	.04	.23	772	1017.2	309.4	-2.4
99.00	9.0	1.2	10.2	.05	.24	762	1017.9	307.3	-3.8
39300.00	9.1	1.3	10.4	.04	.24	762	1018.6	305.2	-5.3
01.00	9.2	1.4	10.6	.04	.23	761	1019.3	303.1	-6.8
02.00	8.4	1.5	9.8	.07	.26	736	1020.2	301.0	-8.3
03.00	7.9	1.5	9.4	.08	.27	720	1021.1	298.8	-9.9
04.00	7.4	1.5	8.9	.10	.28	697	1022.1	296.7	-11.5
05.00	7.7	1.5	9.2	.09	.27	703	1023.1	294.6	-13.2
06.00	8.0	1.5	9.5	.08	.26	707	1024.3	292.4	-14.9
07.00	8.3	1.5	9.7	.07	.25	708	1025.6	290.3	-16.7
08.00	8.5	1.4	9.9	.06	.24	708	1026.9	288.1	-18.5
09.00	8.4	1.3	9.7	.06	.24	699	1028.4	286.0	-20.4
10.00	8.4	1.1	9.5	.07	.25	688	1030.0	283.8	-22.4
11.00	8.3	0.9	9.2	.07	.25	675	1031.6	281.6	-24.5
12.00	8.3	0.6	8.9	.08	.25	659	1033.4	279.4	-26.7
13.00	9.0	0.3	9.2	.06	.24	666	1035.3	277.2	-29.0
14.00	9.9	0.0	9.9	.03	.20	682	1037.3	274.9	-31.4
39314.50	10.4	0.0	10.	-18.02	-18.19	683	1038.4	273.8	-32.6
15.00	11.1	0.0	11.	-17.97	.14	703	1039.5	272.7	-33.8
15.50	12.4	0.0	12.	.93	.10	720	1040.6	271.6	-35.1
16.00	12.2	0.0	12.	.92	.09	718	1041.7	270.4	-36.4
16.50	11.9	0.0	12.	.92	.09	716	1042.8	269.3	-37.8
17.00	11.6	0.0	12.	.91	.08	715	1044.0	268.1	-39.1
17.50	11.0	0.0	11.	.95	.11	695	1045.2	266.9	-40.5
39318.00	11.1	0.0	11.1	-17.94	-18.10	695	1046.4	265.8	-42.0
19.00	10.2	0.0	10.2	.97	.12	673	1048.9	263.4	-44.9
20.00	10.0	0.0	10.0	.96	.12	666	1051.4	260.9	-48.0
21.00	10.3	0.0	10.3	.94	.09	671	1054.0	258.4	-51.2
22.00	10.6	0.1	10.8	.90	.05	680	1056.5	255.9	-54.5
23.00	10.5	0.3	10.8	.89	.03	678	1059.0	253.2	-57.9
24.00	10.1	0.4	10.5	.89	.03	671	1061.4	250.5	-61.5
25.00	9.8	0.5	10.3	.88	.01	667	1065.4	247.5	-65.5
26.00	10.3	0.5	10.7	.85	-17.97	676	1067.3	244.4	-69.1
27.00	10.5	0.4	10.9	.82	.95	681	1068.9	241.2	-72.7
28.00	10.5	0.3	10.7	.82	.94	678	1070.3	237.7	-76.3
29.00	10.4	0.1	10.5	.82	.93	675	1071.4	233.8	-79.9
30.00	10.6	-0.1	10.5	.80	.92	677	1072.2	229.3	-83.5
31.00	10.7	-0.3	10.4	.79	.91	677	1072.7	224.1	-87.0
32.00	11.2	-0.5	10.7	.76	.88	687	1072.9	217.7	-90.4
33.00	12.0	-0.7	11.3	.71	.83	704	1072.7	209.2	-93.6
34.00	12.6	-0.9	11.7	.68	.80	715	1072.2	197.6	-96.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39335.00	13.2	-1.2	12.0	-17.66	-17.77	725	1071.3	180.6	-98.8
36.00	13.7	-1.4	12.2	.64	.75	733	1070.2	156.8	-100.0
37.00	14.2	-1.7	12.5	.61	.73	744	1068.7	129.9	-99.7
38.00	14.5	-1.9	12.6	.60	.72	752	1067.0	107.7	-97.9
39.00	15.1	-2.1	13.0	.57	.69	766	1065.0	92.2	-95.3
40.00	15.7	-2.3	13.3	.55	.68	778	1062.8	81.5	-92.3
41.00	16.1	-2.6	13.5	.53	.66	790	1060.3	73.7	-89.1
42.00	16.4	-2.8	13.6	.52	.65	799	1057.7	67.6	-85.9
43.00	16.0	-2.9	13.1	.53	.67	797	1055.0	62.7	-82.7
44.00	15.7	-3.1	12.6	.55	.69	795	1052.2	58.5	-79.6
45.00	15.9	-3.2	12.7	.54	.68	805	1049.3	54.8	-76.5
46.00	16.0	-3.3	12.6	.54	.69	810	1046.4	51.5	-73.6
47.00	16.1	-3.5	12.6	.53	.69	817	1043.4	48.5	-70.8
48.00	16.0	-3.5	12.5	.54	.70	822	1040.5	45.6	-68.1
49.00	15.8	-3.6	12.2	.55	.71	822	1037.6	42.9	-65.5
50.00	15.4	-3.7	11.7	.57	.74	815	1034.7	40.4	-63.1
51.00	14.7	-3.7	11.0	.60	.78	802	1031.8	37.9	-60.7
52.00	14.2	-3.7	10.5	.63	.81	791	1029.0	35.6	-58.5
53.00	14.3	-3.7	10.6	.63	.81	799	1026.3	33.3	-56.4
54.00	14.9	-3.7	11.2	.60	.78	823	1023.6	31.1	-54.4
55.00	16.0	-3.7	12.3	.55	.74	857	1021.0	28.9	-52.5
56.00	16.8	-3.7	13.1	.52	.71	881	1018.5	26.7	-50.7
57.00	17.5	-3.7	13.8	.50	.70	900	1016.0	24.6	-48.9
58.00	18.1	-3.7	14.4	.49	.68	917	1013.5	22.5	-47.1
59.00	18.7	-3.7	15.1	.47	.67	935	1011.1	20.5	-45.4
60.00	19.4	-3.6	15.8	.46	.66	952	1008.7	18.4	-43.7
61.00	20.2	-3.6	16.6	.44	.64	970	1006.3	16.3	-41.9
62.00	20.0	-3.5	16.5	.45	.66	972	1004.0	14.3	-40.1
63.00	19.1	-3.4	15.7	.48	.70	960	999.2	12.1	-37.4
64.00	19.0	-3.2	15.8	.48	.71	966	996.5	9.9	-34.9
65.00	18.8	-3.0	15.7	.49	.72	968	994.1	7.8	-32.4
39365.50	18.8	-3.0	16.	-17.49	-17.72	975	993.0	6.7	-31.2
66.00	18.9	-2.8	16.	.49	.73	977	991.9	5.7	-30.1
66.50	19.6	-2.8	17.	.47	.71	996	990.9	4.6	-28.9
67.00	22.4	-2.7	20.	.40	.65	1045	990.0	3.6	-27.7
67.50	22.7	-2.5	20.	.40	.65	1046	989.0	2.6	-26.6
68.00	26.6	-2.4	24.	.31	.58	1101	988.2	1.5	-25.5
68.50	21.8	-2.3	19.	.43	.69	1034	987.3	0.5	-24.4
69.00	16.3	-2.2	14.	.58	.82	946	986.5	359.5	-23.3
69.50	16.0	-2.1	14.	.58	.83	947	985.8	358.5	-22.2
70.00	15.4	-2.1	13.	.62	.87	926	985.1	357.4	-21.1
70.50	15.5	-1.9	14.	.59	.84	949	984.4	356.4	-20.0
71.00	15.5	-1.8	14.	.60	.85	950	983.8	355.4	-19.0
71.50	17.9	-1.7	16.	.54	.80	989	983.2	354.4	-17.9
72.00	26.9	-1.6	25.	.31	.61	1119	982.6	353.4	-16.9
72.50	23.6	-1.5	22.	.38	.67	1082	982.1	352.4	-15.8
73.00	16.5	-1.4	15.	.58	.84	972	981.6	351.4	-14.8
73.50	15.9	-1.3	15.	.58	.85	972	981.2	350.4	-13.8
74.00	15.8	-1.2	15.	.59	.85	973	980.7	349.4	-12.8
74.50	15.4	-1.1	14.	.62	.89	953	980.3	348.4	-11.8
75.00	14.8	-1.0	14.	.63	.89	953	980.0	347.4	-10.8
75.50	14.5	-0.8	14.	.63	.89	953	979.6	346.4	-9.8
76.00	14.8	-0.7	14.	.63	.90	953	979.3	345.4	-8.8
76.50	15.5	-0.6	15.	.61	.87	972	979.0	344.4	-7.8
77.00	15.6	-0.5	15.	.61	.88	972	978.8	343.4	-6.8
77.50	15.4	-0.4	15.	.61	.88	971	978.6	342.5	-5.8
78.00	15.3	-0.3	15.	.62	.89	971	978.3	341.5	-4.8
78.50	14.9	-0.2	15.	.62	.89	970	978.2	340.5	-3.8

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39379.00	14.8	-0.1	14.7	-17.63	-17.90	964	978.0	339.5	-2.9
80.00	14.3	0.2	14.5	.65	.92	959	977.8	337.5	-0.9
81.00	14.1	0.4	14.5	.65	.92	957	977.7	335.5	1.1
82.00	14.4	0.6	15.0	.64	.91	964	977.6	333.6	3.0
83.00	14.7	0.9	15.6	.63	.90	973	977.7	331.6	5.0
84.00	14.8	1.1	15.9	.62	.90	975	977.8	329.6	7.0
85.00	15.4	1.3	16.7	.60	.88	986	978.1	327.6	9.0
86.00	15.4	1.5	16.9	.60	.88	986	978.4	325.6	11.0
87.00	15.5	1.7	17.1	.60	.88	985	978.9	323.6	13.0
88.00	15.5	1.8	17.3	.60	.87	985	979.4	321.6	15.0
89.00	14.2	2.0	16.2	.63	.90	962	980.0	319.6	17.1
90.00	13.2	2.2	15.4	.66	.92	945	980.7	317.6	19.2
91.00	12.6	2.3	14.8	.68	.94	929	981.5	315.6	21.3
92.00	11.8	2.4	14.2	.70	.96	914	982.4	313.5	23.4
93.00	11.4	2.5	13.9	.71	.97	904	983.4	311.5	25.6
94.00	11.0	2.6	13.6	.72	.97	893	984.5	309.4	27.8
95.00	10.5	2.6	13.1	.73	.99	879	985.7	307.3	30.0
96.00	10.3	2.6	12.8	.74	.99	868	987.0	305.2	32.2
97.00	9.9	2.5	12.4	.75	-18.00	856	988.4	303.1	34.5
98.00	9.8	2.4	12.2	.76	.01	847	989.9	300.9	36.8
99.00	9.8	2.2	11.9	.76	.01	836	991.4	298.7	39.2
39400.00	9.8	1.8	11.6	.77	.02	825	993.1	296.5	41.5
01.00	11.0	1.2	12.1	.75	-17.99	831	994.8	294.3	43.9
39401.50	12.5	0.7	13.	-17.72	-17.95	847	995.7	293.1	45.1
02.00	13.2	0.2	13.	.71	.95	844	996.7	292.0	46.3
02.50	13.9	0.0	14.	.68	.91	861	997.6	290.8	47.6
03.00	16.3	0.0	16.	.62	.84	893	1000.2	289.8	48.3
03.50	16.7	0.0	17.	.59	.81	907	1001.1	288.6	49.6
04.00	16.7	0.0	17.	.59	.81	905	1002.1	287.4	50.8
04.50	16.4	0.0	16.	.61	.83	887	1003.1	286.2	52.1
05.00	15.7	0.0	16.	.61	.83	885	1004.1	284.9	53.4
05.50	13.8	0.0	14.	.66	.88	850	1005.0	283.7	54.8
06.00	13.1	0.0	13.	.69	.91	830	1006.0	282.4	56.1
06.50	12.6	0.0	13.	.69	.91	828	1007.0	281.0	57.5
07.00	12.9	0.0	13.	.68	.90	826	1007.9	279.7	58.8
07.50	13.7	0.0	14.	.65	.86	842	1008.9	278.3	60.2
08.00	14.5	0.0	15.	.61	.82	858	1009.8	276.9	61.6
39409.00	15.7	0.0	15.7	-17.58	-17.79	866	1011.6	273.9	64.4
10.00	16.2	0.0	16.2	.56	.76	871	1013.4	270.7	67.3
11.00	16.8	0.0	16.8	.54	.73	878	1015.0	267.2	70.2
12.00	17.2	0.0	17.2	.51	.71	882	1016.5	263.4	73.1
39413.00	17.8	0.0	18.	-17.48	-17.68	892	1017.8	259.1	75.9
13.50	18.3	0.0	18.	.48	.67	892	1018.5	256.8	77.4
14.00	19.7	0.0	20.	.43	.61	919	1019.0	254.3	78.8
14.50	22.0	0.0	22.	.38	.56	944	1019.6	251.5	80.2
15.00	19.9	0.0	20.	.42	.60	917	1020.1	248.5	81.6
15.50	18.2	0.0	18.	.46	.64	890	1020.5	245.2	83.0
16.00	17.6	0.0	18.	.45	.64	889	1020.9	241.5	84.3
39417.00	17.6	0.0	17.6	-17.45	-17.64	883	1021.5	232.6	86.8
18.00	17.5	0.0	17.5	.45	.63	880	1021.9	221.1	89.1
19.00	17.3	0.0	17.3	.44	.63	876	1022.1	205.9	91.0
20.00	17.0	0.0	17.0	.45	.63	869	1022.1	187.1	92.2
21.00	17.0	0.0	17.0	.44	.63	866	1021.9	166.5	92.5
22.00	17.1	0.0	17.1	.44	.62	865	1021.4	147.7	92.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39422.50	17.8	0.0	18.	-17.41	-17.60	877	1021.1	139.8	91.5
23.00	19.9	0.0	20.	.36	.55	903	1020.7	132.7	90.8
23.50	20.2	0.0	20.	.36	.55	903	1020.3	126.6	90.1
24.00	20.8	0.0	21.	.34	.52	915	1019.8	121.3	89.2
24.50	18.8	0.0	19.	.38	.57	888	1019.2	116.6	88.3
25.00	16.7	0.0	17.	.42	.62	860	1018.7	112.5	87.3
25.50	16.4	0.0	16.	.45	.65	845	1018.0	108.8	86.3
26.00	16.2	0.0	16.	.45	.65	845	1017.3	105.5	85.3
26.50	16.4	0.0	16.	.44	.64	845	1016.6	102.5	84.3
27.00	16.9	0.0	17.	.41	.61	860	1015.8	99.7	83.2
39428.00	17.4	0.0	17.4	-17.40	-17.60	866	1014.1	94.8	81.0
29.00	20.1	0.0	20.1	.33	.53	905	1012.2	90.5	78.8
30.00	21.2	0.0	21.2	.31	.50	920	1010.1	86.6	76.5
31.00	21.7	-0.8	20.9	.31	.51	918	1007.9	83.1	74.3
32.00	22.3	-1.6	20.6	.31	.52	916	1005.6	79.8	72.0
33.00	22.1	-2.2	19.8	.32	.54	908	1003.1	76.7	69.7
34.00	22.1	-2.7	19.4	.33	.55	905	1000.6	73.8	67.5
35.00	22.5	-3.1	19.4	.33	.55	907	998.0	71.0	65.3
36.00	22.8	-3.4	19.4	.33	.55	909	995.4	68.4	63.1
37.00	23.2	-3.7	19.5	.32	.55	913	992.8	65.8	60.9
38.00	23.5	-3.9	19.6	.32	.56	917	990.1	63.2	58.8
39.00	23.9	-4.1	19.8	.32	.56	922	987.5	60.8	56.7
40.00	24.5	-4.3	20.2	.31	.55	930	985.0	58.3	54.7
41.00	25.0	-4.4	20.6	.30	.55	937	982.5	56.0	52.7
42.00	25.5	-4.5	21.0	.30	.55	945	980.1	53.6	50.8
43.00	26.4	-4.5	21.8	.28	.53	954	978.1	51.6	50.2
44.00	27.2	-4.6	22.6	.27	.52	965	976.2	49.4	48.8
45.00	28.2	-4.6	23.6	.25	.51	978	974.3	47.2	47.4
46.00	29.1	-4.6	24.5	.24	.50	990	972.6	45.0	45.9
47.00	29.7	-4.5	25.2	.23	.50	999	970.9	42.8	44.5
48.00	30.1	-4.5	25.6	.23	.50	1005	969.4	40.6	43.1
49.00	29.7	-4.5	25.2	.24	.52	1002	967.9	38.4	41.6
50.00	29.1	-4.4	24.6	.26	.53	996	966.5	36.3	40.2
51.00	27.8	-4.4	23.4	.29	.56	983	965.2	34.1	38.7
52.00	27.1	-4.3	22.8	.30	.59	976	964.0	31.9	37.3
53.00	26.9	-4.2	22.7	.31	.60	976	962.8	29.8	35.8
54.00	26.7	-4.0	22.7	.32	.61	977	961.8	27.6	34.4
55.00	27.0	-3.9	23.1	.32	.61	983	960.9	25.4	32.9
56.00	27.8	-3.7	24.0	.31	.61	994	960.0	23.2	31.4
57.00	28.6	-3.6	25.0	.31	.60	1007	959.2	21.1	29.9
58.00	30.0	-3.4	26.6	.29	.59	1025	958.5	18.9	28.4
59.00	28.6	-3.3	25.3	.32	.62	1011	957.9	16.7	26.9
39459.50	27.7	-3.2	24.	-17.35	-17.65	997	957.7	15.7	26.2
60.00	27.4	-3.1	24.	.36	.66	997	957.4	14.6	25.4
60.50	26.1	-3.0	23.	.38	.68	985	957.2	13.5	24.6
61.00	25.1	-2.9	22.	.41	.71	972	957.0	12.4	23.9
61.50	24.4	-2.8	22.	.41	.72	973	956.8	11.3	23.1
62.00	22.4	-2.7	20.	.46	.76	946	956.6	10.2	22.3
62.50	21.2	-2.6	19.	.49	.79	932	956.5	9.1	21.6
63.00	21.3	-2.5	19.	.50	.80	932	956.4	8.0	20.8
63.50	26.7	-2.4	24.	.40	.71	997	956.3	6.9	20.0
64.00	27.2	-2.3	25.	.39	.70	1009	956.2	5.8	19.2
64.50	27.0	-2.2	25.	.39	.71	1009	956.2	4.7	18.4
65.00	25.7	-2.1	24.	.42	.73	997	956.1	3.6	17.6
65.50	24.0	-2.0	22.	.47	.78	973	956.1	2.5	16.8
66.00	21.8	-1.9	20.	.52	.82	946	956.1	1.4	16.0
66.50	21.6	-1.8	20.	.53	.83	946	956.1	0.3	15.2
67.00	21.9	-1.7	20.	.53	.84	946	956.2	359.2	14.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39467.50	22.3	-1.5	21.	-17.52	-17.83	959	956.3	358.1	13.6
68.00	22.8	-1.4	21.	.52	.83	959	956.3	357.0	12.8
68.50	23.3	-1.3	22.	.51	.82	972	956.4	355.9	12.0
69.00	23.9	-1.2	23.	.50	.81	984	956.6	354.8	11.1
69.50	24.4	-1.1	23.	.50	.82	983	956.7	353.7	10.3
70.00	24.6	-1.0	24.	.49	.81	995	956.9	352.6	9.5
70.50	24.8	-0.9	24.	.50	.82	995	957.1	351.5	8.6
71.00	25.0	-0.8	24.	.51	.83	994	957.3	350.4	7.8
71.50	25.9	-0.7	25.	.49	.82	1005	957.5	349.2	6.9
72.00	27.2	-0.6	27.	.46	.79	1026	957.7	348.1	6.1
72.50	32.1	-0.5	32.	.37	.73	1074	958.0	347.0	5.2
73.00	34.5	-0.4	34.	.34	.71	1091	958.2	345.9	4.3
73.50	35.2	-0.2	35.	.33	.71	1098	958.5	344.8	3.5
74.00	33.6	-0.1	33.	.38	.74	1081	958.8	343.6	2.6
74.50	28.4	0.0	28.	.48	.82	1033	959.1	342.5	1.7
75.00	27.1	0.1	27.	.51	.84	1023	959.5	341.4	0.8
75.50	27.1	0.2	27.	.51	.85	1022	959.8	340.2	-0.1
76.00	26.4	0.3	27.	.52	.85	1021	960.2	339.1	-1.0
76.50	25.0	0.4	25.	.57	.89	999	960.6	337.9	-1.9
77.00	24.5	0.6	25.	.58	.90	999	961.0	336.8	-2.8
77.50	23.2	0.7	24.	.60	.92	987	961.4	335.6	-3.7
78.00	22.5	0.8	23.	.63	.95	975	961.8	334.5	-4.6
78.50	21.5	0.9	22.	.66	.97	962	962.3	333.3	-5.5
79.00	20.4	1.0	21.	.69	-18.00	950	962.7	332.1	-6.5
79.50	19.7	1.0	21.	.70	.00	949	963.2	331.0	-7.4
80.00	19.5	1.2	21.	.70	.01	949	963.7	329.8	-8.4
80.50	18.6	1.3	20.	.73	.04	935	964.2	328.6	-9.3
81.00	17.7	1.4	19.	.76	.06	922	964.7	327.4	-10.3
81.50	16.3	1.4	18.	.79	.09	907	965.2	326.2	-11.2
82.00	15.6	1.5	17.	.82	.12	893	965.8	325.0	-12.2
82.50	15.4	1.6	17.	.83	.12	892	966.3	323.8	-13.2
83.00	15.2	1.7	17.	.84	.13	892	966.9	322.6	-14.2
83.50	16.1	1.8	18.	.82	.11	906	967.4	321.4	-15.2
84.00	16.5	1.9	18.	.82	.11	906	968.0	320.2	-16.2
84.50	16.5	2.0	18.	.83	.12	906	968.6	319.0	-17.2
85.00	17.2	2.0	19.	.81	.10	919	969.1	317.7	-18.2
85.50	17.4	2.1	20.	.79	.08	932	969.7	316.5	-19.2
86.00	17.2	2.2	19.	.82	.11	919	970.3	315.2	-20.2
86.50	17.7	2.3	20.	.80	.09	932	970.9	313.9	-21.3
87.00	17.5	2.3	20.	.80	.09	932	971.5	312.6	-22.3
87.50	16.6	2.4	19.	.83	.11	919	972.1	311.3	-23.4
88.00	16.0	2.4	18.	.85	.14	905	972.8	310.0	-24.4
88.50	14.9	2.5	17.	.88	.16	891	973.4	308.7	-25.5
89.00	13.7	2.5	16.	.91	.19	877	974.0	307.3	-26.5
89.50	13.9	2.6	16.	.91	.19	878	974.4	305.9	-27.8
90.00	14.8	2.6	17.	.89	.16	893	975.1	304.5	-28.8
90.50	16.5	2.6	19.	.84	.12	920	975.8	303.1	-29.9
91.00	18.1	2.6	21.	.80	.08	946	976.6	301.7	-30.9
91.50	19.6	2.6	22.	.78	.06	958	977.3	300.3	-31.9
92.00	20.4	2.6	23.	.76	.05	970	978.1	298.9	-33.0
92.50	20.1	2.6	23.	.76	.05	970	978.9	297.4	-34.0
93.00	20.2	2.6	23.	.76	.05	971	979.7	295.9	-35.0
93.50	20.0	2.5	23.	.76	.05	971	980.6	294.4	-36.1
94.00	20.4	2.5	23.	.76	.05	972	981.4	292.8	-37.1
94.50	20.7	2.4	23.	.77	.05	973	982.3	291.2	-38.1
95.00	20.7	2.3	23.	.77	.04	974	983.1	289.6	-39.2
95.50	20.4	2.1	22.	.79	.06	963	984.0	287.9	-40.2
96.00	21.1	1.8	23.	.77	.04	976	984.8	286.1	-41.3
96.50	21.8	1.6	23.	.77	.04	977	985.7	284.3	-42.3
97.00	22.2	1.2	23.	.77	.04	978	986.5	282.5	-43.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^7 P$	$10^7 P_r$	$-10^7 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39497.50	29.7	0.5	30.	-17.62	-17.92	1050	987.4	280.5	-44.4
39497.80	37.	0.	37.	-17.49	-17.83	1110	987.9	279.3	-45.0
98.00	40.	0.	40.	.44	.79	1133	988.2	278.5	-45.5
98.20	44.	0.	44.	.38	.74	1161	988.5	277.7	-45.9
98.40	41.	0.	41.	.43	.77	1141	988.9	276.8	-46.3
98.60	39.	0.	39.	.46	.80	1127	989.2	275.9	-46.7
98.80	37.	0.	37.	.49	.82	1113	989.5	275.0	-47.1
99.00	31.	0.	31.	.60	.90	1064	989.8	274.1	-47.5
99.20	31.	0.	31.	.60	.90	1065	990.2	273.2	-48.0
99.40	27.	0.	27.	.68	.96	1027	990.5	272.3	-48.4
39499.50	23.3	0.0	23.	-17.76	-18.03	985	990.6	271.8	-48.6
39500.00	21.4	0.0	21.	.81	.06	963	991.4	269.3	-49.6
00.50	19.8	0.0	20.	.83	.08	952	992.2	266.6	-50.6
01.00	19.2	0.0	19.	.85	.10	941	992.9	263.7	-51.7
01.50	19.0	0.0	19.	.85	.09	942	993.6	260.6	-52.7
02.00	19.3	0.0	19.	.85	.09	944	994.3	257.2	-53.7
02.50	19.1	0.0	19.	.84	.09	946	994.9	253.4	-54.6
03.00	19.8	0.0	20.	.82	.07	961	995.6	249.3	-55.6
39503.40	21.	0.	21.	-17.79	-18.04	975	996.0	245.7	-56.3
03.60	22.	0.	22.	.77	.02	988	996.3	243.7	-56.6
03.80	26.	0.	26.	.68	-17.95	1033	996.5	241.7	-57.0
04.00	27.	0.	27.	.66	.93	1044	996.7	239.6	-57.3
04.20	31.	0.	31.	.58	.87	1084	996.9	237.4	-57.6
04.40	34.	0.	34.	.52	.82	1111	997.2	235.1	-57.9
04.60	30.	0.	30.	.59	.88	1076	997.4	232.7	-58.2
04.80	20.	0.	20.	.81	-18.05	967	997.6	230.2	-58.5
05.00	18.	0.	18.	.86	.10	941	997.7	227.6	-58.8
39505.50	18.2	0.0	18.	-17.86	-18.09	942	998.2	220.5	-59.4
06.00	16.2	0.0	16.	.91	.14	913	998.6	212.7	-60.0
06.50	14.3	0.0	14.	.96	.19	881	999.0	204.4	-60.3
07.00	13.1	0.0	13.	.99	.21	863	999.3	195.6	-60.6
07.50	12.6	0.0	13.	.99	.21	863	999.6	186.7	-60.6
08.00	13.8	0.0	14.	.96	.19	882	999.9	178.0	-60.6
08.50	14.5	0.0	14.	.96	.19	882	1000.1	169.6	-60.3
09.00	14.3	0.0	14.	.96	.19	882	1000.2	161.9	-60.0
09.50	14.6	0.0	15.	.93	.16	899	1000.4	154.8	-59.5
10.00	15.1	0.0	15.	.93	.16	900	1000.4	148.5	-58.9
10.50	16.6	0.0	17.	.88	.11	931	1000.5	142.8	-58.2
11.00	17.3	0.0	17.	.88	.11	932	1000.5	137.7	-57.5
11.50	17.8	0.0	18.	.85	.08	947	1000.4	133.1	-56.7
12.00	17.9	0.0	18.	.85	.08	948	1000.3	129.0	-55.8
12.50	19.0	0.0	19.	.82	.06	963	1000.1	125.3	-54.9
13.00	19.7	0.0	20.	.79	.03	977	999.9	122.0	-54.0
13.50	20.1	0.0	20.	.79	.03	978	999.7	118.9	-53.1
14.00	20.7	0.0	21.	.76	.01	992	999.4	116.0	-52.2
14.50	20.8	0.0	21.	.76	.01	993	999.1	113.4	-51.2
15.00	20.7	0.0	21.	.76	.01	994	998.7	110.9	-50.2
15.50	21.4	0.0	21.	.75	.00	995	998.3	108.6	-49.2
16.00	22.0	0.0	22.	.73	-17.98	1008	997.9	106.4	-48.2
16.50	22.2	0.0	22.	.72	.98	1010	997.4	104.3	-47.2
17.00	22.4	0.0	22.	.72	.98	1011	996.9	102.3	-46.3
17.50	22.7	0.0	23.	.69	.95	1024	996.1	100.5	-45.3
18.00	24.5	0.0	24.	.66	.93	1037	995.6	98.7	-44.3
18.50	27.9	0.0	28.	.57	.86	1081	995.0	96.9	-43.3
19.00	27.1	0.0	27.	.59	.88	1072	994.4	95.3	-42.3
19.50	26.7	0.0	27.	.58	.87	1074	993.7	93.6	-41.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39520.00	2.72	0.00	2.7	-17.57	-17.87	1076	993.1	92.1	-40.4
20.50	2.76	0.00	2.8	.55	.85	1087	992.4	90.5	-39.4
21.00	2.75	0.00	2.7	.56	.86	1079	991.7	89.0	-38.5
21.50	2.78	0.00	2.8	.53	.84	1091	990.9	87.6	-37.5
22.00	2.80	0.00	2.8	.53	.84	1093	990.2	86.2	-36.6
22.50	2.80	0.00	2.8	.52	.83	1094	989.4	84.8	-35.7
23.00	2.80	0.00	2.8	.51	.83	1096	988.6	83.4	-34.7
23.50	2.86	0.00	2.9	.48	.81	1108	987.8	82.0	-33.8
24.00	2.94	0.00	2.9	.48	.80	1109	987.0	80.7	-32.9
24.50	2.97	0.00	3.0	.45	.78	1121	986.2	79.4	-32.0
25.00	3.01	0.00	3.0	.44	.78	1122	985.3	78.1	-31.1
25.50	3.10	0.00	3.1	.41	.76	1133	984.5	76.9	-30.2
26.00	3.17	0.00	3.2	.39	.74	1143	983.6	75.6	-29.3
26.50	3.21	0.00	3.2	.38	.74	1145	982.7	74.4	-28.4
27.00	3.25	0.00	3.2	.37	.73	1147	981.9	73.2	-27.6
27.50	3.28	0.00	3.3	.34	.71	1157	981.0	72.0	-26.7
39527.80	2.9	0.0	2.9	-17.42	-17.77	1122	980.5	71.2	-26.2
28.00	3.0	0.0	3.0	.40	.75	1132	980.1	70.8	-25.9
28.20	3.3	0.0	3.3	.33	.71	1159	979.8	70.3	-25.5
28.40	3.5	0.0	3.5	.29	.68	1176	979.4	69.8	-25.2
28.60	3.9	0.0	3.9	.22	.62	1207	979.1	69.3	-24.8
28.80	4.9	0.0	4.9	.07	.51	1270	978.7	68.9	-24.5
29.00	5.4	0.0	5.4	.00	.46	1298	978.4	68.4	-24.2
29.20	5.4	0.0	5.4	.00	.46	1298	978.0	67.9	-23.8
29.40	5.1	0.0	5.1	.03	.48	1283	977.7	67.5	-23.5
29.60	5.0	0.0	5.0	.04	.49	1278	977.3	67.0	-23.2
29.80	4.3	0.0	4.3	.14	.57	1237	977.0	66.5	-22.9
30.00	4.0	0.0	4.0	.18	.60	1218	976.6	66.1	-22.5
30.20	2.9	0.0	2.9	.38	.75	1129	976.3	65.6	-22.2
39530.50	3.10	0.00	3.1	-17.34	-17.72	1148	975.7	64.9	-21.7
31.00	2.99	0.00	3.0	.35	.73	1140	974.9	63.8	-20.9
31.50	2.93	-0.02	2.9	.36	.74	1132	974.0	62.6	-20.1
32.00	3.04	-0.07	3.0	.34	.72	1143	973.2	61.5	-19.3
32.50	3.19	-0.10	3.1	.31	.70	1154	972.3	60.4	-18.6
33.00	3.08	-0.11	3.0	.32	.71	1146	971.5	59.3	-17.8
33.50	2.99	-0.12	2.9	.34	.72	1138	970.6	58.2	-17.0
34.00	2.97	-0.12	2.8	.35	.73	1129	969.8	57.1	-16.3
34.50	3.08	-0.12	3.0	.30	.69	1149	969.0	56.0	-15.5
35.00	3.12	-0.13	3.0	.29	.69	1150	968.2	54.9	-14.8
35.50	3.18	-0.13	3.1	.27	.67	1160	967.4	53.8	-14.0
36.00	3.25	-0.13	3.1	.26	.67	1162	966.6	52.7	-13.3
36.50	3.27	-0.13	3.1	.25	.66	1162	965.9	51.7	-12.6
39536.80	3.2	-0.1	3.1	-17.25	-17.66	1163	965.4	51.0	-12.1
37.00	3.3	-0.1	3.2	.23	.64	1172	965.1	50.6	-11.8
37.20	3.5	-0.1	3.3	.21	.63	1181	964.8	50.2	-11.6
37.40	3.6	-0.1	3.5	.17	.60	1197	964.6	49.7	-11.3
37.60	4.7	-0.1	4.6	-16.99	.47	1272	964.3	49.3	-11.0
37.80	5.3	-0.1	5.2	.91	.41	1306	964.0	48.9	-10.7
38.00	4.6	-0.1	4.5	-17.00	.48	1267	963.7	48.4	-10.4
38.20	3.5	-0.1	3.4	.18	.61	1191	963.4	48.0	-10.1
38.40	3.3	-0.1	3.2	.21	.63	1175	963.1	47.6	-9.9
38.60	3.3	-0.1	3.2	.21	.63	1175	962.9	47.2	-9.6
38.80	3.1	-0.1	3.0	.25	.66	1157	962.6	46.8	-9.3
39539.00	3.06	-0.11	2.9	-17.27	-17.67	1148	962.3	46.3	-9.0
39.50	3.07	-0.11	3.0	.24	.65	1158	961.6	45.3	-8.3
40.00	2.96	-0.10	2.9	.26	.66	1149	961.0	44.2	-7.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39540.50	2.86	-0.10	2.8	-17.27	-17.68	1140	960.4	43.2	-7.0
41.00	2.88	-0.09	2.8	.27	.67	1141	959.7	42.1	-6.3
41.50	3.02	-0.09	2.9	.24	.65	1151	959.2	41.1	-5.6
42.00	3.20	-0.09	3.1	.20	.62	1170	958.6	40.0	-5.0
42.50	3.35	-0.08	3.3	.15	.59	1188	958.0	39.0	-4.3
43.00	3.50	-0.07	3.4	.13	.57	1196	957.5	38.0	-3.6
43.50	3.66	-0.07	3.6	.09	.55	1212	957.0	36.9	-3.0
44.00	3.78	-0.06	3.7	.07	.53	1220	956.5	35.9	-2.3
44.50	3.94	-0.06	3.9	.03	.50	1234	956.0	34.9	-1.7
45.00	4.00	-0.05	4.0	.01	.49	1241	955.6	33.8	-1.0
45.50	3.64	-0.04	3.6	.08	.54	1213	955.1	32.8	-0.4
46.00	3.66	-0.04	3.6	.07	.53	1213	954.7	31.8	0.2
46.50	3.71	-0.03	3.7	.05	.52	1220	954.3	30.8	0.9
47.00	3.76	-0.02	3.7	.05	.52	1220	954.0	29.7	1.5
47.50	3.79	-0.01	3.8	.03	.50	1228	953.6	28.7	2.1
48.00	3.76	-0.01	3.8	.03	.50	1227	953.3	27.7	2.8
48.50	3.82	0.00	3.8	.03	.50	1227	953.0	26.7	3.4
49.00	3.89	0.01	3.9	.01	.48	1234	952.7	25.7	4.0
49.50	3.90	0.02	3.9	.01	.48	1234	952.4	24.6	4.6
50.00	4.00	0.02	4.0	-16.99	.47	1241	952.2	23.6	5.3
50.50	4.24	0.03	4.3	.95	.44	1260	952.0	22.6	5.9
51.00	4.41	0.04	4.5	.92	.42	1271	951.8	21.6	6.5
51.50	4.68	0.05	4.7	.89	.40	1282	951.6	20.6	7.1
52.00	4.87	0.05	4.9	.87	.38	1293	951.4	19.6	7.7
52.50	5.18	0.06	5.2	.83	.35	1308	951.3	18.6	8.3
53.00	5.46	0.07	5.5	.80	.32	1322	951.2	17.5	9.0
53.50	5.40	0.08	5.5	.80	.32	1322	951.1	16.5	9.6
54.00	5.46	0.09	5.5	.80	.32	1321	951.0	15.5	10.2
54.50	5.46	0.09	5.6	.79	.32	1325	950.9	14.5	10.8
55.00	5.55	0.10	5.7	.78	.31	1329	950.9	13.5	11.4
55.50	5.61	0.11	5.7	.78	.31	1328	950.8	12.5	12.0
56.00	5.14	0.12	5.3	.83	.34	1308	950.8	11.5	12.6
56.50	4.92	0.13	5.0	.86	.37	1293	950.8	10.5	13.2
57.00	4.84	0.13	5.0	.86	.37	1292	950.8	9.5	13.8
57.50	4.13	0.14	4.3	.95	.43	1251	950.9	8.4	14.4
58.00	4.29	0.15	4.4	.94	.42	1256	950.9	7.4	15.1
58.50	4.57	0.16	4.7	.90	.39	1273	950.9	6.4	15.7
59.00	4.41	0.17	4.6	.92	.40	1266	951.0	5.4	16.3
59.50	3.69	0.17	3.9	-17.01	.47	1222	951.1	4.4	16.9
39588.50	1.97	0.31	2.3	-17.58	-17.84	1015	992.9	300.1	53.0
89.00	2.06	0.30	2.4	.57	.82	1026	993.8	298.7	53.6
89.50	2.16	0.29	2.5	.55	.81	1037	994.8	297.2	54.3
90.00	2.31	0.28	2.6	.54	.79	1047	995.7	295.7	55.0
90.50	2.44	0.28	2.7	.52	.78	1058	996.7	294.1	55.7
91.00	2.57	0.27	2.8	.51	.77	1068	997.6	292.5	56.4
91.50	2.60	0.26	2.9	.49	.76	1077	998.6	290.9	57.1
92.00	2.51	0.25	2.8	.52	.77	1068	999.5	289.2	57.8
92.50	2.45	0.24	2.7	.54	.79	1057	1000.4	287.4	58.5
93.00	2.35	0.22	2.6	.56	.81	1047	1001.4	285.5	59.2
93.50	2.25	0.20	2.5	.59	.83	1036	1002.3	283.5	60.0
94.00	2.26	0.18	2.4	.61	.85	1025	1003.2	281.5	60.7
94.50	2.33	0.16	2.5	.60	.83	1037	1004.1	279.3	61.4
95.00	2.44	0.13	2.6	.58	.82	1048	1004.9	277.0	62.1
95.50	2.53	0.10	2.6	.58	.82	1048	1005.8	274.5	62.8
96.00	2.62	0.06	2.7	.57	.81	1060	1006.6	271.9	63.6
96.50	2.71	0.02	2.7	.57	.81	1060	1007.4	269.0	64.3
97.00	2.90	0.00	2.9	.53	.78	1081	1008.2	265.9	64.9
97.50	2.77	0.00	2.8	.55	.79	1072	1008.9	262.6	65.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39598.00	2.83	0.00	2.8	-17.56	-17.80	1073	1009.6	258.9	66.2
98.50	2.86	0.00	2.9	.54	.78	1084	1010.3	254.9	66.9
99.00	3.03	0.00	3.0	.52	.77	1095	1011.0	250.4	67.4
99.50	3.41	0.00	3.4	.45	.71	1132	1011.6	245.4	68.0
39600.00	3.07	0.00	3.1	.51	.75	1106	1012.2	239.9	68.4
00.50	2.81	0.00	2.8	.57	.80	1077	1012.8	233.8	68.8
01.00	2.80	0.00	2.8	.57	.80	1078	1013.3	227.1	69.2
01.50	2.84	0.00	2.8	.57	.80	1078	1013.8	219.8	69.4
02.00	3.09	0.00	3.1	.52	.76	1107	1014.2	212.1	69.5
02.50	3.55	0.00	3.5	.45	.71	1142	1014.7	203.9	69.4
03.00	3.46	0.00	3.5	.45	.71	1141	1015.1	195.7	69.3
03.50	3.39	0.00	3.4	.48	.73	1132	1015.4	187.5	69.0
04.00	3.62	0.00	3.6	.45	.70	1148	1015.8	179.7	68.5
04.50	3.37	0.00	3.4	.49	.74	1130	1016.1	172.3	68.0
05.00	3.23	0.00	3.2	.53	.77	1111	1016.4	165.6	67.3
05.50	3.07	0.00	3.1	.55	.79	1101	1016.6	159.4	66.6
06.00	2.90	0.00	2.9	.59	.82	1081	1016.8	153.8	65.7
06.50	2.75	0.00	2.7	.63	.86	1060	1017.0	148.8	64.8
07.00	2.73	0.00	2.7	.64	.86	1059	1017.1	144.2	63.9
07.50	2.84	0.00	2.8	.62	.85	1069	1017.2	140.1	62.9
08.00	2.99	0.00	3.0	.58	.82	1088	1017.3	136.4	61.9
08.50	3.10	0.00	3.1	.57	.81	1097	1017.4	133.0	60.8
09.00	3.12	0.00	3.1	.57	.81	1097	1017.4	129.9	59.8
09.50	3.15	0.00	3.2	.55	.80	1105	1017.4	127.0	58.7
10.00	3.21	0.00	3.2	.56	.80	1105	1017.4	124.3	57.6
10.50	3.20	0.00	3.2	.56	.80	1105	1017.4	121.8	56.5
11.00	3.18	0.00	3.2	.56	.80	1105	1017.3	119.4	55.4
11.50	3.27	0.00	3.3	.54	.79	1114	1017.3	117.2	54.2
12.00	3.48	0.00	3.5	.51	.76	1131	1017.2	115.1	53.1
12.50	3.74	0.00	3.7	.48	.74	1147	1017.0	113.1	52.0
13.00	3.89	0.00	3.9	.44	.71	1162	1016.9	111.2	50.8
13.50	4.55	0.00	4.5	.35	.64	1204	1016.8	109.4	49.7
14.00	3.61	0.00	3.6	.49	.75	1139	1016.6	107.6	48.6
14.50	2.79	0.00	2.8	.64	.87	1067	1016.4	106.0	47.5
15.00	2.63	0.00	2.6	.68	.91	1046	1016.2	104.3	46.4
15.50	2.54	0.00	2.5	.70	.92	1035	1016.0	102.7	45.2
16.00	2.64	0.00	2.6	.68	.91	1047	1015.8	101.2	44.1
16.50	2.46	0.00	2.5	.70	.92	1036	1015.6	99.7	43.0
17.00	2.53	0.00	2.5	.70	.92	1036	1015.3	98.2	41.9
17.50	2.68	0.00	2.7	.66	.89	1058	1015.1	96.8	40.9
18.00	2.52	0.00	2.5	.70	.92	1037	1014.8	95.4	39.8
18.50	2.40	0.00	2.4	.72	.94	1026	1014.5	94.1	38.7
19.00	2.34	0.00	2.3	.74	.96	1014	1014.3	92.7	37.7
19.50	2.24	0.00	2.2	.76	.98	1003	1014.0	91.4	36.7
20.00	2.18	0.00	2.2	.76	.98	1003	1013.7	90.1	35.6
20.50	2.16	0.00	2.2	.76	.98	1004	1013.4	88.8	34.6
21.00	2.09	0.00	2.1	.78	-18.00	991	1013.1	87.6	33.6
21.50	2.14	0.00	2.1	.78	-17.99	991	1012.8	86.3	32.7
22.00	2.19	0.00	2.2	.75	.97	1005	1012.5	85.1	31.7
22.50	2.12	0.00	2.1	.77	.99	993	1012.2	83.9	30.8
23.00	2.06	0.00	2.1	.77	.99	993	1011.8	82.7	29.8
23.50	2.20	0.00	2.2	.75	.97	1006	1011.5	81.5	28.9
24.00	2.16	0.00	2.2	.74	.97	1005	1009.8	80.4	28.2
24.50	2.12	0.00	2.1	.77	.99	993	1009.4	79.3	27.3
25.00	2.23	0.00	2.2	.74	.97	1006	1009.0	78.1	26.5
25.50	2.28	0.00	2.3	.71	.95	1019	1008.6	77.0	25.7
26.00	2.26	0.00	2.3	.71	.94	1019	1008.2	75.9	24.9
26.50	2.23	0.00	2.2	.73	.96	1007	1007.8	74.8	24.1
27.00	2.39	0.00	2.4	.68	.92	1032	1007.3	73.7	23.3
27.50	2.46	0.00	2.5	.66	.90	1044	1006.9	72.6	22.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39628.00	2.51	0.00	2.5	-17.66	-17.90	1044	1006.5	71.5	21.7
28.50	2.58	0.00	2.6	.63	.88	1056	1006.0	70.4	21.0
29.00	2.67	0.00	2.7	.61	.86	1067	1005.6	69.3	20.2
29.50	2.79	-0.02	2.8	.58	.84	1078	1005.2	68.2	19.5
30.00	2.88	-0.04	2.8	.58	.84	1078	1004.8	67.1	18.8
30.50	2.85	-0.05	2.8	.58	.84	1078	1004.4	66.0	18.0
31.00	2.92	-0.06	2.9	.55	.82	1088	1004.0	65.0	17.3
31.50	2.97	-0.06	2.9	.55	.82	1088	1003.6	63.9	16.6
32.00	3.11	-0.06	3.1	.51	.79	1108	1003.2	62.8	15.9
32.50	3.23	-0.06	3.2	.49	.77	1118	1002.8	61.8	15.2
33.00	3.25	-0.06	3.2	.48	.77	1118	1002.4	60.7	14.5
33.50	3.22	-0.06	3.2	.48	.76	1118	1002.1	59.6	13.8
34.00	3.64	-0.06	3.6	.40	.70	1153	1001.7	58.6	13.1
34.50	3.75	-0.06	3.7	.38	.69	1162	1001.4	57.5	12.5
35.00	4.31	-0.07	4.2	.29	.62	1200	1001.1	56.5	11.8
39635.20	4.3	-0.1	4.2	-17.29	-17.62	1200	1000.9	56.0	11.5
35.40	4.1	-0.1	4.1	.31	.63	1193	1000.8	55.6	11.3
35.60	4.0	-0.1	3.9	.34	.66	1178	1000.7	55.2	11.0
35.80	6.6	-0.1	6.6	-16.98	.37	1338	1000.5	54.8	10.8
39635.90	9.4	-0.1	9.	-16.77	-17.18	1433	1000.5	54.6	10.6
36.00	19.3	-0.1	19.	.32	-16.74	1662	1000.4	54.4	10.5
36.10	18.2	-0.1	18.	.35	.77	1645	1000.4	54.2	10.4
36.20	17.6	-0.1	18.	.35	.77	1645	1000.3	54.0	10.2
36.30	11.6	-0.1	12.	.59	-17.01	1520	1000.2	53.7	10.1
36.40	7.2	-0.1	7.	.94	.33	1356	1000.2	53.5	10.0
36.50	6.1	-0.1	6.	-17.04	.42	1309	1000.1	53.3	9.8
39636.60	6.2	-0.1	6.2	-17.02	-17.40	1319	1000.1	53.1	9.7
36.80	5.4	-0.1	5.4	.11	.48	1277	1000.0	52.7	9.5
37.00	4.5	-0.1	4.4	.25	.59	1214	999.8	52.3	9.2
39637.50	4.49	-0.06	4.4	-17.25	-17.59	1214	999.6	51.2	8.6
38.00	4.07	-0.05	4.0	.31	.63	1185	999.3	50.2	8.0
39638.40	4.1	0.0	4.1	-17.29	-17.62	1192	999.1	49.4	7.5
38.60	4.1	0.0	4.1	.29	.62	1192	999.0	49.0	7.2
38.80	4.7	0.0	4.6	.22	.56	1227	998.9	48.5	7.0
39.00	6.9	0.0	6.8	-16.94	.34	1348	998.8	48.1	6.7
39.20	6.4	0.0	6.4	.99	.37	1329	998.7	47.7	6.5
39.40	4.8	0.0	4.7	-17.20	.54	1234	998.6	47.3	6.3
39639.50	4.4	0.0	4.4	-17.24	-17.58	1213	998.6	47.1	6.2
39.75	4.3	0.0	4.2	.27	.60	1199	998.5	46.6	5.9
40.00	4.1	0.0	4.0	.31	.62	1184	998.4	46.1	5.6
40.25	3.8	0.0	3.7	.36	.66	1160	998.3	45.5	5.3
40.50	3.6	0.0	3.5	.39	.69	1143	998.2	45.0	5.0
40.75	4.5	0.0	4.5	.22	.56	1219	998.1	44.5	4.7
41.00	5.0	0.0	5.0	.15	.50	1252	998.0	44.0	4.4
41.25	5.4	0.0	5.4	.10	.46	1276	997.9	43.5	4.1
41.50	4.2	0.0	4.2	.27	.59	1198	997.8	43.0	3.9
41.75	3.6	0.0	3.6	.37	.67	1150	997.7	42.5	3.6
42.00	3.0	0.0	3.0	.48	.75	1095	997.6	41.9	3.3
39642.50	3.23	-0.03	3.2	-17.44	-17.72	1114	997.4	40.9	2.8
43.00	3.32	-0.03	3.3	.42	.70	1123	997.3	39.9	2.2
43.50	3.41	-0.02	3.4	.40	.69	1131	997.1	38.9	1.7
44.00	3.16	-0.02	3.1	.45	.73	1103	997.0	37.9	1.2
44.50	2.88	-0.02	2.9	.49	.76	1082	996.8	36.8	0.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39645.00	2.75	-0.02	2.7	-17.53	-17.78	1060	996.7	35.8	0.2
45.50	2.61	-0.01	2.6	.54	.80	1049	996.6	34.8	-0.3
46.00	2.34	-0.01	2.3	.61	.85	1012	996.5	33.8	-0.8
39646.25	1.7	0.0	1.7	-17.75	-17.97	925	996.5	33.3	-1.0
46.50	2.4	0.0	2.4	.58	.83	1024	996.5	32.8	-1.2
46.75	2.8	0.0	2.8	.50	.76	1069	996.4	32.3	-1.5
47.00	3.4	0.0	3.4	.39	.67	1127	996.4	31.8	-1.7
47.25	3.8	0.0	3.8	.32	.62	1161	996.4	31.3	-1.9
47.50	3.2	0.0	3.2	.42	.70	1108	996.4	30.7	-2.1
47.75	3.0	0.0	3.0	.46	.73	1088	996.3	30.2	-2.4
48.00	2.7	0.0	2.7	.52	.77	1057	996.3	29.7	-2.6
48.25	2.4	0.0	2.4	.58	.82	1022	996.3	29.2	-2.8
48.50	2.2	0.0	2.2	.62	.86	996	996.3	28.7	-3.0
48.75	2.1	0.0	2.1	.64	.87	982	996.3	28.2	-3.3
49.00	1.8	0.0	1.8	.71	.94	938	996.3	27.7	-3.5
49.25	1.4	0.0	1.4	.82	-18.04	862	996.3	27.2	-3.7
49.50	1.6	0.0	1.6	.76	-17.98	903	996.4	26.7	-3.9
49.75	1.6	0.0	1.6	.76	.98	902	996.4	26.2	-4.1
39650.00	1.59	0.01	1.6	-17.76	-17.98	902	996.4	25.7	-4.3
50.50	1.67	0.02	1.7	.73	.95	919	996.5	24.7	-4.8
51.00	1.66	0.02	1.7	.73	.95	918	996.6	23.7	-5.2
51.50	1.54	0.02	1.6	.75	.97	900	996.7	22.6	-5.6
52.00	1.54	0.02	1.6	.75	.97	899	996.9	21.6	-6.1
52.50	1.36	0.03	1.4	.81	-18.02	857	997.1	20.6	-6.5
53.00	1.39	0.03	1.4	.80	.02	855	998.0	19.4	-7.8
53.50	1.37	0.03	1.4	.80	.02	854	998.4	18.4	-8.3
54.00	1.37	0.04	1.4	.80	.01	854	998.7	17.4	-8.8
54.50	1.44	0.04	1.5	.76	-17.98	875	999.1	16.4	-9.3
55.00	1.54	0.04	1.6	.73	.95	893	999.4	15.4	-9.7
55.50	1.65	0.05	1.7	.71	.93	910	999.7	14.4	-10.1
56.00	1.77	0.05	1.8	.68	.90	925	1000.1	13.3	-10.5
56.50	1.85	0.05	1.9	.66	.88	940	1000.4	12.3	-10.9
57.00	1.75	0.05	1.8	.68	.90	924	1000.6	11.3	-11.2
39658.00	1.73	0.05	1.78	-17.68	-17.90	919	1001.2	9.3	-11.9
59.00	1.68	0.06	1.74	.69	.91	911	1001.7	7.4	-12.5
60.00	1.69	0.06	1.75	.69	.90	911	1002.1	5.4	-12.9
61.00	1.71	0.06	1.77	.68	.90	912	1002.5	3.4	-13.3
62.00	1.73	0.06	1.80	.68	.89	915	1002.9	1.5	-13.7
63.00	1.81	0.06	1.88	.66	.87	925	1003.3	359.6	-13.9
64.00	1.95	0.07	2.02	.63	.85	943	1003.7	357.6	-14.1
65.00	2.01	0.07	2.08	.62	.83	949	1004.1	355.7	-14.3
39666.00	2.19	0.07	2.3	-17.58	-17.79	975	1004.5	353.8	-14.5
66.50	2.39	0.07	2.5	.55	.76	997	1004.7	352.8	-14.5
67.00	2.61	0.07	2.7	.51	.73	1018	1004.9	351.8	-14.6
67.50	2.32	0.07	2.4	.57	.78	983	1005.1	350.9	-14.7
68.00	2.25	0.07	2.3	.59	.80	970	1005.4	349.9	-14.7
68.50	2.14	0.07	2.2	.61	.82	957	1005.7	349.0	-14.8
69.00	2.11	0.07	2.2	.61	.82	955	1006.0	348.0	-14.9
39670.00	2.01	0.08	2.09	-17.64	-17.85	939	1006.6	346.1	-15.0
71.00	1.91	0.08	1.99	.66	.87	923	1007.3	344.1	-15.2
72.00	1.87	0.08	1.95	.67	.88	915	1008.1	342.2	-15.5
73.00	1.79	0.08	1.87	.70	.90	901	1009.1	340.2	-15.7
74.00	1.67	0.08	1.74	.73	.93	880	1010.1	338.3	-16.1
75.00	1.57	0.08	1.65	.76	.96	863	1011.3	336.3	-16.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39676.00	1.61	0.08	1.7	-17.75	-17.95	868	1012.6	334.4	-16.9
76.50	1.83	0.08	1.9	.70	.90	895	1013.3	333.4	-17.2
77.00	1.87	0.08	1.9	.70	.90	893	1014.0	332.4	-17.4
77.50	1.73	0.08	1.8	.73	.93	878	1014.8	331.4	-17.7
78.00	1.88	0.08	2.0	.69	.88	903	1015.6	330.4	-17.9
78.50	1.88	0.07	2.0	.69	.88	901	1016.4	329.4	-18.2
79.00	1.77	0.07	1.8	.73	.93	873	1017.3	328.4	-18.5
79.50	1.58	0.07	1.7	.76	.95	856	1018.1	327.4	-18.8
80.00	1.47	0.07	1.5	.81	-18.01	824	1019.0	326.4	-19.1
80.50	1.31	0.07	1.4	.85	.04	804	1019.9	325.4	-19.4
81.00	1.26	0.07	1.3	.88	.07	784	1020.9	324.4	-19.7
81.50	1.25	0.07	1.3	.88	.07	782	1021.8	323.4	-20.0
82.00	1.37	0.07	1.4	.85	.04	800	1022.8	322.4	-20.2
82.50	1.34	0.06	1.4	.86	.04	799	1023.8	321.5	-20.5
83.00	1.31	0.06	1.4	.86	.04	797	1024.7	320.5	-20.8
83.50	1.19	0.06	1.3	.89	.08	777	1025.7	319.5	-21.0
84.00	1.13	0.06	1.2	.93	.11	754	1026.7	318.5	-21.2
84.50	1.17	0.06	1.2	.93	.11	753	1027.6	317.5	-21.4
85.00	1.24	0.04	1.3	.85	.03	844	1027.1	316.6	-21.2
85.50	1.33	0.04	1.4	.83	.01	854	1027.9	315.6	-21.3
86.00	1.37	0.04	1.4	.83	.01	858	1028.8	314.7	-21.4
86.50	1.48	0.04	1.5	.81	-17.98	874	1029.6	313.7	-21.4
87.00	1.56	0.04	1.6	.78	.96	882	1030.5	312.8	-21.4
87.50	1.61	0.04	1.6	.79	.96	883	1031.3	311.9	-21.3
88.00	1.63	0.04	1.7	.77	.94	903	1032.1	310.9	-21.2
88.50	1.62	0.04	1.7	.77	.94	901	1032.9	310.0	-21.0
89.00	1.66	0.04	1.7	.78	.95	895	1033.6	309.1	-20.7
89.50	1.66	0.04	1.7	.78	.95	887	1034.3	308.2	-20.5
90.00	1.68	0.04	1.7	.79	.95	887	1035.0	307.3	-20.2
90.50	1.70	0.04	1.7	.79	.96	891	1035.7	306.4	-19.8
91.00	1.75	0.04	1.8	.77	.94	905	1036.3	305.5	-19.5
91.50	1.75	0.03	1.8	.78	.94	901	1036.9	304.6	-19.1
92.00	1.75	0.03	1.8	.79	.95	899	1037.5	303.7	-18.7
92.50	1.79	0.03	1.8	.79	.95	897	1038.1	302.9	-18.4
93.00	1.81	0.03	1.8	.80	.96	896	1038.7	302.0	-18.0
93.50	1.94	0.02	2.0	.76	.92	923	1039.3	301.1	-17.6
94.00	2.01	0.02	2.0	.76	.92	922	1039.9	300.2	-17.3
94.50	2.15	0.02	2.2	.73	.88	939	1040.5	299.3	-17.0
95.00	2.28	0.02	2.3	.71	.87	937	1041.1	298.4	-16.6
95.50	2.18	0.01	2.2	.74	.89	924	1041.7	297.5	-16.3
96.00	2.21	0.01	2.2	.74	.90	930	1042.3	296.6	-16.0
96.50	2.19	0.01	2.2	.75	.90	926	1043.0	295.7	-15.7
97.00	2.21	0.00	2.2	.76	.90	920	1043.7	294.9	-15.3
97.50	2.19	0.00	2.2	.76	.91	921	1044.5	294.0	-14.9
98.00	2.16	0.00	2.2	.77	.91	928	1045.3	293.1	-14.4
98.50	2.17	0.00	2.2	.77	.92	928	1046.2	292.3	-13.9
99.00	2.24	0.00	2.2	.78	.92	922	1047.2	291.4	-13.3
99.50	2.28	0.00	2.3	.77	.93	912	1033.2	290.6	-12.4
39700.00	2.42	0.00	2.4	.75	.92	914	1034.3	289.6	-12.6
00.50	2.06	0.00	2.1	.81	.98	883	1035.6	288.7	-12.7
01.00	2.42	0.00	2.4	.76	.92	912	1037.0	287.8	-12.5
01.50	2.37	0.00	2.4	.77	.93	909	1038.5	286.9	-12.0
02.00	1.99	0.00	2.0	.86	-18.01	877	1040.0	286.1	-11.1
02.50	1.87	0.00	1.9	.89	.04	873	1041.6	285.4	-9.9
03.00	1.86	0.00	1.9	.89	.04	873	1043.3	284.7	-8.3
03.50	1.86	0.00	1.9	.90	.05	871	1045.1	284.1	-6.3
04.00	1.83	0.00	1.8	.93	.08	860	1046.9	283.5	-3.9
04.50	1.83	0.00	1.8	.94	.08	864	1048.9	283.0	-1.1
05.00	1.79	0.00	1.8	.95	.09	868	1051.0	282.6	2.2
05.50	1.81	0.00	1.8	.96	.09	872	1053.2	282.3	5.8

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39706.00	1.81	0.00	1.8	-17.96	-18.09	874	1055.5	282.1	9.8
06.50	1.77	0.00	1.8	.96	.09	874	1058.0	282.1	14.3
07.00	1.84	0.00	1.8	.97	.09	877	1060.7	282.2	19.0
07.50	1.82	0.00	1.8	.96	.08	886	1063.4	282.5	24.1
08.00	1.81	0.00	1.8	.96	.07	899	1066.1	283.1	29.5
08.50	1.82	0.00	1.8	.95	.06	912	1068.8	284.1	35.1
09.00	1.81	0.00	1.8	.94	.04	921	1071.4	285.8	40.9
09.50	1.78	0.00	1.8	.92	.02	932	1073.7	288.7	46.8
10.00	1.77	0.00	1.8	.91	.00	941	1075.5	293.5	52.8
10.50	1.72	0.00	1.7	.91	.00	938	1076.9	302.7	58.5
11.00	1.71	0.00	1.7	.88	-17.97	959	1077.7	322.0	63.3
11.50	1.71	0.00	1.7	.86	.95	976	1077.8	359.3	65.5
12.00	1.69	0.00	1.7	.84	.93	984	1077.2	35.5	63.3
12.50	1.71	0.00	1.7	.82	.92	986	1076.0	53.7	58.6
13.00	1.73	0.00	1.7	.81	.91	987	1074.2	62.5	53.1
13.50	1.78	0.00	1.8	.77	.87	1001	1071.9	67.2	47.4
14.00	1.90	0.00	1.9	.73	.84	1015	1069.2	69.9	41.7
14.50	1.75	0.00	1.8	.74	.85	1013	1066.2	71.5	36.2
15.00	1.61	0.00	1.6	.77	.89	995	1063.1	72.6	30.8
15.50	1.60	0.00	1.6	.75	.88	998	1060.0	73.2	25.6
16.00	1.64	0.00	1.6	.74	.87	993	1056.9	73.5	20.7
16.50	1.68	0.00	1.7	.70	.83	1004	1054.0	73.6	16.2
17.00	1.72	0.00	1.7	.68	.82	1006	1051.2	73.5	12.0
17.50	1.72	0.00	1.7	.67	.81	1007	1048.6	73.4	8.2
18.00	1.67	0.00	1.7	.66	.80	1006	1046.2	73.1	4.7
18.50	1.70	0.00	1.7	.64	.80	1004	1043.9	72.7	1.7
19.00	1.77	0.00	1.8	.61	.77	1012	1041.8	72.2	-0.9
19.50	2.00	0.00	2.0	.56	.72	1030	1039.8	71.7	-3.1
20.00	2.12	0.00	2.1	.53	.69	1043	1037.9	71.1	-4.9
20.50	2.26	0.00	2.3	.48	.65	1071	1036.1	70.4	-6.2
21.00	2.43	0.00	2.4	.45	.63	1082	1034.4	69.7	-7.1
21.50	2.34	0.00	2.3	.46	.64	1075	1032.8	68.9	-7.7
22.00	2.30	0.00	2.3	.46	.64	1077	1031.3	68.1	-7.9
22.50	2.30	0.00	2.3	.45	.64	1076	1029.9	67.2	-7.8
23.00	2.33	0.00	2.3	.44	.64	1079	1028.6	66.3	-7.3
23.50	2.31	0.00	2.3	.44	.64	1084	1027.4	65.3	-6.7
24.00	2.32	0.01	2.3	.44	.64	1089	1026.4	64.3	-5.9
24.50	2.36	0.01	2.4	.41	.62	1103	1025.6	63.3	-4.9
25.00	2.39	0.00	2.4	.41	.62	1104	1025.0	62.3	-3.9
25.50	2.50	0.00	2.5	.39	.57	1130	1039.9	61.8	-6.6
26.00	2.49	0.00	2.5	.39	.57	1130	1039.2	61.0	-7.0
26.50	2.52	0.00	2.5	.38	.57	1126	1038.5	60.2	-7.4
27.00	2.55	0.00	2.6	.36	.55	1135	1037.8	59.4	-7.8
27.50	2.68	0.00	2.7	.34	.53	1140	1037.1	58.6	-8.2
28.00	2.81	0.00	2.8	.32	.51	1146	1036.5	57.8	-8.5
28.50	2.81	0.00	2.8	.32	.51	1150	1035.8	57.0	-8.9
29.00	2.76	0.00	2.8	.32	.51	1152	1035.2	56.2	-9.2
29.50	2.77	0.00	2.8	.31	.51	1152	1034.6	55.4	-9.5
30.00	2.76	0.00	2.8	.31	.50	1156	1033.9	54.6	-9.8
30.50	2.82	-0.01	2.8	.31	.50	1157	1033.3	53.7	-10.1
31.00	2.86	-0.01	2.8	.31	.50	1157	1032.7	52.9	-10.4
31.50	2.93	-0.01	2.9	.29	.48	1165	1032.1	52.1	-10.6
32.00	3.11	-0.01	3.1	.25	.46	1181	1031.5	51.3	-10.8
32.50	3.15	-0.01	3.1	.25	.45	1179	1030.9	50.4	-11.1
33.00	3.27	-0.01	3.3	.22	.43	1191	1030.3	49.6	-11.3
33.50	3.63	-0.02	3.6	.18	.39	1209	1029.7	48.8	-11.5
34.00	3.68	-0.02	3.7	.17	.38	1216	1029.1	48.0	-11.7
34.50	3.81	-0.02	3.8	.15	.36	1219	1028.5	47.1	-11.9
35.00	3.71	-0.02	3.7	.16	.38	1208	1027.9	46.3	-12.0
35.50	3.64	-0.02	3.6	.17	.39	1200	1027.3	45.5	-12.2

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39736.00	3.22	-0.02	3.2	-17.22	-17.44	1181	1026.8	44.6	-12.3
36.50	2.93	-0.03	2.9	.27	.48	1165	1026.2	43.8	-12.4
37.00	2.76	-0.03	2.7	.30	.51	1144	1025.6	43.0	-12.5
37.50	2.60	-0.03	2.6	.31	.52	1133	1025.0	42.1	-12.6
38.00	2.55	-0.03	2.5	.33	.54	1125	1024.4	41.3	-12.7
38.50	2.56	-0.03	2.5	.33	.54	1129	1023.8	40.4	-12.8
39.00	2.53	-0.03	2.5	.33	.54	1129	1023.3	39.6	-12.9
39.50	2.58	-0.03	2.5	.33	.54	1128	1022.7	38.7	-12.9
40.00	2.64	-0.03	2.6	.31	.52	1137	1022.1	37.9	-13.0
40.50	2.65	-0.04	2.6	.31	.52	1131	1021.5	37.0	-13.0
41.00	2.60	-0.04	2.6	.31	.52	1129	1021.0	36.2	-13.0
41.50	2.55	-0.04	2.5	.33	.54	1119	1020.4	35.3	-13.1
42.00	2.52	-0.04	2.5	.32	.54	1112	1019.8	34.5	-13.1
42.50	2.52	-0.04	2.5	.32	.54	1112	1019.2	33.6	-13.0
43.00	2.50	-0.04	2.5	.32	.54	1117	1018.6	32.8	-13.0
43.50	2.51	-0.04	2.5	.32	.54	1122	1018.1	31.9	-13.0
44.00	2.56	-0.04	2.5	.32	.54	1129	1017.5	31.1	-12.9
44.50	2.55	-0.04	2.5	.32	.54	1128	1016.9	30.2	-12.9
45.00	2.62	-0.04	2.6	.30	.52	1137	1016.3	29.3	-12.8
45.50	2.79	-0.04	2.7	.28	.51	1144	1015.8	28.5	-12.8
46.00	2.84	-0.04	2.8	.27	.49	1146	1015.2	27.6	-12.7
46.50	2.98	-0.04	2.9	.25	.48	1141	1015.4	26.8	-12.6
47.00	3.09	-0.04	3.0	.23	.47	1145	1014.8	25.9	-12.5
47.50	3.14	-0.04	3.1	.22	.46	1157	1014.2	25.0	-12.4
48.00	3.20	-0.04	3.2	.20	.44	1163	1013.7	24.1	-12.2
48.50	3.27	-0.04	3.2	.20	.44	1166	1013.1	23.3	-12.1
49.00	3.33	-0.04	3.3	.19	.43	1174	1012.5	22.4	-12.0
49.50	3.40	-0.04	3.4	.18	.42	1181	1011.9	21.5	-11.8
50.00	3.47	-0.04	3.4	.18	.42	1185	1011.3	20.7	-11.7
50.50	3.54	-0.04	3.5	.17	.41	1194	1010.7	19.8	-11.5
51.00	3.60	-0.04	3.6	.15	.39	1201	1010.1	18.9	-11.3
51.50	3.64	-0.04	3.6	.15	.40	1197	1009.6	18.0	-11.1
52.00	3.67	-0.04	3.6	.15	.40	1188	1009.0	17.1	-10.9
52.50	3.71	-0.04	3.7	.14	.39	1192	1008.4	16.3	-10.7
53.00	3.74	-0.04	3.7	.14	.39	1191	1007.8	15.4	-10.5
53.50	3.78	-0.04	3.7	.13	.40	1182	1007.3	14.5	-10.3
54.00	3.83	-0.04	3.8	.11	.39	1178	1006.7	13.6	-10.1
54.50	3.83	-0.04	3.8	.11	.39	1173	1006.2	12.7	-9.8
55.00	3.79	-0.04	3.8	.11	.39	1179	1005.6	11.8	-9.6
55.50	3.76	-0.04	3.7	.14	.40	1186	1005.1	10.9	-9.3
56.00	3.75	-0.04	3.7	.14	.40	1198	1004.6	10.0	-9.1
56.50	3.73	-0.04	3.7	.14	.40	1199	1004.1	9.1	-8.8
57.00	3.73	-0.04	3.7	.15	.40	1199	1003.5	8.3	-8.5
57.50	3.73	-0.03	3.7	.15	.40	1196	1003.0	7.4	-8.3
58.00	3.72	-0.03	3.7	.15	.41	1190	1002.6	6.5	-8.0
58.50	3.71	-0.03	3.7	.15	.41	1192	1002.1	5.6	-7.7
59.00	3.69	-0.03	3.7	.15	.41	1192	1001.6	4.7	-7.4
59.50	3.67	-0.03	3.6	.16	.42	1185	1001.2	3.8	-7.1
60.00	3.65	-0.03	3.6	.16	.43	1182	1000.7	2.9	-6.8
60.50	3.63	-0.02	3.6	.16	.43	1179	1000.3	2.0	-6.5
61.00	3.65	-0.02	3.6	.16	.43	1177	999.9	1.1	-6.1
61.50	3.67	-0.02	3.6	.15	.44	1163	999.5	0.1	-5.8
62.00	3.63	-0.02	3.6	.15	.45	1151	999.1	359.2	-5.5
62.50	3.60	-0.02	3.6	.15	.45	1148	998.7	358.3	-5.1
63.00	3.57	-0.02	3.5	.17	.46	1140	998.3	357.4	-4.8
63.50	3.50	-0.02	3.5	.17	.47	1137	998.0	356.5	-4.5
64.00	3.45	-0.02	3.4	.19	.48	1135	997.6	355.6	-4.1
64.50	3.39	-0.02	3.4	.20	.48	1143	997.3	354.7	-3.8
65.00	3.34	-0.01	3.3	.22	.49	1142	997.0	353.8	-3.4
65.50	3.31	-0.01	3.3	.22	.49	1146	996.7	352.9	-3.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39766.00	3.28	-0.01	3.3	-17.22	-17.50	1141	996.4	352.0	-2.7
66.50	3.26	-0.01	3.2	.24	.52	1128	996.1	351.0	-2.3
67.00	3.24	-0.01	3.2	.24	.52	1124	995.9	350.1	-2.0
67.50	3.22	0.00	3.2	.25	.52	1126	995.6	349.2	-1.6
68.00	3.20	0.00	3.2	.25	.52	1125	995.4	348.3	-1.2
68.50	2.75	0.00	3.2	.25	.53	1117	995.2	347.4	-0.9
69.00	2.96	0.00	3.2	.26	.53	1114	995.0	346.5	-0.5
69.50	3.04	0.00	3.2	.26	.53	1114	994.8	345.6	-0.2
70.00	3.14	0.00	3.2	.26	.54	1113	994.6	344.6	0.2
70.50	3.15	0.00	3.2	.27	.54	1109	994.4	343.7	0.6
71.00	3.13	0.01	3.2	.27	.54	1109	994.3	342.8	0.9
71.50	3.39	0.01	3.3	.26	.53	1113	994.1	341.9	1.3
72.00	3.40	0.01	3.3	.26	.54	1102	994.0	341.0	1.6
72.50	3.32	0.02	3.3	.27	.54	1101	993.9	340.1	2.0
73.00	3.27	0.02	3.3	.31	.61	1157	994.2	339.1	2.5
73.50	3.58	0.02	3.6	.26	.58	1180	994.1	338.2	2.9
74.00	3.96	0.03	4.0	.20	.53	1207	994.0	337.3	3.3
74.50	3.69	0.03	3.7	.26	.57	1182	993.9	336.4	3.7
75.00	3.67	0.03	3.7	.26	.57	1179	993.8	335.4	4.0
75.50	3.62	0.03	3.7	.27	.58	1176	993.7	334.5	4.3
76.00	3.58	0.03	3.6	.29	.59	1165	993.6	333.6	4.7
76.50	3.52	0.03	3.6	.29	.60	1162	993.5	332.7	5.0
77.00	3.50	0.04	3.5	.31	.61	1151	993.4	331.8	5.4
77.50	3.49	0.04	3.5	.32	.62	1148	993.3	330.8	5.7
78.00	3.44	0.04	3.5	.32	.62	1145	993.3	329.9	6.0
78.50	3.45	0.04	3.5	.33	.62	1142	993.2	329.0	6.4
79.00	3.42	0.04	3.5	.33	.63	1138	993.2	328.1	6.8
79.50	3.40	0.04	3.4	.35	.64	1127	993.1	327.1	7.1
80.00	3.44	0.05	3.5	.34	.63	1132	993.1	326.2	7.5
80.50	3.48	0.05	3.5	.35	.64	1128	993.1	325.3	7.9
81.00	3.44	0.05	3.5	.35	.64	1125	993.0	324.4	8.3
81.50	3.20	0.05	3.2	.41	.68	1095	993.0	323.4	8.7
82.00	3.14	0.05	3.2	.41	.68	1092	993.0	322.5	9.1
82.50	3.14	0.05	3.2	.42	.69	1088	993.0	321.5	9.5
83.00	3.14	0.05	3.2	.42	.69	1085	993.0	320.6	9.9
83.50	3.08	0.05	3.1	.44	.71	1072	993.1	319.7	10.4
84.00	2.96	0.06	3.0	.46	.72	1059	993.1	318.7	10.8
84.50	2.90	0.06	3.0	.47	.72	1055	993.1	317.8	11.3
85.00	2.95	0.06	3.0	.47	.73	1051	993.2	316.8	11.8
85.50	3.22	0.06	3.3	.43	.69	1075	993.3	315.9	12.3
86.00	3.40	0.06	3.5	.40	.67	1087	993.4	314.9	12.8
86.50	3.60	0.06	3.7	.38	.65	1099	993.4	313.9	13.3
87.00	3.62	0.06	3.7	.38	.65	1095	993.6	313.0	13.9
87.50	3.63	0.07	3.7	.39	.65	1091	993.7	312.0	14.4
88.00	3.67	0.07	3.7	.39	.65	1087	993.8	311.1	15.0
88.50	3.68	0.07	3.7	.39	.65	1083	994.0	310.1	15.5
89.00	3.61	0.07	3.7	.40	.66	1079	994.1	309.1	16.1
89.50	3.59	0.07	3.7	.40	.66	1075	994.3	308.1	16.7
90.00	3.79	0.07	3.9	.38	.64	1086	994.5	307.2	17.3
90.50	3.98	0.07	4.0	.37	.63	1089	994.7	306.2	18.0
91.00	4.50	0.07	4.6	.30	.57	1123	995.0	305.2	18.6
91.50	5.16	0.07	5.2	.25	.52	1153	995.2	304.2	19.2
92.00	5.57	0.07	5.6	.21	.50	1169	995.5	303.2	19.9
92.50	5.36	0.06	5.4	.24	.51	1155	995.8	302.2	20.6
93.00	4.76	0.06	4.8	.30	.56	1118	996.1	301.2	21.2
93.50	4.59	0.06	4.7	.31	.57	1108	996.4	300.2	21.9
94.00	4.07	0.06	4.1	.38	.62	1066	996.8	299.2	22.7
94.50	4.05	0.06	4.1	.38	.62	1062	997.1	298.2	23.4
95.00	4.05	0.06	4.1	.38	.62	1057	997.5	297.2	24.1
95.50	4.05	0.05	4.1	.39	.62	1053	997.8	296.2	24.9

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39796.00	4.04	0.05	4.1	-17.39	-17.62	1049	998.3	295.2	25.6
96.50	3.96	0.05	4.0	.40	.63	1038	998.8	294.2	26.4
97.00	3.90	0.04	3.9	.41	.64	1026	999.2	293.1	27.2
97.50	3.82	0.04	3.9	.41	.64	1022	999.7	292.1	28.1
98.00	4.12	0.04	4.2	.38	.61	1039	1000.2	291.1	28.9
98.50	3.66	0.04	3.7	.44	.66	1000	1000.7	290.0	29.8
99.00	3.52	0.03	3.5	.46	.68	981	1001.3	289.0	30.7
99.50	3.31	0.03	3.3	.48	.70	961	1001.8	287.9	31.6
39800.00	3.14	0.02	3.2	.49	.71	949	1002.4	286.9	32.5
00.50	2.98	0.01	3.0	.52	.74	928	1003.0	285.8	33.5
01.00	2.89	0.00	2.9	.53	.75	915	1003.6	284.7	34.5
01.50	2.81	0.00	2.8	.55	.76	903	1004.2	283.7	35.5
02.00	2.83	0.00	2.8	.54	.76	899	1004.9	282.6	36.6
02.50	3.05	0.00	3.1	.50	.71	922	1005.5	281.5	37.7
03.00	3.11	0.00	3.1	.49	.70	918	1006.2	280.4	38.9
03.50	3.04	0.00	3.0	.50	.71	906	1006.9	279.2	40.1
04.00	2.89	0.00	2.9	.51	.72	894	1007.6	278.1	41.3
04.50	2.80	0.00	2.8	.52	.73	882	1008.4	277.0	42.6
05.00	2.73	0.00	2.7	.53	.75	870	1009.1	275.8	44.0
05.50	2.61	0.00	2.6	.55	.76	857	1009.9	274.6	45.4
06.00	3.04	0.00	3.0	.48	.68	889	1010.7	273.4	46.9
06.50	3.10	0.00	3.1	.46	.66	894	1011.5	272.2	48.4
07.00	2.98	0.00	3.0	.47	.67	883	1012.3	271.0	50.0
07.50	2.92	0.00	2.9	.47	.68	872	1013.1	269.7	51.7
08.00	2.96	0.00	3.0	.45	.65	877	1013.9	268.4	53.4
08.50	2.91	0.00	2.9	.48	.67	870	1016.7	267.8	52.0
09.00	2.90	0.00	2.9	.47	.66	867	1017.6	266.3	54.4
09.50	2.97	0.00	3.0	.44	.63	872	1018.5	264.8	57.0
10.00	3.07	0.00	3.1	.41	.60	878	1019.5	263.2	59.6
10.50	3.20	0.00	3.2	.38	.57	884	1020.5	261.5	62.3
11.00	3.39	0.00	3.4	.34	.53	897	1021.5	259.8	65.1
11.50	3.51	0.00	3.5	.32	.50	903	1022.4	258.0	67.8
12.00	3.57	0.00	3.6	.29	.47	909	1023.3	256.1	70.5
12.50	3.63	0.00	3.6	.28	.46	908	1024.1	254.0	73.2
13.00	3.70	0.00	3.7	.26	.43	915	1024.9	251.9	75.9
13.50	3.80	0.00	3.8	.23	.41	922	1025.6	249.6	78.5
14.00	3.88	0.00	3.9	.21	.38	929	1026.2	247.1	81.0
14.50	3.90	0.00	3.9	.20	.37	929	1026.7	244.5	83.4
15.00	3.95	0.00	3.9	.19	.36	930	1027.2	241.6	85.7
15.50	4.00	0.00	4.0	.17	.34	937	1027.5	238.4	87.9
16.00	4.05	0.00	4.1	.15	.32	945	1027.7	234.8	90.1
16.50	4.42	0.00	4.4	.12	.28	964	1027.9	230.8	92.1
17.00	4.49	0.01	4.5	.10	.26	971	1027.9	226.3	94.0
17.50	4.50	0.01	4.5	.09	.25	972	1027.9	220.9	95.8
18.00	4.51	0.01	4.5	.08	.25	973	1027.8	214.7	97.5
18.50	4.69	0.00	4.7	.06	.22	985	1027.7	207.2	99.0
19.00	4.39	0.00	4.4	.08	.25	968	1027.4	198.1	100.3
19.50	4.31	-0.01	4.3	.09	.25	963	1027.1	187.3	101.3
20.00	4.24	-0.01	4.2	.09	.26	957	1026.8	174.7	102.0
20.50	4.19	-0.01	4.2	.09	.25	957	1026.3	161.0	102.4
21.00	4.17	-0.02	4.1	.09	.26	952	1025.8	147.3	102.3
21.50	4.16	-0.02	4.1	.09	.26	953	1025.3	134.6	101.8
22.00	4.11	-0.03	4.1	.09	.26	954	1024.6	123.7	100.9
22.50	4.05	-0.04	4.0	.09	.26	949	1023.9	114.6	99.8
23.00	3.98	-0.04	3.9	.10	.27	945	1023.2	107.1	98.6
23.50	3.79	-0.05	3.7	.12	.29	933	1022.3	100.9	97.2
24.00	3.78	-0.06	3.7	.11	.29	936	1021.5	95.7	95.7
24.50	3.80	-0.06	3.7	.11	.29	938	1020.5	91.3	94.1
25.00	3.79	-0.07	3.7	.11	.28	941	1019.5	87.5	92.5
25.50	4.28	-0.08	4.2	.05	.23	978	1018.5	84.1	90.9

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39826.00	4.30	-0.08	4.2	-17.05	-17.23	981	1017.4	81.2	89.3
26.50	3.75	-0.09	3.7	.10	.28	950	1016.3	78.5	87.8
27.00	3.41	-0.10	3.3	.14	.33	923	1015.1	76.1	86.2
27.50	3.21	-0.11	3.1	.16	.36	909	1013.9	73.8	84.6
28.00	3.29	-0.12	3.2	.15	.34	921	1012.7	71.7	83.1
28.50	3.29	-0.12	3.2	.15	.34	924	1011.5	69.8	81.7
29.00	3.31	-0.13	3.2	.15	.34	927	1010.3	68.0	80.3
29.50	3.33	-0.14	3.2	.14	.34	929	1009.0	66.2	78.9
30.00	3.80	-0.14	3.7	.09	.28	972	1007.8	64.6	77.6
30.50	4.07	-0.15	3.9	.06	.26	989	1006.5	63.0	76.3
31.00	3.93	-0.16	3.8	.07	.27	984	1005.3	61.5	75.1
31.50	3.62	-0.16	3.5	.11	.31	964	1004.1	60.0	74.0
32.00	3.63	-0.17	3.5	.11	.31	966	1002.9	58.6	72.9
32.50	3.74	-0.17	3.6	.09	.30	976	1001.7	57.2	71.9
33.00	4.41	-0.18	4.2	.03	.24	1022	1000.5	55.9	70.9
33.50	3.78	-0.18	3.6	.09	.30	980	999.4	54.6	70.0
34.00	3.30	-0.19	3.1	.15	.37	941	998.2	53.3	69.1
34.50	3.34	-0.20	3.1	.15	.37	942	997.1	52.1	68.3
35.00	3.39	-0.20	3.2	.14	.36	952	996.0	50.8	67.6
35.50	3.38	-0.20	3.2	.14	.36	954	994.9	49.6	66.8
36.00	3.47	-0.21	3.3	.13	.35	963	993.8	48.4	66.1
36.50	3.61	-0.21	3.4	.12	.34	973	992.7	47.2	65.5
37.00	3.67	-0.22	3.5	.11	.33	982	991.6	46.1	64.9
37.50	3.94	-0.22	3.7	.08	.31	999	990.5	44.9	64.3
38.00	4.18	-0.23	3.9	.06	.29	1015	989.4	43.8	63.7
38.50	4.51	-0.23	4.3	.03	.25	1044	988.3	42.6	63.1
39.00	4.71	-0.23	4.5	.01	.24	1058	987.2	41.5	62.5
39.50	5.06	-0.23	4.8	-16.98	.21	1078	986.1	40.3	61.9
40.00	5.58	-0.24	5.3	.94	.18	1109	984.9	39.2	61.3
40.50	6.03	-0.24	5.8	.91	.15	1137	983.7	38.0	60.7
41.00	6.51	-0.24	6.3	.87	.12	1163	982.5	36.9	60.1
41.50	6.77	-0.24	6.5	.86	.11	1173	981.2	35.7	59.4
42.00	7.00	-0.25	6.8	.84	.10	1188	979.9	34.6	58.6
42.50	7.26	-0.25	7.0	.83	.09	1198	978.5	33.4	57.8
43.00	8.10	-0.25	7.9	.78	.05	1236	977.1	32.2	57.0
43.50	8.52	-0.25	8.3	.76	.04	1253	975.6	31.0	56.0
44.00	8.64	-0.25	8.4	.75	.04	1258	973.9	29.8	55.0
44.50	8.40	-0.25	8.1	.77	.06	1249	972.2	28.6	53.8
45.00	7.32	-0.25	7.1	.84	.15	1222	967.0	26.3	47.1
45.50	6.95	-0.25	6.7	.87	.17	1205	965.7	25.2	46.5
46.00	6.79	-0.25	6.5	.88	.19	1196	964.4	24.1	45.9
46.50	6.63	-0.25	6.4	.89	.20	1192	963.1	23.0	45.4
47.00	6.49	-0.25	6.2	.90	.22	1182	961.9	21.9	44.9
47.50	6.37	-0.25	6.1	.91	.23	1177	960.6	20.9	44.4
48.00	5.87	-0.25	5.6	.95	.26	1150	959.4	19.8	44.0
48.50	5.55	-0.25	5.3	.98	.29	1133	958.1	18.7	43.6
49.00	4.90	-0.25	4.7	-17.04	.34	1097	956.9	17.7	43.3
49.50	4.82	-0.25	4.6	.05	.35	1090	955.8	16.6	42.9
50.00	4.88	-0.25	4.6	.05	.36	1089	954.6	15.6	42.6
50.50	4.88	-0.25	4.6	.05	.36	1089	953.5	14.5	42.2
51.00	4.92	-0.25	4.7	.04	.36	1095	952.4	13.5	41.9
51.50	5.26	-0.25	5.0	.01	.33	1113	951.4	12.5	41.6
52.00	5.11	-0.25	4.9	.02	.35	1107	950.3	11.4	41.2
52.50	5.10	-0.25	4.9	.03	.35	1106	949.4	10.4	40.9
53.00	5.01	-0.25	4.8	.04	.36	1099	948.4	9.3	40.5
53.50	4.82	-0.25	4.6	.06	.38	1086	947.5	8.3	40.2
54.00	4.87	-0.25	4.6	.06	.39	1085	946.6	7.2	39.8
54.50	5.27	-0.25	5.0	.02	.36	1110	945.8	6.2	39.4
55.00	5.95	-0.25	5.7	-16.96	.31	1149	944.9	5.1	39.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39855.40	6.6	-0.2	6.3	-16.91	-17.28	1179	944.3	4.3	38.7
55.60	7.0	-0.2	6.8	.87	.25	1202	944.0	3.8	38.5
55.80	7.4	-0.2	7.2	.84	.23	1219	943.7	3.4	38.3
56.00	10.0	-0.2	9.8	.67	.11	1312	943.4	3.0	38.1
56.20	9.7	-0.2	9.5	.69	.12	1302	943.1	2.6	38.0
56.40	5.6	-0.2	5.3	-17.00	.35	1126	942.8	2.2	37.8
56.60	4.7	-0.2	4.4	.10	.43	1070	942.6	1.7	37.6
56.80	4.1	-0.2	3.9	.15	.48	1034	942.3	1.3	37.4
57.00	4.4	-0.2	4.2	.12	.45	1056	942.0	0.9	37.2
39857.50	6.09	-0.24	5.9	-16.95	-17.32	1158	941.4	359.8	36.7
58.00	5.97	-0.23	5.7	.97	.34	1147	940.8	358.7	36.2
58.50	4.97	-0.23	4.7	-17.08	.43	1089	940.2	357.7	35.7
59.00	4.94	-0.23	4.7	.08	.43	1089	939.6	356.6	35.1
59.50	5.27	-0.23	5.0	.05	.41	1107	939.1	355.5	34.5
60.00	5.37	-0.22	5.1	.05	.41	1112	938.6	354.5	33.9
60.50	5.72	-0.22	5.5	.01	.39	1135	938.1	353.4	33.3
61.00	6.05	-0.22	5.8	-16.98	.37	1151	937.7	352.3	32.7
61.50	6.72	-0.21	6.5	.93	.33	1184	937.2	351.2	32.1
62.00	6.81	-0.20	6.6	.92	.33	1189	936.8	350.2	31.4
62.50	6.38	-0.20	6.2	.96	.37	1170	936.4	349.1	30.8
63.00	6.20	-0.20	6.0	.98	.39	1160	936.0	348.0	30.1
63.50	6.08	-0.19	5.9	-17.00	.40	1154	935.7	346.9	29.4
64.00	6.13	-0.19	5.9	.00	.41	1154	935.3	345.8	28.7
64.50	6.20	-0.18	6.0	.00	.41	1158	935.0	344.7	28.0
65.00	6.31	-0.17	6.1	-16.99	.41	1163	934.7	343.7	27.3
65.50	6.43	-0.17	6.3	.98	.40	1172	934.4	342.6	26.5
66.00	6.60	-0.16	6.4	.97	.40	1176	934.1	341.5	25.8
66.50	6.82	-0.16	6.7	.95	.39	1189	933.8	340.4	25.1
67.00	7.37	-0.15	7.2	.91	.37	1210	933.5	339.3	24.3
67.50	7.61	-0.15	7.5	.89	.36	1221	933.3	338.2	23.6
68.00	7.95	-0.14	7.8	.87	.35	1232	933.0	337.2	22.9
68.50	7.44	-0.13	7.3	.92	.39	1212	932.7	336.1	22.1
69.00	6.93	-0.13	6.8	.97	.43	1190	932.5	335.0	21.4
69.50	6.61	-0.13	6.5	-17.00	.45	1175	932.2	333.9	20.6
70.00	6.33	-0.12	6.2	.03	.48	1161	931.9	332.9	19.9
70.50	5.98	-0.11	5.9	.07	.51	1145	931.7	331.8	19.2
71.00	5.68	-0.11	5.6	.11	.54	1129	931.4	330.7	18.4
71.50	5.73	-0.10	5.6	.11	.55	1128	931.2	329.6	17.7
72.00	6.03	-0.10	5.9	.09	.53	1142	931.0	328.6	17.0
72.50	4.98	-0.09	4.9	.20	.62	1087	930.7	327.5	16.2
73.00	4.78	-0.08	4.7	.23	.64	1074	930.5	326.4	15.5
73.50	4.82	-0.08	4.7	.24	.65	1073	930.3	325.3	14.8
74.00	4.57	-0.07	4.5	.27	.68	1060	930.1	324.3	14.0
74.50	4.11	-0.07	4.0	.34	.74	1025	929.9	323.2	13.3
75.00	4.25	-0.06	4.2	.32	.72	1038	929.7	322.1	12.6
75.50	4.08	-0.05	4.0	.36	.75	1023	929.6	321.1	11.8
76.00	3.88	-0.05	3.8	.39	.78	1008	929.5	320.0	11.1
76.50	3.65	-0.04	3.6	.43	.81	992	929.4	318.9	10.3
77.00	3.56	-0.04	3.5	.45	.83	984	929.3	317.9	9.5
77.50	3.68	-0.03	3.6	.45	.83	993	931.5	316.7	8.3
78.00	3.77	-0.03	3.7	.44	.82	1000	931.6	315.6	7.4
78.50	3.69	-0.02	3.7	.44	.83	999	931.7	314.6	6.6
79.00	3.62	-0.02	3.6	.47	.85	991	931.9	313.5	5.8
79.50	3.59	-0.01	3.6	.47	.86	990	932.0	312.4	4.9
80.00	3.72	0.00	3.7	.47	.85	997	932.1	311.3	4.1
80.50	4.02	0.00	4.0	.43	.83	1018	932.3	310.2	3.2
81.00	4.44	0.01	4.4	.38	.79	1044	932.5	309.2	2.4
81.50	4.95	0.02	5.0	.31	.75	1079	932.7	308.1	1.5
82.00	4.76	0.02	4.8	.34	.77	1067	932.9	307.0	0.6

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39882.50	4.49	0.03	4.5	-17.38	-17.81	1048	933.1	305.9	-0.3
83.00	4.30	0.03	4.3	.42	.83	1035	933.3	304.8	-1.2
83.50	4.90	0.03	4.9	.34	.78	1071	933.6	303.7	-2.1
84.00	4.81	0.03	4.8	.36	.80	1064	933.8	302.6	-3.1
84.50	5.14	0.04	5.2	.32	.77	1086	934.1	301.5	-4.0
85.00	5.51	0.04	5.6	.28	.74	1105	934.4	300.4	-5.0
85.50	5.73	0.04	5.8	.26	.73	1114	934.7	299.3	-5.9
86.00	5.42	0.03	5.5	.30	.76	1099	935.0	298.2	-6.9
86.50	5.72	0.03	5.7	.28	.75	1108	935.4	297.1	-7.9
87.00	5.59	0.01	5.6	.30	.76	1103	935.7	296.0	-8.9
87.50	6.24	0.00	6.2	.24	.73	1129	936.1	294.9	-9.9
88.00	6.70	0.00	6.7	.19	.70	1150	936.5	293.8	-11.0
88.50	7.14	0.00	7.1	.16	.68	1164	936.9	292.6	-12.0
89.00	7.10	0.00	7.1	.17	.68	1164	937.3	291.5	-13.1
89.50	7.10	0.00	7.1	.17	.68	1163	937.7	290.4	-14.2
90.00	7.41	0.00	7.4	.15	.67	1173	938.1	289.2	-15.2
90.50	7.92	0.00	7.9	.11	.64	1190	938.6	288.1	-16.4
91.00	6.92	0.00	6.9	.20	.71	1154	939.0	286.9	-17.5
91.50	5.77	0.00	5.8	.31	.78	1109	939.5	285.8	-18.6
92.00	5.46	0.00	5.5	.35	.81	1095	940.0	284.6	-19.8
92.50	5.21	0.00	5.2	.39	.83	1080	940.5	283.4	-20.9
93.00	4.89	0.00	4.9	.43	.86	1065	941.0	282.2	-22.1
93.50	4.84	0.00	4.8	.44	.87	1059	941.5	281.1	-23.3
94.00	5.01	0.00	5.0	.42	.85	1071	942.0	279.8	-24.5
94.50	5.21	0.00	5.2	.40	.84	1081	942.5	278.6	-25.7
95.00	5.29	0.00	5.3	.38	.83	1087	943.0	277.4	-27.0
95.50	5.60	0.00	5.6	.35	.80	1102	943.5	276.2	-28.2
96.00	5.20	0.00	5.2	.40	.83	1083	944.0	274.9	-29.5
96.50	5.12	0.00	5.1	.41	.84	1079	944.5	273.6	-30.8
97.00	5.79	0.00	5.8	.33	.79	1113	945.0	272.3	-32.1
97.50	6.85	0.00	6.8	.23	.72	1154	945.5	271.0	-33.4
98.00	5.34	0.00	5.3	.38	.82	1092	946.0	269.7	-34.7
98.50	4.41	0.00	4.4	.49	.89	1045	946.5	268.3	-36.1
99.00	3.43	0.00	3.4	.63	-18.00	980	946.9	266.9	-37.4
99.50	3.34	0.00	3.3	.64	.00	974	947.4	265.5	-38.8
39900.00	3.77	0.00	3.8	.56	-17.94	1012	947.8	264.1	-40.2
00.50	3.36	0.00	3.4	.62	.98	985	948.2	262.6	-41.6
01.00	4.11	0.00	4.1	.51	.90	1035	948.6	261.1	-43.0
01.50	3.92	0.00	3.9	.54	.92	1024	949.0	259.5	-44.5
02.00	4.17	0.00	4.2	.49	.88	1045	949.4	257.9	-45.9
02.50	3.61	0.00	3.6	.57	.94	1008	949.7	256.2	-47.3
03.00	3.46	0.00	3.5	.58	.94	1003	950.0	254.5	-48.8
03.50	3.64	0.00	3.6	.56	.92	1012	950.3	252.6	-50.2
04.00	3.93	0.00	3.9	.51	.88	1035	950.5	250.7	-51.7
04.50	4.18	0.00	4.2	.46	.85	1056	950.7	248.7	-53.2
05.00	4.42	0.00	4.4	.43	.82	1070	950.9	246.6	-54.7
05.50	4.20	0.00	4.2	.44	.83	1061	951.0	244.3	-56.1
06.00	3.82	0.00	3.8	.49	.87	1038	951.1	241.8	-57.6
06.50	4.73	0.00	4.7	.37	.78	1094	951.1	239.2	-59.1
07.00	4.75	0.00	4.7	.36	.77	1096	951.1	236.3	-60.5
07.50	4.35	0.00	4.3	.40	.80	1076	951.1	233.1	-61.9
08.00	4.17	0.00	4.2	.41	.80	1073	951.0	229.6	-63.4
08.50	4.31	0.00	4.3	.39	.78	1081	950.8	225.7	-64.7
09.00	4.32	0.00	4.3	.38	.78	1083	950.6	221.2	-66.1
09.50	4.31	0.00	4.3	.37	.77	1084	950.4	216.1	-67.4
10.00	4.35	0.00	4.4	.35	.76	1092	950.1	210.3	-68.6
10.50	4.60	0.00	4.6	.32	.73	1104	949.7	203.5	-69.7
11.00	4.69	0.00	4.7	.30	.72	1110	949.3	195.8	-70.7
11.50	4.98	0.00	5.0	.26	.69	1126	948.8	187.0	-71.5
12.00	5.23	0.00	5.2	.24	.67	1136	948.3	177.2	-72.1

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39912.50	5.49	0.00	5.5	-17.20	-17.65	1150	947.7	166.8	-72.5
13.00	5.63	0.00	5.6	.19	.64	1155	947.1	156.1	-72.7
13.50	5.84	0.00	5.8	.16	.62	1164	946.4	145.9	-72.6
14.00	6.24	0.00	6.2	.12	.59	1181	946.2	137.4	-72.4
39914.20	6.9	0.0	6.9	-17.06	-17.55	1206	945.9	134.3	-72.3
14.40	6.6	0.0	6.6	.08	.56	1196	945.5	131.2	-72.1
14.60	7.1	0.0	7.1	.04	.53	1213	945.2	128.3	-72.0
14.80	8.3	0.0	8.3	-16.95	.47	1250	944.9	125.5	-71.8
15.00	9.9	0.0	9.9	.86	.40	1291	944.6	122.8	-71.6
15.20	10.4	0.0	10.4	.83	.38	1302	944.2	120.2	-71.4
15.40	9.5	0.0	9.5	.88	.41	1282	943.9	117.8	-71.1
15.60	7.0	0.0	7.0	-17.04	.53	1211	943.5	115.4	-70.9
15.80	6.0	0.0	6.0	.12	.59	1176	943.1	113.2	-70.6
16.00	5.3	0.0	5.3	.18	.63	1147	942.8	111.0	-70.3
16.20	5.5	0.0	5.5	.16	.61	1156	942.4	108.9	-70.1
16.40	5.6	0.0	5.6	.14	.61	1161	942.0	107.0	-69.8
16.60	5.6	0.0	5.6	.14	.60	1161	941.6	105.1	-69.5
39917.00	6.35	0.00	6.3	-17.07	-17.56	1190	940.8	101.6	-68.8
17.50	6.53	0.00	6.5	.05	.54	1198	939.7	97.6	-68.0
18.00	6.44	0.00	6.4	.05	.54	1196	938.6	94.0	-67.1
18.50	6.62	0.00	6.6	.02	.53	1204	937.5	90.7	-66.1
19.00	7.19	-0.03	7.2	-16.97	.49	1226	936.3	87.8	-65.2
19.50	7.36	-0.06	7.3	.95	.48	1230	935.1	85.0	-64.2
20.00	7.45	-0.10	7.4	.94	.47	1235	933.9	82.4	-63.2
20.50	6.79	-0.13	6.7	.98	.50	1214	932.6	80.1	-62.2
21.00	6.09	-0.15	5.9	-17.04	.54	1186	931.3	77.8	-61.2
21.50	5.57	-0.18	5.4	.07	.57	1167	930.0	75.7	-60.1
22.00	5.38	-0.20	5.2	.09	.58	1160	928.6	73.7	-59.1
22.50	5.25	-0.22	5.0	.10	.59	1152	927.3	71.8	-58.1
23.00	5.14	-0.23	4.9	.10	.59	1149	925.9	70.0	-57.0
23.50	5.05	-0.24	4.8	.10	.59	1146	924.5	68.3	-56.0
24.00	4.93	-0.25	4.7	.10	.60	1142	923.1	66.6	-54.9
24.50	4.72	-0.26	4.5	.12	.61	1134	921.7	65.0	-53.9
25.00	4.74	-0.27	4.5	.11	.60	1135	920.3	63.4	-52.8
25.50	4.88	-0.28	4.6	.09	.59	1142	918.8	61.9	-51.8
26.00	4.98	-0.28	4.7	.06	.58	1148	917.4	60.4	-50.8
26.50	4.96	-0.29	4.7	.06	.58	1150	915.9	59.0	-49.7
27.00	5.02	-0.29	4.7	.05	.58	1151	914.5	57.6	-48.7
27.50	5.16	-0.29	4.9	.02	.56	1162	913.1	56.2	-47.7
28.00	5.14	-0.30	4.8	.02	.56	1159	911.6	54.8	-46.7
28.50	5.24	-0.30	4.9	.00	.55	1165	910.2	53.5	-45.7
29.00	5.30	-0.30	5.0	-16.98	.54	1170	908.7	52.2	-44.7
29.50	5.35	-0.31	5.0	.97	.54	1171	907.3	50.9	-43.7
30.00	5.65	-0.31	5.3	.93	.52	1186	905.9	49.7	-42.7
30.50	5.65	-0.31	5.3	.93	.52	1187	904.5	48.4	-41.8
31.00	5.35	-0.31	5.0	.95	.53	1174	903.1	47.2	-40.8
31.50	5.18	-0.31	4.9	.96	.54	1170	901.7	46.0	-39.9
32.00	5.21	-0.31	4.9	.95	.54	1171	900.4	44.8	-38.9
32.50	5.09	-0.31	4.8	.95	.55	1167	899.0	43.6	-38.0
33.00	5.14	-0.30	4.8	.95	.54	1167	897.7	42.4	-37.1
33.50	5.21	-0.30	4.9	.93	.54	1172	896.3	41.2	-36.2
34.00	5.31	-0.30	5.0	.91	.53	1178	895.0	40.1	-35.3
34.50	5.40	-0.30	5.1	.90	.52	1183	893.7	39.0	-34.4
35.00	5.58	-0.29	5.3	.87	.51	1191	891.9	37.8	-33.6
35.50	5.77	-0.29	5.5	.84	.49	1200	890.6	36.7	-32.7
36.00	5.87	-0.29	5.6	.83	.49	1204	889.3	35.6	-31.9
36.50	5.98	-0.29	5.7	.82	.48	1208	888.1	34.5	-31.0
37.00	6.09	-0.28	5.8	.80	.48	1212	886.9	33.3	-30.2

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39937.50	6.24	-0.28	6.0	-16.78	-17.46	1220	885.7	32.2	-29.4
38.00	6.37	-0.28	6.1	.77	.46	1224	884.5	31.2	-28.6
38.50	6.78	-0.27	6.5	.73	.44	1238	883.3	30.1	-27.8
39.00	7.88	-0.27	7.6	.64	.38	1274	882.1	29.0	-27.0
39.50	9.14	-0.26	8.9	.55	.32	1311	881.0	27.9	-26.3
40.00	8.94	-0.26	8.7	.56	.33	1305	879.9	26.8	-25.5
40.50	8.96	-0.25	8.7	.56	.33	1304	878.7	25.8	-24.8
41.00	8.93	-0.25	8.7	.55	.33	1303	877.6	24.7	-24.0
41.50	9.09	-0.24	8.9	.54	.33	1308	876.6	23.6	-23.3
42.00	9.29	-0.23	9.1	.53	.32	1312	875.5	22.6	-22.6
42.50	9.53	-0.23	9.3	.51	.31	1317	874.5	21.5	-21.9
43.00	9.71	-0.22	9.5	.50	.31	1321	873.4	20.5	-21.2
43.50	10.11	-0.22	9.9	.48	.29	1330	872.4	19.4	-20.5
44.00	10.27	-0.21	10.1	.47	.29	1333	871.5	18.4	-19.8
44.50	10.40	-0.20	10.2	.46	.29	1334	870.5	17.3	-19.2
45.00	10.50	-0.20	10.3	.45	.29	1335	869.6	16.3	-18.5
45.50	10.59	-0.19	10.4	.45	.28	1337	868.6	15.3	-17.9
46.00	10.62	-0.19	10.4	.45	.29	1335	867.7	14.2	-17.2
46.50	10.87	-0.18	10.7	.43	.28	1341	866.8	13.2	-16.6
47.00	11.33	-0.17	11.2	.41	.26	1350	866.0	12.2	-16.0
47.50	12.32	-0.17	12.1	.37	.23	1367	865.2	11.1	-15.3
48.00	9.67	-0.16	9.5	.49	.34	1309	864.3	10.1	-14.7
48.50	7.75	-0.15	7.6	.61	.43	1255	863.6	9.1	-14.1
49.00	7.96	-0.15	7.8	.60	.42	1260	862.8	8.1	-13.5
49.50	8.00	-0.14	7.9	.59	.42	1261	862.1	7.0	-12.9
50.00	8.45	-0.13	8.3	.57	.40	1271	861.3	6.0	-12.3
50.50	8.35	-0.13	8.2	.57	.41	1267	860.7	5.0	-11.8
51.00	8.22	-0.12	8.1	.58	.42	1262	860.0	4.0	-11.2
51.50	7.95	-0.12	7.8	.60	.44	1252	859.4	3.0	-10.6
52.00	8.20	-0.11	8.1	.59	.43	1259	858.7	1.9	-10.0
52.50	8.69	-0.10	8.6	.55	.41	1272	858.1	0.9	-9.5
53.00	7.72	-0.10	7.6	.62	.46	1241	857.6	359.9	-8.9
53.50	5.99	-0.09	5.9	.77	.56	1181	857.1	358.9	-8.3
54.00	5.29	-0.08	5.2	.85	.61	1149	856.6	357.9	-7.8
54.50	4.89	-0.07	4.8	.90	.64	1129	856.2	356.8	-7.2
55.00	4.83	-0.06	4.8	.90	.64	1127	855.8	355.8	-6.6
55.50	4.81	-0.06	4.8	.91	.65	1125	855.4	354.8	-6.1
56.00	4.87	-0.05	4.8	.91	.65	1124	855.0	353.8	-5.5
56.50	4.94	-0.04	4.9	.90	.65	1127	854.6	352.8	-5.0
57.00	5.34	-0.04	5.3	.86	.63	1144	854.2	351.8	-4.4
57.50	5.72	-0.03	5.7	.82	.61	1159	853.9	350.7	-3.8
58.00	5.76	-0.02	5.7	.82	.61	1157	853.6	349.7	-3.3
58.50	6.22	-0.02	6.2	.78	.58	1175	853.3	348.7	-2.7
59.00	6.48	-0.01	6.5	.75	.57	1184	853.0	347.7	-2.1
59.50	6.70	0.00	6.7	.74	.57	1189	852.8	346.6	-1.6
60.00	6.56	0.01	6.6	.75	.58	1184	852.5	345.6	-1.0
60.50	6.35	0.01	6.4	.78	.59	1175	852.3	344.6	-0.4
61.00	6.16	0.02	6.2	.80	.61	1166	852.1	343.6	0.2
61.50	5.68	0.03	5.7	.86	.65	1144	851.9	342.5	0.8
62.00	5.66	0.04	5.7	.86	.65	1142	851.8	341.5	1.4
62.50	5.69	0.04	5.7	.87	.66	1140	851.6	340.5	2.0
63.00	5.61	0.05	5.7	.87	.66	1138	851.5	339.4	2.6
63.50	5.51	0.06	5.6	.89	.67	1132	851.4	338.4	3.2
64.00	5.10	0.06	5.2	.94	.71	1113	851.3	337.3	3.9
64.50	5.20	0.07	5.3	.93	.71	1115	851.2	336.3	4.5
65.00	4.58	0.08	4.7	-17.02	.76	1085	851.2	335.2	5.1
65.50	4.09	0.09	4.2	.09	.80	1056	851.1	334.2	5.8
66.00	3.77	0.10	3.9	.15	.84	1036	851.1	333.1	6.5
66.50	3.79	0.10	3.9	.15	.84	1034	851.1	332.1	7.1
67.00	4.06	0.11	4.2	.11	.82	1050	851.2	331.0	7.8

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39967.50	4.41	0.11	4.5	-17.08	-17.80	1064	851.3	330.0	8.5
68.00	4.44	0.12	4.6	.07	.80	1068	851.4	328.9	9.2
68.50	4.81	0.13	4.9	.04	.78	1081	851.5	327.8	10.0
69.00	4.79	0.14	4.9	.04	.79	1079	851.6	326.7	10.7
69.50	4.83	0.14	5.0	.04	.79	1083	852.7	325.6	11.8
70.00	4.87	0.15	5.0	.05	.79	1081	852.9	324.5	12.5
70.50	4.87	0.16	5.0	.05	.80	1079	853.2	323.4	13.2
71.00	4.77	0.17	4.9	.07	.81	1073	853.5	322.3	13.9
71.50	4.68	0.17	4.9	.08	.82	1071	853.8	321.3	14.7
72.00	4.59	0.18	4.8	.10	.83	1064	854.2	320.2	15.4
72.50	4.80	0.19	5.0	.08	.82	1072	854.6	319.1	16.1
73.00	5.26	0.19	5.4	.04	.80	1089	855.0	318.0	16.8
73.50	5.29	0.20	5.5	.04	.80	1092	855.4	316.9	17.6
74.00	4.67	0.20	4.9	.12	.84	1063	855.8	315.8	18.3
74.50	4.30	0.20	4.5	.18	.88	1041	856.3	314.6	19.1
75.00	4.14	0.20	4.3	.22	.90	1028	856.7	313.5	19.8
75.50	4.20	0.21	4.4	.21	.90	1032	857.2	312.4	20.6
76.00	4.21	0.21	4.4	.22	.90	1031	857.7	311.3	21.4
76.50	4.07	0.21	4.3	.24	.92	1024	858.2	310.1	22.1
77.00	4.02	0.21	4.2	.26	.93	1017	858.7	309.0	22.9
77.50	4.11	0.22	4.3	.25	.93	1021	859.2	307.8	23.7
78.00	4.73	0.21	4.9	.18	.88	1051	859.7	306.7	24.5
78.50	4.93	0.21	5.1	.16	.87	1060	860.2	305.5	25.3
79.00	4.79	0.21	5.0	.17	.88	1054	860.8	304.3	26.1
79.50	4.62	0.21	4.8	.21	.90	1043	861.3	303.1	26.9
80.00	4.42	0.21	4.6	.24	.92	1032	861.8	301.9	27.7
80.50	4.32	0.20	4.5	.26	.93	1025	862.4	300.7	28.5
81.00	4.16	0.20	4.4	.28	.94	1019	862.9	299.5	29.3
81.50	4.14	0.19	4.3	.30	.96	1013	863.4	298.3	30.1
82.00	4.17	0.19	4.4	.29	.95	1017	864.0	297.0	30.9
82.50	4.30	0.18	4.5	.28	.94	1022	864.5	295.8	31.7
39982.80	4.5	0.2	4.7	-17.26	-17.93	1032	864.8	295.0	32.2
83.00	5.1	0.2	5.2	.19	.89	1056	865.1	294.5	32.5
83.20	6.4	0.2	6.5	.05	.81	1109	865.3	294.0	32.9
83.40	8.9	0.1	9.0	-16.84	.68	1186	865.5	293.5	33.2
83.60	9.4	0.1	9.6	.80	.65	1200	865.7	293.0	33.5
83.80	7.6	0.1	7.7	.94	.74	1149	865.9	292.4	33.9
84.00	6.4	0.1	6.5	-17.05	.81	1109	866.1	291.9	34.2
84.20	5.6	0.1	5.7	.14	.86	1077	866.3	291.4	34.5
84.40	4.8	0.1	4.9	.24	.92	1041	866.5	290.9	34.9
84.60	4.9	0.1	5.0	.23	.91	1045	866.8	290.3	35.2
84.80	4.9	0.0	5.0	.23	.91	1045	867.0	289.8	35.5
39985.00	5.09	0.02	5.1	-17.22	-17.91	1050	867.2	289.3	35.9
85.50	5.35	0.00	5.4	.19	.89	1063	867.7	287.9	36.7
86.00	5.45	0.00	5.4	.19	.89	1063	868.2	286.5	37.5
86.50	4.97	0.00	5.0	.24	.92	1044	868.7	285.1	38.4
87.00	4.94	0.00	4.9	.26	.93	1039	869.2	283.7	39.2
87.50	4.97	0.00	5.0	.25	.92	1044	869.7	282.2	40.1
88.00	5.12	0.00	5.1	.24	.91	1049	870.1	280.7	40.9
88.50	5.11	0.00	5.1	.24	.92	1049	870.6	279.2	41.8
89.00	4.26	0.00	4.3	.35	.98	1008	871.1	277.7	42.6
89.50	4.06	0.00	4.1	.39	-18.00	997	871.5	276.0	43.5
90.00	4.16	0.00	4.2	.37	-17.99	1003	871.9	274.4	44.4
90.50	4.17	0.00	4.2	.37	.99	1004	872.3	272.7	45.2
91.00	4.19	0.00	4.2	.37	.99	1004	872.7	270.9	46.1
91.50	4.20	0.00	4.2	.37	.99	1005	873.1	269.1	46.9
92.00	4.11	0.00	4.1	.39	-18.00	1000	873.5	267.2	47.8
92.50	4.49	0.00	4.5	.33	-17.96	1023	873.9	265.2	48.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39993.00	4.57	0.00	4.6	-17.31	-17.95	1029	874.2	263.1	49.5
93.50	4.62	0.00	4.6	.31	.95	1030	874.5	260.9	50.4
94.00	4.81	0.00	4.8	.28	.93	1041	874.8	258.5	51.2
94.50	4.83	0.00	4.8	.28	.93	1042	875.1	256.1	52.0
95.00	5.23	0.00	5.2	.22	.90	1063	875.4	253.4	52.9
95.50	5.20	0.00	5.2	.22	.90	1064	875.6	250.6	53.7
96.00	5.18	0.00	5.2	.22	.90	1065	875.8	247.5	54.5
96.50	5.61	0.00	5.6	.17	.87	1084	876.0	244.2	55.3
97.00	5.94	0.00	5.9	.13	.84	1098	876.2	240.6	56.0
97.50	6.14	0.00	6.1	.11	.83	1107	876.4	236.7	56.8
98.00	6.22	0.00	6.2	.09	.82	1111	876.5	232.3	57.5
98.50	5.85	0.00	5.9	.13	.84	1100	876.6	227.5	58.1
99.00	5.68	0.00	5.7	.15	.85	1092	876.7	222.2	58.7
99.50	6.25	0.00	6.2	.09	.82	1113	876.7	216.3	59.3
40000.00	5.97	0.00	6.0	.11	.83	1105	876.8	209.8	59.7
00.50	6.02	0.00	6.0	.11	.83	1105	876.7	202.7	60.0
01.00	5.68	0.00	5.7	.15	.86	1092	876.7	195.0	60.3
01.50	5.56	0.00	5.6	.16	.86	1087	876.6	187.0	60.4
02.00	5.57	0.00	5.6	.17	.86	1086	876.6	178.8	60.4
02.50	5.48	0.00	5.5	.18	.87	1081	876.4	170.5	60.2
03.00	5.38	0.00	5.4	.19	.88	1076	876.3	162.5	59.9
03.50	5.46	0.00	5.5	.18	.87	1080	876.1	155.0	59.5
04.00	5.63	0.00	5.6	.17	.87	1084	875.8	147.9	59.0
04.50	5.82	0.00	5.8	.15	.86	1092	875.6	141.5	58.4
05.00	5.92	0.00	5.9	.13	.85	1096	875.3	135.7	57.7
05.50	6.17	0.00	6.2	.10	.83	1107	874.9	130.4	57.0
06.00	6.34	0.00	6.3	.09	.83	1111	874.5	125.7	56.2
06.50	5.93	0.00	5.9	.13	.85	1094	874.1	121.4	55.4
07.00	5.65	0.00	5.7	.15	.87	1086	873.6	117.5	54.5
07.50	5.37	0.00	5.4	.19	.89	1073	873.1	113.9	53.7
08.00	5.32	0.00	5.3	.20	.89	1068	872.6	110.7	52.8
08.50	5.43	0.00	5.4	.18	.89	1073	872.1	107.6	51.9
09.00	6.02	0.00	6.0	.11	.85	1098	871.5	104.8	50.9
09.50	5.96	0.00	6.0	.11	.84	1098	870.9	102.2	50.0
10.00	5.86	0.00	5.9	.12	.85	1094	870.3	99.7	49.0
10.50	5.69	0.00	5.7	.14	.86	1086	869.7	97.3	48.1
11.00	5.64	0.00	5.6	.15	.87	1082	869.0	95.1	47.1
11.50	5.26	0.00	5.3	.18	.89	1069	868.4	93.0	46.2
12.00	4.81	0.00	4.8	.24	.93	1046	867.7	91.0	45.2
12.50	4.65	0.00	4.6	.27	.94	1035	867.0	89.0	44.3
13.00	4.57	0.00	4.6	.26	.94	1036	866.3	87.2	43.3
13.50	4.60	0.00	4.6	.26	.94	1036	865.6	85.4	42.3
14.00	4.88	0.00	4.9	.21	.92	1052	864.9	83.6	41.4
14.50	5.02	0.00	5.0	.20	.91	1057	864.2	81.9	40.4
15.00	6.14	0.01	6.1	.06	.83	1106	863.5	80.3	39.4
15.50	5.38	0.01	5.4	.13	.88	1077	862.8	78.6	38.5
16.00	6.07	0.00	6.1	.05	.83	1106	862.0	77.1	37.5
16.50	5.62	-0.03	5.6	.10	.86	1086	861.3	75.5	36.6
17.00	5.40	-0.09	5.3	.13	.88	1074	860.6	74.0	35.6
17.50	6.21	-0.13	6.1	.03	.82	1108	859.9	72.6	34.7
40017.80	7.1	-0.1	7.0	-16.94	-17.77	1141	859.5	71.7	34.1
18.00	9.5	-0.2	9.3	.75	.65	1210	859.2	71.1	33.7
18.20	9.8	-0.2	9.7	.72	.63	1220	858.9	70.5	33.3
18.40	8.8	-0.2	8.6	.80	.68	1191	858.6	70.0	33.0
18.60	7.2	-0.2	7.0	.93	.77	1142	858.3	69.4	32.6
18.80	6.8	-0.2	6.6	.97	.79	1128	858.0	68.8	32.2
19.00	6.7	-0.2	6.5	.98	.79	1125	857.8	68.3	31.8
19.20	6.5	-0.2	6.4	.98	.80	1121	857.5	67.7	31.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40019.50	6.45	-0.19	6.3	-16.99	-17.80	1118	857.1	66.9	30.9
20.00	6.56	-0.19	6.4	.98	.80	1122	856.4	65.5	30.0
20.50	6.54	-0.19	6.3	.98	.80	1119	855.7	64.2	29.0
21.00	5.78	-0.19	5.6	-17.06	.85	1091	855.0	62.9	28.1
21.50	5.34	-0.19	5.1	.12	.88	1068	854.3	61.6	27.2
22.00	4.77	-0.19	4.6	.19	.92	1043	853.7	60.3	26.3
22.50	5.04	-0.19	4.8	.15	.90	1054	853.0	59.0	25.3
23.00	5.05	-0.19	4.9	.13	.89	1059	852.4	57.7	24.4
23.50	5.13	-0.19	4.9	.13	.89	1060	851.8	56.4	23.5
24.00	5.43	-0.18	5.2	.08	.86	1074	851.2	55.2	22.6
24.50	5.82	-0.18	5.6	.03	.83	1093	850.6	53.9	21.7
25.00	5.70	-0.18	5.5	.04	.84	1089	850.0	52.7	20.8
25.50	5.35	-0.17	5.2	.07	.85	1075	849.4	51.5	20.0
26.00	5.15	-0.17	5.0	.09	.87	1066	848.8	50.2	19.1
26.50	5.07	-0.16	4.9	.10	.87	1061	848.3	49.0	18.2
27.00	4.87	-0.16	4.7	.13	.88	1051	847.7	47.8	17.3
27.50	4.70	-0.16	4.5	.16	.90	1040	847.2	46.6	16.4
28.00	4.62	-0.15	4.5	.15	.89	1040	846.7	45.4	15.6
28.50	4.64	-0.15	4.5	.15	.89	1040	846.2	44.3	14.7
29.00	4.79	-0.14	4.6	.13	.88	1046	845.7	43.1	13.9
29.50	4.87	-0.13	4.7	.11	.87	1051	845.2	41.9	13.0
30.00	5.04	-0.13	4.9	.08	.85	1061	844.8	40.7	12.2
30.50	4.91	-0.12	4.8	.09	.85	1056	844.4	39.6	11.3
31.00	4.84	-0.12	4.7	.10	.86	1051	843.9	38.4	10.5
31.50	4.77	-0.11	4.7	.10	.85	1050	843.5	37.3	9.7
32.00	4.70	-0.10	4.6	.11	.86	1045	843.1	36.1	8.8
32.50	4.72	-0.10	4.6	.11	.86	1045	842.8	35.0	8.0
33.00	4.73	-0.09	4.6	.11	.85	1044	842.4	33.8	7.2
33.50	4.83	-0.08	4.7	.09	.84	1049	842.1	32.7	6.4
34.00	4.88	-0.07	4.8	.07	.83	1054	841.7	31.5	5.6
34.50	4.90	-0.07	4.8	.07	.82	1054	841.4	30.4	4.8
35.00	4.86	-0.06	4.8	.07	.82	1053	841.2	29.3	4.0
35.50	4.81	-0.05	4.8	.07	.82	1053	840.9	28.1	3.2
36.00	4.78	-0.05	4.7	.08	.82	1047	840.6	27.0	2.4
36.50	4.79	-0.04	4.8	.06	.81	1052	840.4	25.9	1.6
37.00	4.97	-0.03	4.9	.05	.80	1057	840.2	24.8	0.8
37.50	4.83	-0.02	4.8	.06	.80	1051	840.0	23.7	0.0
38.00	4.69	-0.01	4.7	.07	.80	1045	839.8	22.5	-0.8
38.50	4.57	0.00	4.6	.08	.81	1038	839.7	21.4	-1.5
39.00	4.45	0.00	4.5	.10	.81	1032	839.5	20.3	-2.3
39.50	4.21	0.01	4.2	.14	.83	1014	839.4	19.2	-3.1
40.00	4.09	0.02	4.1	.16	.84	1007	839.3	18.1	-3.9
40.50	3.82	0.03	3.8	.20	.86	986	839.2	17.0	-4.7
41.00	3.70	0.03	3.7	.22	.86	978	839.2	15.9	-5.4
41.50	3.60	0.04	3.6	.23	.87	970	839.2	14.8	-6.2
42.00	3.52	0.05	3.6	.23	.87	969	839.2	13.7	-7.0
42.50	3.45	0.06	3.5	.25	.87	961	839.2	12.6	-7.7
43.00	3.22	0.06	3.3	.28	.89	944	839.3	11.5	-8.5
43.50	3.04	0.07	3.1	.32	.91	927	839.3	10.4	-9.3
44.00	3.04	0.08	3.1	.32	.91	925	839.4	9.3	-10.1
44.50	3.11	0.09	3.2	.29	.89	933	839.6	8.2	-10.8
45.00	3.18	0.10	3.3	.27	.87	940	839.8	7.1	-11.6
45.50	3.02	0.10	3.1	.31	.89	922	840.0	6.0	-12.4
46.00	3.11	0.11	3.2	.29	.88	930	841.2	5.0	-12.6
46.50	3.35	0.12	3.5	.24	.84	952	841.5	3.9	-13.4
47.00	3.66	0.13	3.8	.19	.80	972	841.8	2.8	-14.3
47.50	3.87	0.13	4.0	.16	.77	984	842.2	1.6	-15.1
48.00	3.96	0.14	4.1	.14	.76	989	842.6	0.5	-16.0
48.50	3.87	0.15	4.0	.16	.76	981	843.0	359.4	-16.9
49.00	3.70	0.16	3.9	.17	.77	973	843.4	358.3	-17.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40049.50	3.63	0.16	3.8	-17.19	-17.77	965	843.9	357.2	-18.6
50.00	3.59	0.17	3.8	.18	.77	963	844.4	356.1	-19.5
50.50	3.70	0.18	3.9	.17	.75	968	845.0	355.0	-20.3
51.00	4.77	0.19	5.0	.03	.65	1031	845.5	353.9	-21.2
51.50	4.20	0.19	4.4	.10	.69	996	846.1	352.8	-22.0
52.00	3.88	0.20	4.1	.14	.72	976	846.7	351.7	-22.9
52.50	3.73	0.20	3.9	.17	.73	962	847.4	350.6	-23.7
53.00	3.63	0.21	3.8	.18	.74	953	848.0	349.5	-24.5
53.50	3.45	0.21	3.7	.19	.74	944	848.7	348.4	-25.3
54.00	3.41	0.22	3.6	.21	.75	936	849.4	347.3	-26.1
54.50	3.44	0.22	3.7	.19	.73	941	850.1	346.2	-26.9
55.00	3.60	0.23	3.8	.18	.72	947	850.8	345.2	-27.6
55.50	3.85	0.23	4.1	.14	.68	965	851.5	344.1	-28.4
56.00	4.33	0.24	4.6	.08	.63	993	852.3	343.0	-29.1
56.50	3.87	0.24	4.1	.14	.68	961	853.1	341.9	-29.9
57.00	3.42	0.24	3.7	.19	.71	933	853.9	340.8	-30.6
57.50	3.29	0.25	3.5	.22	.73	917	854.6	339.7	-31.3
58.00	3.23	0.25	3.5	.22	.73	916	855.5	338.7	-32.0
58.50	3.26	0.25	3.5	.22	.73	914	856.3	337.6	-32.7
59.00	3.46	0.25	3.7	.19	.70	927	857.1	336.5	-33.4
59.50	3.89	0.26	4.1	.14	.66	952	858.0	335.4	-34.1
60.00	4.04	0.26	4.3	.12	.63	963	858.8	334.4	-34.7
60.50	3.48	0.26	3.7	.19	.69	922	859.7	333.3	-35.4
61.00	3.28	0.27	3.5	.22	.72	907	860.6	332.2	-36.1
61.50	3.20	0.27	3.5	.22	.71	905	861.5	331.1	-36.7
62.00	3.08	0.27	3.4	.23	.72	896	862.4	330.1	-37.4
62.50	3.11	0.27	3.4	.23	.72	895	863.3	329.0	-38.0
63.00	3.12	0.27	3.4	.23	.72	893	864.2	327.9	-38.7
63.50	3.21	0.27	3.5	.22	.70	899	865.2	326.8	-39.3
64.00	3.40	0.27	3.7	.19	.68	912	866.1	325.8	-40.0
64.50	3.28	0.27	3.6	.20	.69	903	867.1	324.7	-40.7
65.00	3.17	0.27	3.4	.23	.71	887	868.1	323.6	-41.4
65.50	3.01	0.27	3.3	.24	.72	878	869.1	322.5	-42.0
66.00	2.89	0.27	3.2	.26	.74	869	870.2	321.4	-42.7
66.50	2.86	0.27	3.1	.27	.75	859	871.2	320.3	-43.4
67.00	2.73	0.27	3.0	.29	.76	850	872.3	319.2	-44.2
67.50	2.68	0.26	2.9	.30	.78	840	873.3	318.1	-44.9
68.00	2.70	0.26	3.0	.29	.76	847	874.4	317.0	-45.7
68.50	2.67	0.26	2.9	.30	.77	837	875.6	315.9	-46.5
69.00	2.63	0.25	2.9	.30	.77	836	876.7	314.8	-47.3
69.50	2.59	0.25	2.8	.32	.79	825	877.8	313.6	-48.1
70.00	2.53	0.25	2.8	.32	.79	824	879.0	312.5	-48.9
70.50	2.47	0.25	2.7	.33	.80	814	880.2	311.4	-49.8
71.00	2.62	0.24	2.9	.30	.76	830	881.4	310.2	-50.7
71.50	2.82	0.24	3.1	.27	.73	846	882.7	309.0	-51.6
72.00	2.89	0.24	3.1	.27	.73	844	883.9	307.9	-52.6
72.50	2.85	0.23	3.1	.27	.72	843	885.2	306.7	-53.6
73.00	2.82	0.23	3.1	.27	.72	842	886.5	305.4	-54.6
73.50	2.82	0.22	3.0	.28	.73	833	887.8	304.2	-55.7
74.00	2.87	0.22	3.1	.27	.71	840	889.2	303.0	-56.8
74.50	2.96	0.21	3.2	.26	.70	847	890.5	301.7	-58.0
75.00	2.87	0.20	3.1	.27	.71	838	891.9	300.4	-59.2
75.50	2.86	0.20	3.1	.27	.70	837	893.3	299.1	-60.4
76.00	2.88	0.19	3.1	.27	.70	836	894.7	297.7	-61.7
76.50	3.05	0.19	3.2	.25	.68	843	896.1	296.3	-63.0
77.00	2.97	0.18	3.2	.25	.68	843	897.5	294.9	-64.3
77.50	2.88	0.17	3.1	.26	.69	835	898.9	293.4	-65.7
78.00	2.85	0.16	3.0	.27	.70	826	900.3	291.9	-67.2
78.50	2.85	0.16	3.0	.27	.70	826	901.7	290.3	-68.7
79.00	2.88	0.15	3.0	.27	.69	826	903.1	288.6	-70.2

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40079.50	2.91	0.14	3.0	-17.27	-17.69	827	904.5	286.9	-71.8
80.00	2.92	0.13	3.0	.27	.68	827	905.9	285.0	-73.4
80.50	2.92	0.12	3.0	.26	.68	828	907.2	283.0	-75.0
81.00	2.94	0.11	3.1	.25	.65	837	908.5	280.9	-76.7
81.50	3.08	0.10	3.2	.23	.63	846	909.8	278.5	-78.4
82.00	3.57	0.09	3.7	.17	.55	884	911.0	276.0	-80.2
82.50	3.84	0.08	3.9	.14	.52	900	912.2	273.1	-81.9
83.00	4.20	0.07	4.3	.10	.47	927	913.3	269.8	-83.7
83.50	4.27	0.06	4.3	.10	.47	930	914.3	266.0	-85.5
84.00	4.17	0.05	4.2	.10	.47	927	915.2	261.4	-87.2
84.50	4.25	0.04	4.3	.09	.46	936	916.0	255.9	-89.0
85.00	4.31	0.02	4.3	.09	.45	939	916.7	249.0	-90.6
85.50	3.80	0.01	3.8	.13	.50	912	917.3	240.3	-92.0
86.00	3.66	0.00	3.7	.14	.51	908	917.8	229.1	-93.2
86.50	3.62	0.00	3.6	.26	.64	917	918.4	212.4	-94.2
87.00	3.57	0.00	3.6	.26	.64	921	918.7	196.2	-94.3
87.50	3.44	0.00	3.4	.29	.67	910	918.9	179.9	-93.8
88.00	3.36	0.00	3.4	.29	.67	918	919.0	165.5	-92.8
88.50	3.28	0.00	3.3	.31	.68	916	919.0	153.7	-91.3
89.00	3.18	0.00	3.2	.32	.70	909	918.9	144.5	-89.6
89.50	3.11	0.00	3.1	.34	.72	905	918.7	137.2	-87.6
90.00	3.07	0.00	3.1	.34	.72	909	918.4	131.3	-85.5
90.50	3.08	0.00	3.1	.34	.72	911	917.9	126.6	-83.3
91.00	3.07	0.00	3.1	.34	.72	906	917.4	122.5	-81.1
91.50	3.11	0.00	3.1	.34	.72	904	916.8	119.1	-78.8
92.00	3.82	0.00	3.8	.25	.64	954	916.1	116.1	-76.6
92.50	3.68	0.00	3.7	.26	.65	944	915.4	113.4	-74.3
93.00	3.16	0.00	3.2	.32	.71	919	914.5	111.0	-72.1
93.50	3.04	0.00	3.0	.34	.74	919	913.6	108.8	-69.8
94.00	2.95	0.00	2.9	.36	.75	915	912.7	106.8	-67.6
94.50	2.95	0.00	3.0	.34	.74	924	911.7	104.8	-65.4
95.00	2.95	0.00	2.9	.35	.75	918	910.6	103.0	-63.3
95.50	2.87	0.00	2.9	.35	.75	922	909.5	101.3	-61.2
96.00	2.83	0.00	2.8	.36	.77	918	908.4	99.7	-59.1
96.50	2.84	0.00	2.8	.36	.77	923	907.2	98.2	-57.0
97.00	2.89	0.00	2.9	.34	.75	936	906.0	96.7	-55.0
97.50	2.88	0.00	2.9	.33	.75	941	904.8	95.2	-53.0
98.00	2.95	0.00	2.9	.33	.75	945	903.6	93.8	-51.1
98.50	3.12	0.00	3.1	.30	.72	964	902.4	92.5	-49.2
99.00	3.39	0.00	3.4	.25	.68	987	901.2	91.1	-47.4
99.50	3.90	0.00	3.9	.18	.63	1010	900.0	89.8	-45.6
40100.00	4.41	0.00	4.4	.12	.58	1034	898.7	88.5	-43.8
00.50	3.97	0.00	4.0	.16	.62	1018	897.5	87.3	-42.1
01.00	3.95	0.00	4.0	.16	.62	1028	896.3	86.1	-40.4
01.50	4.02	0.00	4.0	.15	.62	1029	895.1	84.9	-38.8
02.00	4.22	0.00	4.2	.12	.61	1037	893.9	83.7	-37.2
02.50	4.54	0.00	4.5	.08	.58	1053	892.8	82.5	-35.7
03.00	4.50	0.00	4.5	.07	.59	1053	891.6	81.3	-34.1
03.50	4.51	0.00	4.5	.06	.59	1055	890.5	80.2	-32.7
04.00	4.59	0.00	4.6	.04	.58	1067	889.4	79.0	-31.2
04.50	4.50	0.00	4.5	.04	.59	1065	888.3	77.9	-29.9
05.00	4.50	0.00	4.5	.03	.59	1066	887.2	76.8	-28.5
05.50	4.86	0.00	4.9	-16.99	.56	1085	886.2	75.7	-27.2
06.00	5.15	0.00	5.1	.97	.54	1092	885.1	74.6	-25.9
06.50	6.05	0.00	6.0	.89	.47	1127	884.1	73.5	-24.6
07.00	7.49	0.00	7.5	.78	.38	1168	883.2	72.4	-23.4
07.50	7.76	0.00	7.8	.75	.38	1170	882.2	71.4	-22.2
08.00	6.42	0.00	6.4	.83	.46	1138	881.3	70.3	-21.0
08.50	6.01	0.00	6.0	.85	.48	1135	880.4	69.3	-19.9
09.00	5.87	0.00	5.9	.85	.49	1136	879.5	68.2	-18.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40109.50	5.88	0.00	5.9	-16.85	-17.49	1140	878.6	67.1	-17.6
10.00	5.87	-0.01	5.9	.84	.49	1143	877.8	66.1	-16.5
10.50	6.30	-0.02	6.3	.81	.46	1159	876.9	65.1	-15.5
11.00	6.87	-0.03	6.8	.77	.43	1176	876.2	64.0	-14.4
11.50	7.38	-0.03	7.4	.72	.40	1185	875.4	63.0	-13.4
12.00	8.16	-0.04	8.1	.67	.37	1195	874.6	62.0	-12.4
12.50	8.82	-0.04	8.8	.62	.35	1209	873.9	60.9	-11.4
13.00	8.40	-0.04	8.4	.64	.37	1201	873.2	59.9	-10.4
13.50	7.81	-0.05	7.8	.67	.40	1188	872.5	58.9	-9.4
14.00	7.51	-0.05	7.5	.68	.41	1182	871.8	57.8	-8.4
14.50	7.34	-0.05	7.3	.69	.42	1178	871.2	56.8	-7.4
15.00	7.43	-0.05	7.4	.69	.41	1181	870.5	55.8	-6.4
15.50	6.88	-0.04	6.8	.73	.44	1168	869.9	54.8	-5.4
16.00	6.35	-0.04	6.3	.77	.47	1157	869.3	53.8	-4.5
16.50	5.74	-0.04	5.7	.81	.51	1139	868.7	52.7	-3.5
17.00	5.75	-0.04	5.7	.81	.50	1143	868.0	51.7	-2.5
17.50	5.83	-0.03	5.8	.80	.49	1148	867.4	50.7	-1.5
18.00	6.22	-0.03	6.2	.76	.48	1155	864.4	49.7	-1.0
18.50	6.55	-0.02	6.5	.74	.46	1159	864.4	48.8	-0.5
19.00	6.01	-0.02	6.0	.77	.49	1145	864.5	47.8	0.1
19.50	5.73	-0.01	5.7	.80	.51	1141	864.7	46.9	0.6
20.00	5.78	-0.01	5.8	.79	.50	1144	864.9	45.9	1.1
20.50	5.85	0.00	5.8	.78	.51	1139	865.1	45.0	1.6
21.00	5.98	0.00	6.0	.76	.50	1146	865.4	44.0	2.1
21.50	6.08	0.01	6.1	.75	.49	1152	865.7	43.1	2.6
22.00	6.29	0.01	6.3	.74	.48	1155	866.0	42.1	3.1
22.50	6.24	0.02	6.3	.73	.49	1150	866.3	41.2	3.6
23.00	6.29	0.02	6.3	.74	.48	1156	866.6	40.2	4.1
23.50	6.18	0.03	6.2	.76	.47	1161	866.9	39.2	4.6
24.00	5.90	0.03	5.9	.78	.50	1153	867.2	38.3	5.2
24.50	6.01	0.02	6.0	.76	.50	1158	867.5	37.3	5.7
25.00	6.18	0.02	6.2	.74	.49	1166	867.8	36.4	6.3
25.50	6.44	0.02	6.5	.71	.48	1175	868.0	35.4	6.9
26.00	6.83	0.02	6.9	.69	.45	1188	868.2	34.4	7.5
26.50	7.16	0.02	7.2	.67	.43	1197	868.4	33.4	8.2
27.00	7.47	0.02	7.5	.65	.42	1203	868.6	32.4	8.8
27.50	7.74	0.03	7.8	.63	.41	1206	868.7	31.5	9.5
28.00	7.99	0.03	8.0	.62	.40	1206	868.8	30.5	10.2
28.50	8.19	0.04	8.2	.61	.39	1211	868.9	29.5	11.0
29.00	8.39	0.04	8.4	.61	.38	1216	868.9	28.5	11.8
29.50	8.60	0.04	8.6	.60	.36	1220	869.0	27.5	12.6
30.00	8.96	0.05	9.0	.58	.35	1222	869.0	26.5	13.4
30.50	9.43	0.05	9.5	.56	.33	1226	869.0	25.4	14.3
31.00	9.28	0.06	9.3	.57	.34	1219	868.9	24.4	15.2
31.50	9.76	0.07	9.8	.55	.32	1219	868.9	23.4	16.1
32.00	10.08	0.07	10.1	.54	.31	1222	868.8	22.4	17.0
32.50	8.67	0.08	8.7	.61	.37	1197	868.7	21.3	18.0
33.00	8.08	0.08	8.2	.65	.39	1194	868.6	20.3	19.0
33.50	7.78	0.09	7.9	.67	.40	1193	868.5	19.2	20.0
34.00	7.31	0.09	7.4	.70	.43	1179	868.4	18.2	21.1
34.50	6.54	0.10	6.6	.75	.49	1156	868.3	17.1	22.2
35.00	6.82	0.10	6.9	.74	.47	1163	868.2	16.0	23.3
35.50	7.44	0.11	7.6	.70	.43	1176	868.2	15.0	24.4
36.00	7.53	0.11	7.6	.70	.44	1169	868.1	13.9	25.5
36.50	7.65	0.12	7.8	.69	.43	1172	869.3	12.8	26.7
37.00	8.51	0.13	8.6	.65	.39	1185	869.2	11.7	27.9
37.50	8.58	0.13	8.7	.65	.39	1186	869.2	10.6	29.1
38.00	7.31	0.14	7.4	.73	.45	1155	869.2	9.5	30.3
38.50	6.57	0.15	6.7	.78	.50	1132	869.2	8.4	31.5
39.00	6.86	0.15	7.0	.77	.48	1138	869.3	7.3	32.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40139.50	7.16	0.16	7.3	-16.76	-17.46	1143	869.3	6.2	34.0
40.00	7.22	0.16	7.4	.77	.44	1147	869.4	5.0	35.2
40.50	7.58	0.17	7.7	.76	.42	1153	869.6	3.9	36.5
41.00	8.42	0.17	8.6	.71	.39	1164	869.7	2.8	37.7
41.50	8.90	0.18	9.1	.68	.38	1160	869.9	1.6	39.0
42.00	10.18	0.18	10.4	.63	.33	1176	870.1	0.5	40.2
42.50	9.07	0.19	9.3	.68	.38	1154	870.4	359.3	41.5
43.00	7.07	0.19	7.3	.80	.48	1107	870.7	358.2	42.7
43.50	6.24	0.20	6.4	.87	.52	1081	871.0	357.0	43.9
44.00	6.58	0.20	6.8	.86	.49	1094	871.4	355.8	45.2
44.50	6.78	0.21	7.0	.85	.48	1100	871.9	354.6	46.4
45.00	6.81	0.21	7.0	.86	.47	1101	872.3	353.5	47.6
45.50	6.91	0.21	7.1	.86	.47	1100	872.8	352.3	48.8
46.00	6.91	0.21	7.1	.86	.48	1094	873.4	351.1	50.0
46.50	6.91	0.22	7.1	.87	.48	1089	874.0	349.9	51.1
47.00	7.05	0.22	7.3	.86	.47	1090	874.6	348.7	52.3
47.50	7.02	0.22	7.2	.87	.48	1085	875.3	347.5	53.4
48.00	7.07	0.22	7.3	.88	.47	1090	876.1	346.3	54.5
48.50	7.31	0.22	7.5	.87	.46	1092	876.8	345.1	55.6
49.00	7.70	0.22	7.9	.85	.45	1095	877.6	343.9	56.6
49.50	7.60	0.22	7.8	.86	.45	1088	878.5	342.7	57.6
50.00	7.37	0.22	7.6	.88	.45	1089	879.3	341.5	58.6
50.50	7.30	0.22	7.5	.89	.45	1089	880.2	340.2	59.6
51.00	7.30	0.22	7.5	.90	.45	1087	881.2	339.0	60.6
51.50	7.31	0.22	7.5	.91	.46	1086	882.1	337.8	61.5
52.00	7.43	0.21	7.6	.91	.45	1087	883.1	336.6	62.3
52.50	7.60	0.21	7.8	.90	.44	1089	884.1	335.4	63.2
53.00	7.97	0.21	8.2	.88	.42	1094	885.1	334.2	64.0
53.50	8.27	0.20	8.5	.87	.41	1097	886.1	333.0	64.8
54.00	9.88	0.20	10.1	.80	.34	1129	887.1	331.8	65.6
54.50	9.31	0.20	9.5	.83	.37	1111	888.1	330.6	66.3
40154.75	8.6	0.2	8.7	-16.87	-17.44	1076	879.6	330.2	66.4
55.00	8.0	0.2	8.2	.91	.46	1062	881.5	328.6	68.7
55.25	6.9	0.2	7.1	.98	.51	1031	883.3	327.1	70.8
55.50	6.9	0.2	7.1	.98	.50	1031	884.9	325.6	72.5
55.75	7.1	0.2	7.3	.97	.49	1036	886.4	324.2	74.1
56.00	7.4	0.2	7.6	.96	.47	1039	887.7	322.9	75.4
56.25	7.9	0.2	8.1	.94	.45	1047	888.9	321.6	76.4
56.50	8.1	0.2	8.3	.93	.43	1054	890.0	320.5	77.3
56.75	8.4	0.2	8.6	.91	.41	1065	891.0	319.5	78.0
57.00	8.5	0.2	8.7	.91	.40	1072	892.0	318.6	78.5
57.25	8.5	0.2	8.6	.92	.40	1072	892.8	317.9	78.9
57.50	8.3	0.2	8.5	.92	.40	1068	893.6	317.3	79.1
57.75	8.2	0.2	8.4	.93	.41	1066	894.2	316.8	79.2
58.00	8.3	0.2	8.4	.93	.41	1064	894.9	316.5	79.1
58.25	10.8	0.2	10.9	.82	.30	1113	895.4	316.3	79.0
58.50	14.2	0.2	14.4	.70	.19	1170	895.9	316.1	78.7
58.75	16.5	0.2	16.7	.63	.13	1195	896.3	316.1	78.3
59.00	12.6	0.2	12.8	.75	.26	1127	896.7	316.0	77.8
59.25	10.9	0.2	11.0	.82	.32	1103	897.0	316.1	77.3
59.50	10.6	0.2	10.8	.82	.32	1110	897.2	316.2	76.6
59.75	10.3	0.2	10.5	.84	.34	1101	897.4	316.3	76.0
60.00	12.1	0.2	12.3	.77	.26	1136	897.6	316.4	75.2
60.25	13.8	0.1	13.9	.71	.21	1160	897.7	316.5	74.4
60.50	16.9	0.1	17.0	.62	.13	1193	897.8	316.6	73.5
60.75	20.3	0.1	20.4	.55	.07	1213	897.8	316.7	72.7
61.00	19.0	0.1	19.1	.57	.11	1192	897.8	316.7	71.7
61.25	17.2	0.1	17.3	.62	.12	1194	897.8	316.8	70.8
61.50	17.8	0.1	17.9	.60	.09	1214	897.7	316.8	69.8

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40161.75	21.5	0.1	21.6	-16.52	-17.02	1239	897.6	316.8	68.9
62.00	23.2	0.1	23.4	.48	.03	1226	897.5	316.8	67.9
62.25	15.5	0.1	15.6	.66	.20	1143	897.3	316.8	66.9
62.50	15.1	0.1	15.2	.67	.19	1158	897.2	316.7	66.0
62.75	11.7	0.1	11.8	.78	.28	1117	897.0	316.6	65.0
63.00	9.7	0.1	9.8	.87	.36	1078	896.8	316.5	64.1
63.25	12.2	0.1	12.3	.77	.27	1125	896.7	316.4	63.2
63.50	9.4	0.1	9.5	.88	.37	1073	896.5	316.2	62.4
63.75	8.2	0.1	8.4	.94	.42	1051	896.3	316.0	61.5
64.00	7.9	0.1	8.0	.96	.44	1043	896.1	315.8	60.7
64.25	7.2	0.1	7.3	-17.00	.48	1025	896.0	315.6	60.0
64.50	5.8	0.1	5.9	.09	.58	966	895.8	315.4	59.3
64.75	8.3	0.1	8.4	-16.94	.43	1049	895.6	315.1	58.6
65.00	9.5	0.1	9.6	.89	.37	1081	895.5	314.8	58.0
65.25	8.6	0.1	8.7	.93	.40	1069	895.4	314.5	57.5
65.50	6.9	0.1	7.0	-17.03	.49	1026	895.3	314.2	57.0
65.75	6.3	0.1	6.4	.07	.53	1004	895.2	313.8	56.6
66.00	5.6	0.1	5.6	.13	.59	970	895.1	313.4	56.2
66.25	5.1	0.1	5.2	.16	.62	953	895.0	313.1	55.9
66.50	4.7	0.1	4.7	.21	.66	931	895.0	312.7	55.7
66.75	4.9	0.1	4.9	.20	.65	940	895.0	312.2	55.6
67.00	7.5	0.1	7.5	.01	.47	1034	895.0	311.8	55.5
67.25	7.7	0.1	7.7	.00	.47	1025	895.0	311.3	55.5
67.50	8.0	0.1	8.1	-16.98	.45	1032	895.1	310.8	55.6
67.75	7.7	0.1	7.7	-17.01	.47	1026	895.2	310.3	55.7
68.00	6.8	0.1	6.9	.06	.51	1012	895.3	309.8	56.0
40168.50	7.52	0.06	7.6	-17.02	-17.47	1032	895.6	308.7	56.7
69.00	7.65	0.05	7.7	.02	.47	1019	896.0	307.5	57.8
69.50	7.70	0.05	7.7	.03	.48	1008	896.5	306.2	59.1
70.00	7.54	0.04	7.6	.03	.48	1006	897.2	304.8	60.8
70.50	7.34	0.04	7.4	.05	.48	1001	898.0	303.3	62.8
71.00	6.87	0.03	6.9	.08	.51	975	898.9	301.6	65.2
71.50	6.59	0.03	6.6	.10	.53	959	899.8	299.7	67.8
72.00	6.41	0.02	6.4	.11	.53	956	900.9	297.6	70.8
72.50	6.10	0.02	6.1	.13	.54	953	902.1	295.2	74.0
73.00	5.95	0.01	6.0	.13	.53	951	903.2	292.4	77.5
73.50	6.07	0.01	6.1	.11	.52	949	904.4	289.0	81.2
74.00	6.14	0.00	6.1	.11	.51	942	905.5	284.7	85.1
74.50	6.27	0.00	6.3	.09	.48	954	906.5	278.8	89.1
75.00	6.38	-0.01	6.4	.07	.47	959	907.4	270.1	93.1
75.50	6.37	-0.01	6.4	.06	.46	962	908.0	256.1	96.9
76.00	6.42	-0.02	6.4	.05	.44	969	908.4	231.9	99.6
76.50	6.78	-0.02	6.8	.03	.42	970	908.4	197.9	100.1
40177.00	7.4	0.0	7.4	-17.01	-17.40	967	908.1	169.4	97.9
77.25	7.8	0.0	7.8	-16.98	.38	989	907.8	159.7	96.1
77.50	8.2	0.0	8.2	.96	.36	1005	907.4	152.4	94.0
77.75	8.8	0.0	8.7	.94	.34	1018	906.9	146.7	91.8
78.00	9.8	0.0	9.7	.90	.30	1037	906.3	142.2	89.5
78.25	9.3	0.0	9.2	.93	.34	1016	905.6	138.5	87.0
78.50	6.8	0.0	6.8	-17.07	.48	937	904.9	135.4	84.5
40179.00	6.33	-0.04	6.3	-17.10	-17.50	945	910.8	130.5	79.4
79.50	5.71	-0.04	5.7	.15	.55	928	908.9	126.7	74.1
80.00	6.65	-0.04	6.6	.08	.49	983	906.9	123.5	68.8
80.50	7.58	-0.04	7.5	.03	.45	1015	904.9	120.8	63.5
81.00	7.98	-0.05	7.9	.02	.45	1027	902.8	118.3	58.2
81.50	6.89	-0.05	6.8	.08	.52	1010	900.9	116.1	52.9
82.00	6.57	-0.05	6.5	.10	.56	1008	899.1	114.1	47.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40182.50	6.19	-0.04	6.1	-17.13	-17.60	1002	897.5	112.1	42.7
83.00	5.91	-0.04	5.9	.14	.63	1003	896.2	110.3	37.7
83.50	6.11	-0.04	6.1	.13	.62	1019	895.2	108.5	32.9
84.00	6.40	-0.04	6.4	.11	.61	1042	894.5	106.8	28.2
84.50	7.06	-0.04	7.0	.07	.59	1067	894.1	105.1	23.8
85.00	6.82	-0.04	6.8	.07	.61	1067	893.9	103.4	19.5
85.50	6.89	-0.04	6.9	.06	.62	1075	894.0	101.8	15.5
86.00	7.01	-0.04	7.0	.05	.62	1086	894.2	100.2	11.7
86.50	7.19	-0.03	7.2	.03	.61	1098	894.6	98.7	8.2
87.00	7.22	-0.03	7.2	.02	.62	1101	895.0	97.1	4.9
87.50	7.16	-0.03	7.1	.02	.63	1105	895.5	95.6	2.0
88.00	7.08	-0.03	7.1	.02	.63	1110	896.0	94.2	-0.8
88.50	6.85	-0.03	6.8	.03	.65	1107	896.4	92.7	-3.2
89.00	6.84	-0.02	6.8	.03	.65	1110	896.9	91.3	-5.3
89.50	6.67	-0.02	6.6	.04	.66	1108	897.2	89.9	-7.1
90.00	6.58	-0.02	6.6	.05	.66	1113	897.4	88.6	-8.6
90.50	6.59	-0.02	6.6	.05	.66	1117	897.6	87.3	-9.9
91.00	6.86	-0.02	6.8	.03	.65	1122	897.6	86.1	-10.8
91.50	7.18	-0.02	7.2	-16.99	.63	1131	897.5	85.0	-11.5
92.00	7.61	-0.02	7.6	.96	.60	1144	897.3	83.9	-11.9
92.50	8.75	-0.02	8.7	.89	.54	1172	897.0	82.8	-12.1
93.00	8.79	-0.02	8.8	.87	.54	1176	896.6	81.8	-12.0
93.50	8.48	-0.02	8.5	.87	.56	1172	896.1	80.8	-11.7
94.00	8.86	-0.01	8.8	.84	.55	1178	895.5	79.9	-11.2
94.50	9.05	-0.01	9.0	.82	.53	1183	894.8	79.0	-10.5
95.00	8.31	-0.01	8.3	.85	.57	1170	894.1	78.2	-9.7
95.50	9.14	-0.01	9.1	.81	.53	1184	893.3	77.4	-8.8
96.00	8.78	-0.01	8.8	.82	.54	1179	892.5	76.5	-7.9
96.50	6.65	-0.01	6.6	.95	.66	1135	891.6	75.7	-6.9
97.00	6.31	-0.01	6.3	.97	.67	1129	890.7	74.9	-5.9
97.50	5.96	-0.01	6.0	.99	.72	1113	881.7	73.8	-6.3
98.00	5.85	0.00	5.8	-17.00	.73	1106	881.2	72.8	-6.1
98.50	6.41	0.00	6.4	-16.95	.69	1121	880.8	71.8	-5.8
99.00	6.61	0.00	6.6	.93	.68	1126	880.3	70.9	-5.4
99.50	6.61	0.00	6.6	.93	.67	1129	879.9	69.9	-5.1
40200.00	6.84	0.00	6.8	.91	.66	1134	879.4	69.0	-4.7
00.50	6.95	0.00	6.9	.89	.66	1136	879.0	68.0	-4.3
01.00	7.05	0.01	7.1	.88	.64	1143	878.5	67.1	-3.9
01.50	7.36	0.01	7.4	.86	.62	1154	878.1	66.1	-3.5
02.00	7.36	0.01	7.4	.85	.62	1153	877.7	65.2	-3.1
02.50	7.70	0.01	7.7	.83	.60	1159	877.2	64.2	-2.6
03.00	6.95	0.01	7.0	.88	.64	1144	876.8	63.3	-2.2
03.50	6.51	0.01	6.5	.91	.67	1131	876.4	62.4	-1.7
04.00	6.21	0.00	6.2	.94	.68	1123	875.9	61.4	-1.2
04.50	6.16	0.00	6.2	.94	.68	1121	875.5	60.5	-0.7
05.00	6.16	0.00	6.2	.94	.68	1122	875.0	59.6	-0.2
05.50	6.13	0.00	6.1	.94	.69	1119	874.6	58.6	0.3
06.00	6.20	0.00	6.2	.92	.68	1121	874.1	57.7	0.8
06.50	6.35	0.00	6.4	.90	.67	1126	873.7	56.8	1.4
07.00	6.29	0.00	6.3	.91	.67	1123	873.2	55.8	1.9
07.50	6.34	0.00	6.3	.92	.66	1123	872.8	54.9	2.4
08.00	6.44	0.00	6.4	.91	.65	1127	872.3	54.0	3.0
08.50	6.98	0.00	7.0	.86	.62	1141	871.9	53.0	3.5
09.00	7.43	0.00	7.4	.83	.59	1149	871.4	52.1	4.1
09.50	7.62	0.00	7.6	.81	.58	1153	870.9	51.2	4.6
10.00	7.53	0.00	7.5	.81	.59	1153	870.4	50.2	5.2
10.50	7.60	0.00	7.6	.80	.58	1160	869.9	49.3	5.8
11.00	7.68	-0.01	7.7	.80	.57	1165	869.4	48.4	6.3

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40211.20	7.6	0.0	7.6	-16.80	-17.57	1163	869.2	48.0	6.6
11.40	8.0	0.0	8.0	.77	.56	1169	869.0	47.6	6.8
11.60	8.6	0.0	8.6	.73	.53	1180	868.8	47.3	7.0
11.80	9.2	0.0	9.2	.70	.50	1190	868.6	46.9	7.3
12.00	10.4	0.0	10.4	.64	.45	1210	868.4	46.5	7.5
12.20	10.8	0.0	10.8	.62	.44	1215	868.2	46.2	7.8
12.40	9.9	0.0	9.9	.66	.47	1200	868.0	45.8	8.0
12.60	9.8	0.0	9.8	.67	.47	1201	867.8	45.4	8.2
12.80	9.1	0.0	9.1	.70	.50	1189	867.6	45.0	8.5
13.00	9.0	0.0	9.0	.70	.51	1187	867.4	44.7	8.7
40213.50	8.97	-0.01	9.0	-16.70	-17.50	1187	866.9	43.7	9.3
14.00	8.79	-0.02	8.8	.71	.52	1181	866.3	42.8	9.9
14.50	8.94	-0.02	8.9	.70	.51	1184	865.8	41.9	10.6
15.00	9.53	-0.02	9.5	.67	.48	1195	865.2	41.0	11.2
15.50	10.48	-0.02	10.5	.62	.44	1211	864.6	40.0	11.9
16.00	10.02	-0.02	10.0	.64	.46	1205	864.1	39.1	12.5
16.50	9.72	-0.02	9.7	.66	.46	1204	863.5	38.2	13.2
17.00	9.71	-0.03	9.7	.66	.46	1203	862.1	37.3	13.8
17.50	9.71	-0.03	9.7	.65	.47	1197	861.5	36.4	14.5
18.00	9.68	-0.03	9.6	.65	.47	1196	861.0	35.5	15.2
18.50	9.69	-0.03	9.7	.64	.46	1202	860.4	34.5	15.9
19.00	9.89	-0.03	9.9	.63	.45	1203	859.8	33.6	16.6
19.50	9.86	-0.03	9.8	.64	.45	1198	859.3	32.7	17.3
20.00	9.67	-0.04	9.6	.66	.46	1189	858.7	31.8	18.1
20.50	9.53	-0.04	9.5	.66	.46	1184	858.2	30.9	18.8
21.00	9.36	-0.04	9.3	.67	.47	1180	857.6	30.0	19.5
21.50	9.16	-0.04	9.1	.68	.47	1176	857.1	29.1	20.3
22.00	8.87	-0.04	8.8	.70	.49	1168	856.6	28.2	21.1
22.50	8.36	-0.05	8.3	.72	.51	1154	856.0	27.3	21.8
23.00	7.97	-0.05	7.9	.75	.53	1146	855.5	26.4	22.6
23.50	7.68	-0.05	7.6	.77	.54	1140	855.0	25.5	23.4
24.00	7.62	-0.05	7.6	.77	.53	1142	854.4	24.6	24.2
24.50	7.74	-0.05	7.7	.77	.52	1144	853.9	23.7	24.9
25.00	7.86	-0.06	7.8	.76	.52	1145	853.4	22.8	25.7
25.50	7.86	-0.06	7.8	.76	.52	1143	852.9	21.9	26.5
26.00	7.89	-0.06	7.8	.75	.52	1141	852.4	21.0	27.3
26.50	7.88	-0.06	7.8	.75	.52	1141	851.9	20.1	28.1
27.00	8.02	-0.07	7.9	.74	.52	1145	851.4	19.2	28.9
27.50	8.30	-0.07	8.2	.73	.50	1151	850.9	18.4	29.7
28.00	8.34	-0.07	8.3	.72	.50	1152	850.4	17.5	30.5
28.50	9.38	-0.07	9.3	.66	.46	1168	850.0	16.6	31.2
29.00	9.94	-0.08	9.9	.63	.45	1174	849.5	15.7	32.0
29.50	9.69	-0.08	9.6	.64	.46	1170	849.0	14.8	32.7
30.00	9.59	-0.08	9.5	.65	.46	1167	848.5	13.9	33.5
30.50	9.03	-0.09	8.9	.68	.49	1154	848.0	13.0	34.2
31.00	8.32	-0.09	8.2	.72	.52	1140	847.5	12.1	34.9
31.50	8.20	-0.09	8.1	.72	.52	1136	847.0	11.2	35.5
32.00	8.09	-0.09	8.0	.73	.52	1132	846.4	10.3	36.2
32.50	7.89	-0.09	7.8	.75	.53	1122	845.9	9.4	36.7
33.00	7.69	-0.09	7.6	.76	.54	1111	845.3	8.5	37.3
33.50	7.61	-0.10	7.5	.77	.55	1105	844.8	7.6	37.8
34.00	7.57	-0.10	7.5	.78	.54	1105	844.2	6.7	38.3
34.50	7.54	-0.10	7.4	.79	.54	1104	843.6	5.7	38.7
40235.00	7.7	-0.1	7.6	-16.78	-17.52	1108	844.1	4.8	39.0
35.25	7.6	-0.1	7.5	.78	.54	1100	843.7	4.3	39.0
35.50	7.5	-0.1	7.4	.79	.55	1091	843.3	3.8	39.0
35.75	8.7	-0.1	8.6	.72	.48	1120	843.0	3.3	39.0
36.00	8.8	-0.1	8.7	.72	.47	1121	842.6	2.8	39.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40236.25	8.8	-0.1	8.7	-16.72	-17.48	1115	842.3	2.3	39.0
36.50	8.9	-0.1	8.8	.71	.48	1117	841.9	1.8	39.0
36.75	9.2	-0.1	9.1	.70	.46	1125	841.6	1.3	39.0
37.00	8.8	-0.1	8.7	.72	.48	1114	841.2	0.8	39.0
37.25	8.6	-0.1	8.5	.73	.49	1110	840.9	0.3	39.0
37.50	8.4	-0.1	8.3	.74	.50	1106	840.5	359.8	39.0
37.75	8.6	-0.1	8.5	.73	.50	1108	840.2	359.3	39.0
38.00	9.1	-0.1	9.0	.71	.47	1119	839.9	358.8	39.0
38.25	9.6	-0.1	9.5	.68	.45	1125	839.5	358.3	39.0
38.50	9.2	-0.1	9.1	.70	.48	1113	839.2	357.8	38.9
38.75	8.4	-0.1	8.3	.74	.51	1097	838.9	357.3	38.9
39.00	7.9	-0.1	7.8	.77	.54	1083	838.6	356.8	38.9
39.25	7.8	-0.1	7.7	.78	.55	1080	838.3	356.3	38.9
39.50	8.2	-0.1	8.1	.76	.53	1088	837.9	355.8	38.9
39.75	9.0	-0.1	8.8	.72	.49	1103	837.6	355.3	38.9
40.00	7.9	-0.1	7.8	.78	.54	1081	837.3	354.8	38.8
40.25	7.7	-0.1	7.6	.79	.55	1075	837.0	354.3	38.8
40.50	7.2	-0.1	7.1	.82	.58	1063	836.7	353.8	38.8
40.75	6.8	-0.1	6.7	.85	.60	1054	836.4	353.3	38.8
41.00	6.5	-0.1	6.4	.87	.61	1044	836.1	352.8	38.7
41.25	6.4	-0.1	6.3	.88	.62	1037	835.8	352.3	38.7
41.50	6.3	-0.1	6.2	.89	.62	1034	835.5	351.8	38.7
41.75	6.3	-0.1	6.1	.90	.63	1031	835.2	351.3	38.6
42.00	6.0	-0.1	5.9	.92	.64	1022	834.9	350.8	38.6
42.25	6.0	-0.1	5.9	.92	.65	1020	834.6	350.3	38.5
42.50	5.9	-0.1	5.8	.93	.65	1018	834.3	349.8	38.5
42.75	5.8	-0.1	5.7	.94	.65	1018	834.0	349.3	38.4
43.00	5.8	-0.1	5.7	.94	.65	1018	833.7	348.8	38.4
43.25	5.6	-0.1	5.5	.96	.67	1011	833.4	348.3	38.3
43.50	5.1	-0.1	5.0	-17.00	.71	992	833.1	347.8	38.2
43.75	5.0	-0.1	4.9	.01	.72	988	832.8	347.3	38.2
44.00	5.2	-0.1	5.1	.00	.70	997	832.5	346.8	38.1
44.25	5.7	-0.1	5.6	-16.96	.66	1015	832.2	346.3	38.0
44.50	5.9	-0.1	5.8	.94	.65	1022	831.9	345.8	37.9
44.75	6.0	-0.1	5.9	.93	.65	1021	831.6	345.3	37.9
45.00	6.1	-0.1	6.0	.93	.65	1020	831.4	344.8	37.8
45.25	6.3	-0.1	6.2	.92	.63	1027	831.1	344.3	37.7
45.50	6.7	-0.1	6.6	.89	.60	1041	830.8	343.8	37.6
45.75	7.3	-0.1	7.2	.85	.57	1050	830.5	343.3	37.5
46.00	9.0	-0.1	8.8	.76	.50	1080	830.2	342.8	37.4
46.25	8.6	-0.1	8.4	.78	.52	1069	829.9	342.3	37.3
46.50	8.0	-0.1	7.9	.80	.55	1056	829.7	341.8	37.2
46.75	7.0	-0.1	6.9	.86	.62	1028	829.4	341.3	37.1
47.00	7.6	-0.1	7.5	.82	.59	1042	829.1	340.8	37.0
47.25	9.7	-0.1	9.6	.72	.48	1087	828.8	340.3	36.9
47.50	8.4	-0.1	8.3	.79	.54	1064	828.5	339.8	36.7
47.75	7.3	-0.1	7.2	.85	.60	1039	828.3	339.3	36.6
48.00	7.0	-0.1	6.9	.87	.62	1031	828.0	338.7	36.5
48.25	6.7	-0.1	6.5	.90	.64	1023	827.7	338.2	36.4
48.50	6.4	-0.1	6.3	.91	.66	1016	827.4	337.7	36.2
48.75	6.3	-0.1	6.2	.92	.68	1009	827.1	337.2	36.1
49.00	6.3	-0.1	6.2	.92	.67	1008	826.9	336.7	36.0
49.25	6.6	-0.1	6.4	.91	.66	1015	826.6	336.2	35.8
49.50	6.4	-0.1	6.2	.93	.66	1012	826.3	335.7	35.7
49.75	6.2	-0.1	6.1	.95	.66	1013	826.0	335.2	35.5
50.00	6.2	-0.1	6.1	.95	.66	1011	825.8	334.7	35.3
50.25	6.0	-0.1	5.9	.97	.68	1004	825.5	334.2	35.2
50.50	5.5	-0.1	5.4	-17.01	.72	987	825.2	333.6	35.0
50.75	5.5	-0.1	5.4	.01	.72	986	824.9	333.1	34.8
51.00	5.5	-0.1	5.4	.01	.72	985	824.7	332.6	34.7

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40251.25	5.3	-0.1	5.2	-17.03	-17.74	972	824.4	332.1	34.5
51.50	5.3	-0.1	5.2	.02	.75	967	824.1	331.6	34.3
51.75	5.9	-0.1	5.8	-16.98	.70	990	823.9	331.1	34.1
52.00	6.0	-0.1	5.9	.98	.69	996	823.6	330.6	33.9
52.25	5.9	-0.1	5.8	.99	.70	995	823.3	330.1	33.8
52.50	5.4	-0.1	5.3	-17.03	.74	974	823.0	329.5	33.6
52.75	6.5	-0.1	6.4	-16.94	.67	1003	822.8	329.0	33.4
53.00	6.2	-0.1	6.1	.97	.69	991	822.5	328.5	33.2
53.25	6.1	-0.1	6.0	.98	.70	993	822.2	328.0	33.0
53.50	5.6	0.0	5.6	-17.02	.72	982	822.0	327.5	32.7
53.75	6.2	0.0	6.2	-16.97	.68	1000	821.7	327.0	32.5
54.00	6.7	-0.1	6.6	.95	.66	1009	821.4	326.5	32.3
54.25	7.1	-0.1	7.0	.92	.64	1021	821.2	325.9	32.1
54.50	10.0	-0.1	9.9	.77	.49	1083	820.9	325.4	31.9
54.75	13.9	-0.1	13.8	.62	.36	1134	820.6	324.9	31.7
55.00	17.7	-0.1	17.6	.50	.28	1163	820.3	324.4	31.4
55.25	20.5	-0.1	20.5	.43	.24	1182	820.1	323.9	31.2
55.50	12.1	-0.1	12.0	.67	.46	1093	819.8	323.4	31.0
55.75	8.8	-0.1	8.7	.81	.60	1037	820.3	322.8	30.7
56.00	8.0	-0.1	7.9	.85	.65	1017	820.0	322.3	30.5
56.25	9.2	-0.1	9.2	.79	.57	1049	819.7	321.8	30.2
56.50	8.4	-0.1	8.3	.85	.60	1037	819.5	321.3	30.0
56.75	8.5	-0.1	8.4	.85	.60	1038	819.2	320.8	29.7
57.00	8.0	-0.1	8.0	.87	.63	1025	819.0	320.3	29.5
57.25	7.5	-0.1	7.4	.90	.67	1009	818.7	319.7	29.2
57.50	6.7	-0.1	6.6	.96	.71	989	818.5	319.2	28.9
57.75	6.7	-0.1	6.6	.97	.71	993	818.2	318.7	28.7
58.00	7.2	-0.1	7.1	.94	.68	1006	818.0	318.2	28.4
58.25	8.2	-0.1	8.1	.88	.64	1022	817.7	317.7	28.1
58.50	8.4	-0.1	8.3	.86	.63	1022	817.5	317.1	27.8
58.75	7.0	-0.1	6.9	.95	.71	993	817.2	316.6	27.6
59.00	6.2	-0.1	6.2	-17.01	.75	975	817.0	316.1	27.3
59.25	6.0	-0.1	5.9	.03	.77	964	816.8	315.6	27.0
59.50	6.5	-0.1	6.5	-16.99	.73	982	816.5	315.1	26.7
59.75	7.5	-0.1	7.5	.93	.68	1006	816.3	314.5	26.4
60.00	7.4	-0.1	7.3	.94	.69	999	816.1	314.0	26.1
60.25	7.6	-0.1	7.6	.92	.68	1003	815.9	313.5	25.8
60.50	7.7	-0.1	7.7	.92	.68	1007	815.7	313.0	25.5
60.75	7.4	-0.1	7.3	.95	.70	997	815.5	312.5	25.2
61.00	7.0	-0.1	6.9	.98	.73	985	815.3	311.9	24.9
61.25	6.5	-0.1	6.4	-17.02	.76	971	815.1	311.4	24.6
61.50	6.4	-0.1	6.3	.03	.76	970	814.9	310.9	24.3
61.75	5.9	0.0	5.8	.07	.80	954	814.7	310.4	24.0
62.00	6.3	0.0	6.2	.05	.77	965	814.5	309.9	23.7
62.25	6.9	0.0	6.9	.00	.73	982	814.3	309.3	23.3
62.50	7.8	0.0	7.7	-16.95	.69	1000	814.1	308.8	23.0
62.75	7.9	0.0	7.9	.94	.68	1002	814.0	308.3	22.7
63.00	8.5	0.0	8.5	.91	.66	1010	813.8	307.8	22.4
63.25	12.3	0.0	12.3	.75	.51	1068	813.6	307.3	22.0
63.50	12.3	0.0	12.3	.74	.52	1064	813.5	306.7	21.7
63.75	13.7	0.0	13.7	.70	.48	1079	813.3	306.2	21.3
64.00	15.2	0.0	15.2	.65	.44	1092	813.2	305.7	21.0
64.25	8.0	0.0	8.0	.94	.71	983	813.0	305.2	20.7
64.50	7.2	0.0	7.2	-17.01	.74	976	812.9	304.6	20.3
64.75	7.1	0.0	7.1	.02	.74	979	812.7	304.1	20.0
65.00	7.0	0.0	7.0	.03	.76	969	812.6	303.6	19.6
65.25	6.3	0.0	6.3	.07	.81	942	812.5	303.1	19.2
65.50	6.2	0.0	6.2	.08	.81	940	812.4	302.5	18.9
65.75	6.2	0.0	6.2	.09	.82	941	812.2	302.0	18.5
66.00	6.2	0.0	6.2	.09	.82	937	812.1	301.5	18.1

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40266.25	5.8	0.0	5.8	-17.12	-17.85	922	812.0	301.0	17.8
66.50	5.7	0.0	5.7	.13	.86	920	811.9	300.4	17.4
66.75	5.8	0.0	5.9	.13	.85	930	811.8	299.9	17.0
67.00	6.0	0.0	6.0	.12	.84	930	811.7	299.4	16.6
67.25	6.8	0.0	6.9	.06	.79	950	811.6	298.9	16.3
67.50	6.9	0.0	6.9	.06	.80	947	811.5	298.3	15.9
67.75	6.6	0.0	6.7	.07	.81	942	811.4	297.8	15.5
68.00	6.5	0.0	6.5	.09	.83	933	811.3	297.3	15.1
68.25	6.4	0.0	6.4	.10	.84	929	811.3	296.8	14.7
68.50	6.4	0.0	6.4	.10	.84	930	811.2	296.2	14.3
68.75	6.3	0.0	6.3	.12	.85	927	811.1	295.7	13.9
69.00	6.0	0.0	6.0	.14	.87	920	811.0	295.2	13.5
69.25	5.7	0.0	5.7	.17	.89	912	811.0	294.7	13.1
69.50	5.8	0.0	5.8	.17	.88	916	810.9	294.1	12.7
69.75	5.6	0.0	5.6	.19	.90	910	810.8	293.6	12.3
70.00	5.5	0.0	5.5	.20	.91	905	810.8	293.1	11.8
70.25	5.7	0.0	5.7	.19	.90	912	810.7	292.5	11.4
70.50	5.8	0.0	5.8	.18	.89	918	810.7	292.0	11.0
70.75	5.8	0.0	5.8	.19	.90	917	810.6	291.5	10.6
71.00	5.9	0.0	5.9	.18	.90	916	810.6	291.0	10.1
71.25	6.6	0.0	6.6	.13	.86	934	810.5	290.4	9.7
71.50	6.8	0.0	6.8	.12	.85	936	810.5	289.9	9.2
71.75	7.7	0.0	7.7	.06	.80	956	810.4	289.4	8.8
72.00	7.9	0.0	7.9	.05	.80	960	810.4	288.8	8.3
72.25	8.3	0.0	8.3	.04	.78	970	810.3	288.3	7.9
72.50	9.3	0.0	9.3	-16.99	.74	988	810.3	287.8	7.4
72.75	9.2	0.0	9.2	.99	.75	984	810.2	287.2	7.0
73.00	9.1	0.0	9.1	-17.00	.76	981	810.2	286.7	6.5
73.25	9.5	0.0	9.5	-16.98	.75	987	810.2	286.2	6.0
73.50	10.5	0.0	10.5	.94	.71	1003	810.1	285.6	5.5
73.75	8.7	0.0	8.7	-17.03	.79	971	810.1	285.1	5.0
74.00	7.1	0.0	7.1	.12	.88	936	810.0	284.5	4.6
74.25	7.4	0.0	7.4	.11	.86	946	810.0	284.0	4.1
74.50	9.0	0.0	9.0	.03	.78	981	809.9	283.5	3.6
74.75	10.5	0.0	10.5	-16.96	.73	1003	809.9	282.9	3.1
40275.00	10.87	0.00	10.9	-16.94	-17.71	1010	811.5	282.6	3.7
75.50	11.73	0.00	11.7	.91	.70	1017	811.3	281.5	2.5
76.00	12.14	0.00	12.1	.90	.71	1020	811.1	280.4	1.3
76.50	12.16	0.00	12.2	.90	.72	1020	810.9	279.2	0.0
77.00	12.12	0.00	12.1	.91	.73	1017	810.8	278.1	-1.3
77.50	11.64	0.00	11.6	.93	.76	1008	810.7	277.0	-2.7
78.00	13.39	0.00	13.4	.87	.71	1030	810.6	275.8	-4.1
78.50	14.49	0.00	14.5	.84	.69	1038	810.6	274.7	-5.6
40279.00	14.5	0.0	14.5	-16.85	-17.69	1037	810.5	273.5	-7.1
79.20	16.3	0.0	16.3	.80	.64	1056	810.5	273.0	-7.8
79.40	17.0	0.0	17.0	.78	.63	1058	810.5	272.6	-8.4
79.60	17.5	0.0	17.5	.77	.62	1061	810.5	272.1	-9.1
79.80	18.7	0.0	18.7	.74	.60	1068	810.5	271.6	-9.7
80.00	18.3	0.0	18.3	.74	.62	1060	810.5	271.2	-10.4
80.20	17.9	0.0	17.9	.77	.61	1062	810.5	270.7	-11.0
80.40	17.4	0.0	17.4	.78	.62	1059	810.6	270.2	-11.7
80.60	16.7	0.0	16.7	.80	.64	1052	810.6	269.7	-12.4
80.80	15.4	0.0	15.4	.84	.68	1038	810.6	269.2	-13.1
81.00	14.2	0.0	14.2	.88	.71	1022	810.6	268.8	-13.7
40281.50	13.46	0.00	13.5	-16.91	-17.72	1017	810.7	267.5	-15.5
82.00	13.41	0.00	13.4	.92	.72	1013	810.8	266.3	-17.3
82.50	12.89	0.00	12.9	.94	.73	1006	811.0	265.1	-19.1

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40283.00	11.23	0.00	11.2	-17.02	-17.78	987	811.1	263.8	-20.9
83.50	9.70	0.00	9.7	.08	.83	964	811.3	262.5	-22.8
84.00	8.72	0.00	8.7	.14	.87	946	811.5	261.2	-24.7
84.50	9.42	0.00	9.4	.10	.84	961	811.7	259.9	-26.6
85.00	10.04	0.00	10.0	.07	.82	965	811.9	258.6	-28.6
85.50	11.81	0.00	11.8	-16.99	.75	988	812.1	257.3	-30.5
86.00	11.35	0.00	11.4	-17.01	.76	984	812.3	255.9	-32.5
40286.20	11.0	0.0	11.0	-17.03	-17.78	979	812.4	255.4	-33.3
86.40	12.2	0.0	12.2	-16.98	.73	997	812.5	254.8	-34.1
86.60	12.5	0.0	12.5	.97	.72	1001	812.6	254.2	-34.9
86.80	12.3	0.0	12.3	.98	.73	996	812.7	253.7	-35.7
87.00	11.9	0.0	11.9	.99	.75	988	812.7	253.1	-36.5
87.20	11.4	0.0	11.4	-17.00	.77	980	812.8	252.5	-37.3
87.40	11.1	0.0	11.1	.02	.78	976	812.9	251.9	-38.1
87.60	12.0	0.0	12.0	-16.98	.74	992	813.0	251.3	-38.9
87.80	13.0	0.0	13.0	.95	.71	1005	813.1	250.8	-39.7
88.00	13.8	0.0	13.8	.92	.69	1013	813.1	250.2	-40.5
88.20	12.5	0.0	12.5	.96	.73	998	813.2	249.5	-41.3
88.40	11.9	0.0	11.9	.98	.74	992	813.3	248.9	-42.1
88.60	11.2	0.0	11.2	-17.01	.77	983	813.3	248.3	-42.9
88.80	10.9	0.0	10.9	.02	.78	980	813.4	247.7	-43.8
89.00	10.7	0.0	10.7	.03	.78	978	813.5	247.1	-44.6
40289.50	10.61	0.00	10.6	-17.03	-17.79	976	813.6	245.4	-46.6
90.00	10.60	0.00	10.6	.02	.79	978	813.7	243.8	-48.6
90.50	10.71	0.00	10.7	.02	.78	984	813.7	242.0	-50.7
91.00	10.93	0.00	10.9	.00	.77	990	813.7	240.2	-52.7
40291.20	11.2	0.0	11.2	-16.99	-17.75	995	813.7	239.4	-53.5
91.40	11.5	0.0	11.5	.97	.74	998	813.7	238.7	-54.3
91.60	12.3	0.0	12.3	.94	.72	1007	813.7	237.9	-55.1
91.80	12.6	0.0	12.6	.92	.71	1010	813.6	237.1	-55.9
92.00	14.9	0.0	14.9	.84	.64	1035	813.6	236.3	-56.7
92.20	18.4	0.0	18.4	.74	.57	1066	813.5	235.4	-57.5
92.40	19.3	0.0	19.3	.71	.56	1070	813.5	234.6	-58.3
92.60	14.5	0.0	14.5	.84	.67	1026	813.4	233.7	-59.1
92.80	10.2	0.0	10.2	-17.00	.81	971	813.3	232.8	-59.9
93.00	9.5	0.0	9.5	.03	.83	963	813.2	231.9	-60.6
40293.25	9.3	0.0	9.3	-17.04	-17.83	963	812.9	230.7	-61.6
93.50	9.3	0.0	9.3	.04	.83	966	812.8	229.4	-62.6
93.75	10.4	0.0	10.4	-16.99	.77	990	812.6	228.1	-63.6
94.00	10.8	0.0	10.8	.97	.76	996	812.5	226.8	-64.5
94.25	11.3	0.0	11.3	.94	.74	1002	812.3	225.3	-65.5
94.50	11.6	0.0	11.6	.93	.72	1010	812.1	223.9	-66.4
94.75	12.1	0.0	12.1	.91	.70	1020	811.9	222.3	-67.3
95.00	12.7	0.0	12.7	.88	.68	1025	811.7	220.6	-68.3
95.25	14.1	0.0	14.1	.82	.65	1039	811.4	218.9	-69.2
95.50	15.4	0.0	15.4	.78	.62	1053	811.2	217.0	-70.1
95.75	16.3	0.0	16.3	.75	.59	1064	810.9	215.1	-71.0
96.00	17.1	0.0	17.1	.73	.58	1072	810.5	213.0	-71.8
96.25	18.1	0.0	18.1	.70	.56	1084	810.2	210.7	-72.7
96.50	20.0	0.0	20.0	.64	.53	1099	809.8	208.3	-73.5
96.75	19.4	-0.1	19.4	.65	.55	1095	809.4	205.7	-74.3
97.00	20.2	-0.1	20.2	.64	.52	1108	808.9	202.9	-75.1
97.25	22.1	-0.1	22.0	.59	.51	1117	808.5	199.9	-75.9
97.50	22.8	-0.1	22.7	.56	.51	1118	808.0	196.6	-76.6
97.75	23.0	-0.1	22.9	.56	.51	1122	807.5	193.0	-77.3
98.00	23.4	-0.1	23.3	.54	.51	1125	806.9	189.1	-78.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40298.25	23.2	-0.1	23.1	-16.55	-17.52	1128	806.3	184.9	-78.6
98.50	24.2	-0.1	24.1	.52	.50	1137	805.7	180.4	-79.1
98.75	25.0	-0.1	24.9	.51	.49	1145	805.1	175.5	-79.6
99.00	26.1	-0.1	26.0	.49	.47	1155	804.4	170.3	-80.1
99.25	26.3	-0.1	26.2	.48	.47	1158	803.7	164.8	-80.5
99.50	28.2	-0.1	28.1	.44	.45	1169	802.9	159.1	-80.8
99.75	29.6	-0.1	29.5	.42	.43	1176	802.2	153.2	-81.0
40300.00	33.3	-0.1	33.2	.36	.39	1192	801.4	147.2	-81.1
00.25	41.0	-0.1	40.9	.25	.31	1221	800.6	141.2	-81.2
00.50	39.3	-0.1	39.1	.27	.33	1216	799.7	135.4	-81.2
00.75	38.3	-0.1	38.2	.28	.33	1217	798.8	129.8	-81.1
01.00	39.1	-0.2	39.0	.27	.32	1219	797.9	124.5	-81.0
01.25	40.0	-0.2	39.8	.25	.32	1222	797.0	119.4	-80.8
01.50	38.2	-0.2	38.0	.27	.34	1214	796.1	114.7	-80.5
01.75	37.0	-0.2	36.8	.28	.35	1212	795.1	110.4	-80.2
02.00	38.7	-0.2	38.6	.26	.33	1222	794.1	106.4	-79.9
02.25	39.7	-0.2	39.6	.24	.33	1224	793.1	102.7	-79.5
02.50	39.0	-0.2	38.8	.24	.35	1218	790.0	99.3	-79.1
02.75	38.0	-0.2	37.8	.24	.37	1215	788.9	96.1	-78.7
03.00	36.9	-0.2	36.7	.25	.38	1211	787.8	93.2	-78.3
03.25	35.2	-0.2	35.0	.27	.39	1204	786.7	90.5	-77.8
03.50	33.7	-0.2	33.5	.28	.41	1197	785.6	88.0	-77.4
03.75	33.0	-0.2	32.8	.29	.42	1190	784.5	85.7	-76.9
04.00	89.6	-0.2	89.4	-15.84	.00	1364	783.4	83.6	-76.4
04.25	94.5	-0.2	94.3	.80	.00	1357	782.3	81.6	-76.0
04.50	66.1	-0.2	65.9	.95	.15	1287	781.2	79.7	-75.5
04.75	50.6	-0.2	50.4	-16.07	.25	1248	780.2	77.9	-75.0
05.00	31.9	-0.2	31.7	.28	.43	1178	779.1	76.2	-74.5
05.25	35.5	-0.2	35.3	.23	.37	1201	778.1	74.6	-74.0
05.50	42.0	-0.2	41.8	.14	.30	1225	777.0	73.1	-73.5
05.75	41.6	-0.2	41.3	.14	.31	1220	776.0	71.7	-73.0
06.00	35.2	-0.2	34.9	.22	.37	1194	774.9	70.3	-72.6
06.25	33.5	-0.2	33.3	.23	.39	1187	773.9	69.0	-72.1
06.50	33.0	-0.2	32.8	.24	.39	1186	772.9	67.8	-71.6
06.75	32.9	-0.2	32.6	.23	.38	1185	771.9	66.6	-71.1
07.00	33.5	-0.2	33.3	.22	.38	1190	770.8	65.4	-70.7
07.25	33.6	-0.2	33.3	.21	.38	1190	769.8	64.3	-70.2
07.50	32.4	-0.2	32.1	.22	.40	1185	768.8	63.2	-69.8
07.75	31.8	-0.2	31.6	.23	.40	1184	767.8	62.2	-69.3
08.00	31.9	-0.2	31.7	.22	.39	1187	766.8	61.2	-68.9
08.25	31.9	-0.2	31.7	.22	.39	1188	765.8	60.2	-68.4
08.50	32.2	-0.2	32.0	.21	.39	1186	764.9	59.2	-68.0
08.75	34.1	-0.2	33.9	.18	.36	1194	763.9	58.3	-67.6
09.00	34.9	-0.2	34.7	.17	.35	1198	762.9	57.4	-67.1
09.25	35.0	-0.2	34.7	.16	.35	1200	761.9	56.5	-66.7
09.50	37.5	-0.2	37.3	.13	.32	1211	760.9	55.7	-66.3
09.75	39.4	-0.2	39.1	.10	.31	1214	760.0	54.8	-65.9
10.00	40.4	-0.2	40.1	.08	.31	1216	759.0	54.0	-65.5
10.25	39.6	-0.2	39.3	.08	.32	1212	758.1	53.2	-65.1
10.50	35.4	-0.3	35.2	.13	.36	1195	757.1	52.4	-64.8
10.75	31.8	-0.3	31.6	.17	.41	1180	756.1	51.6	-64.4
11.00	31.5	-0.3	31.2	.17	.42	1174	755.2	50.9	-64.0
11.25	33.4	-0.3	33.1	.14	.40	1179	754.3	50.1	-63.7
11.50	30.9	-0.3	30.6	.17	.43	1169	753.3	49.4	-63.3
11.75	30.9	-0.3	30.7	.17	.43	1171	752.4	48.6	-63.0
12.00	33.5	-0.3	33.2	.13	.40	1183	751.4	47.9	-62.7
12.25	34.3	-0.3	34.0	.12	.39	1189	750.5	47.2	-62.3
12.50	35.6	-0.3	35.3	.10	.37	1196	749.6	46.5	-62.0
12.75	35.8	-0.3	35.5	.09	.38	1194	748.6	45.8	-61.7
13.00	41.4	-0.3	41.1	.02	.33	1213	747.7	45.2	-61.4

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40313.25	41.4	-0.3	41.2	-16.02	-17.32	1214	746.8	44.5	-61.1
13.50	38.1	-0.3	37.8	.05	.35	1207	745.9	43.8	-60.8
13.75	38.1	-0.3	37.9	.05	.35	1205	744.9	43.2	-60.6
14.00	41.4	-0.3	41.1	.01	.33	1213	744.0	42.5	-60.3
14.25	47.7	-0.3	47.4	-15.94	.27	1236	743.1	41.9	-60.0
14.50	41.8	-0.3	41.6	-16.00	.32	1217	742.2	41.3	-59.8
14.75	35.4	-0.3	35.1	.07	.39	1192	741.3	40.6	-59.5
15.00	40.9	-0.3	40.7	.00	.33	1214	740.3	40.0	-59.3
15.25	39.1	-0.3	38.9	.02	.36	1204	739.4	39.4	-59.1
15.50	36.6	-0.3	36.3	.04	.38	1193	738.5	38.8	-58.8
15.75	35.4	-0.3	35.1	.06	.40	1188	737.6	38.2	-58.6
16.00	35.3	-0.3	35.1	.05	.40	1186	736.7	37.6	-58.4
16.25	34.8	-0.3	34.6	.07	.41	1176	735.6	38.0	-60.6
16.50	34.4	-0.3	34.1	.07	.41	1173	734.6	37.4	-60.4
16.75	34.1	-0.3	33.8	.08	.41	1172	733.6	36.8	-60.2
17.00	33.9	-0.3	33.6	.08	.41	1171	732.7	36.2	-60.0
17.25	33.1	-0.3	32.8	.08	.43	1164	731.7	35.5	-59.7
17.50	33.3	-0.3	33.0	.08	.42	1166	730.7	34.9	-59.4
17.75	33.7	-0.3	33.4	.07	.42	1169	729.8	34.3	-59.1
18.00	34.0	-0.3	33.7	.06	.42	1166	728.8	33.6	-58.8
18.25	35.5	-0.3	35.3	.04	.41	1168	727.9	33.0	-58.5
18.50	38.9	-0.3	38.6	.00	.37	1181	726.9	32.3	-58.2
18.75	33.7	-0.3	33.4	.06	.42	1159	726.0	31.7	-57.9
19.00	31.0	-0.3	30.7	.09	.45	1145	725.0	31.1	-57.5
19.25	30.1	-0.3	29.8	.10	.47	1139	724.1	30.4	-57.2
19.50	30.1	-0.3	29.8	.10	.46	1142	723.1	29.8	-56.8
19.75	30.2	-0.3	29.9	.09	.45	1145	722.2	29.1	-56.4
20.00	30.8	-0.3	30.5	.08	.44	1147	721.3	28.5	-56.1
20.25	31.5	-0.3	31.2	.07	.43	1149	720.3	27.8	-55.7
20.50	32.7	-0.3	32.5	.05	.42	1154	719.4	27.2	-55.3
20.75	35.9	-0.3	35.6	.01	.38	1167	718.4	26.6	-54.9
21.00	36.7	-0.3	36.4	-15.99	.38	1168	717.5	25.9	-54.5
21.25	37.1	-0.3	36.8	.98	.36	1173	716.6	25.3	-54.1
21.50	36.5	-0.3	36.2	.99	.36	1173	715.6	24.6	-53.7
21.75	36.6	-0.3	36.3	.99	.37	1171	714.7	24.0	-53.3
22.00	36.7	-0.3	36.4	.98	.37	1171	713.7	23.4	-52.9
22.25	36.8	-0.3	36.5	.98	.37	1170	712.8	22.8	-52.5
22.50	36.8	-0.3	36.5	.97	.38	1169	711.8	22.1	-52.1
22.75	36.0	-0.3	35.7	.98	.39	1164	710.9	21.5	-51.7
23.00	36.4	-0.3	36.2	.97	.38	1170	709.9	20.9	-51.3
23.25	36.9	-0.3	36.6	.96	.37	1175	709.0	20.3	-50.9
23.50	37.2	-0.3	36.9	.96	.37	1176	708.0	19.7	-50.5
23.75	37.3	-0.3	37.0	.95	.38	1173	707.1	19.1	-50.1
24.00	38.1	-0.3	37.8	.94	.39	1167	706.1	18.4	-49.7
24.25	44.4	-0.3	44.1	.87	.34	1187	705.1	17.8	-49.3
24.50	43.4	-0.3	43.2	.88	.35	1185	704.2	17.2	-48.9
24.75	46.5	-0.3	46.2	.85	.32	1199	703.2	16.6	-48.6
25.00	51.6	-0.3	51.3	.80	.29	1213	702.2	16.0	-48.2
25.25	50.0	-0.3	49.7	.81	.31	1203	701.2	15.4	-47.8
25.50	51.9	-0.3	51.6	.79	.29	1216	700.3	14.8	-47.4
25.75	50.7	-0.3	50.5	.80	.30	1216	699.3	14.2	-47.1
26.00	51.5	-0.3	51.3	.79	.31	1214	698.3	13.7	-46.7
26.25	52.0	-0.3	51.8	.78	.31	1212	697.3	13.1	-46.3
26.50	52.3	-0.3	52.1	.78	.32	1211	696.4	12.5	-46.0
26.75	53.1	-0.3	52.8	.77	.31	1214	695.4	11.9	-45.6
27.00	53.8	-0.3	53.6	.76	.30	1220	694.4	11.3	-45.3
27.25	54.7	-0.3	54.4	.75	.30	1221	693.4	10.7	-44.9
27.50	55.1	-0.3	54.8	.75	.31	1218	692.4	10.2	-44.6
27.75	55.7	-0.3	55.4	.74	.31	1217	691.4	9.6	-44.3
28.00	58.5	-0.3	58.2	.72	.29	1222	690.5	9.0	-44.0

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40328.25	58.3	-0.2	58.0	-15.72	-17.29	1218	689.5	8.4	-43.6
28.50	56.5	-0.2	56.2	.73	.30	1211	688.5	7.9	-43.3
28.75	53.5	-0.2	53.2	.76	.33	1200	687.5	7.3	-43.0
29.00	51.0	-0.2	50.7	.78	.35	1189	686.5	6.7	-42.7
29.25	61.4	-0.2	61.2	.69	.27	1220	685.6	6.2	-42.4
29.50	59.6	-0.2	59.4	.71	.28	1214	684.6	5.6	-42.1
29.75	47.8	-0.2	47.6	.80	.36	1180	683.6	5.0	-41.9
30.00	40.9	-0.2	40.7	.87	.43	1151	681.4	4.5	-41.6
30.25	37.6	-0.2	37.4	.90	.47	1134	680.5	3.9	-41.3
30.50	37.6	-0.2	37.4	.90	.46	1137	679.7	3.4	-41.0
30.75	38.1	-0.2	37.9	.89	.45	1140	678.8	2.8	-40.8
31.00	39.2	-0.2	39.0	.88	.45	1141	678.0	2.3	-40.5
31.25	43.6	-0.2	43.4	.83	.41	1155	677.1	1.7	-40.3
31.50	43.7	-0.2	43.5	.83	.41	1154	676.3	1.2	-40.0
31.75	43.9	-0.2	43.7	.83	.41	1156	675.5	0.6	-39.8
32.00	44.7	-0.2	44.5	.82	.42	1153	674.7	0.1	-39.5
32.25	44.9	-0.2	44.7	.82	.43	1148	673.9	359.5	-39.3
32.50	45.0	-0.2	44.8	.82	.42	1153	673.1	359.0	-39.1
32.75	45.0	-0.2	44.8	.82	.41	1157	672.3	358.4	-38.8
33.00	45.1	-0.2	44.9	.82	.42	1154	671.5	357.9	-38.6
33.25	47.9	-0.2	47.7	.79	.41	1158	670.7	357.3	-38.4
33.50	49.0	-0.2	48.8	.78	.42	1156	669.9	356.8	-38.2
33.75	48.8	-0.2	48.6	.78	.42	1153	669.1	356.2	-37.9
34.00	46.7	-0.2	46.5	.80	.43	1149	668.3	355.7	-37.7
34.25	45.9	-0.2	45.7	.81	.43	1148	667.6	355.1	-37.5
34.50	45.6	-0.2	45.4	.81	.44	1145	666.8	354.6	-37.3
34.75	45.6	-0.2	45.4	.81	.44	1143	666.0	354.1	-37.1
35.00	45.4	-0.2	45.2	.81	.44	1140	665.2	353.5	-36.9
35.25	44.9	-0.2	44.7	.82	.46	1132	664.4	353.0	-36.7
35.50	44.2	-0.2	44.0	.82	.47	1126	663.7	352.4	-36.5
35.75	42.4	-0.2	42.2	.84	.48	1122	662.9	351.9	-36.3
36.00	42.7	-0.2	42.5	.84	.48	1121	662.1	351.4	-36.1
36.25	43.2	-0.2	43.0	.83	.49	1117	661.3	350.8	-35.9
36.50	42.9	-0.2	42.7	.84	.50	1114	660.5	350.3	-35.7
36.75	40.5	-0.2	40.3	.86	.52	1106	659.7	349.8	-35.5
37.00	39.5	-0.2	39.3	.87	.53	1102	658.9	349.2	-35.4
37.25	38.1	-0.2	37.9	.89	.55	1094	658.2	348.7	-35.2
37.50	36.6	-0.2	36.4	.91	.57	1089	657.4	348.1	-35.0
37.75	35.7	-0.2	35.6	.92	.58	1084	656.6	347.6	-34.8
38.00	37.9	-0.2	37.7	.89	.57	1087	655.8	347.1	-34.6
38.25	41.5	-0.2	41.3	.85	.54	1096	655.0	346.5	-34.4
38.50	41.5	-0.2	41.3	.86	.55	1093	654.2	346.0	-34.2
38.75	41.6	-0.2	41.5	.85	.54	1095	653.4	345.4	-34.0
39.00	42.8	-0.2	42.6	.84	.53	1097	652.6	344.9	-33.8
39.25	52.8	-0.2	52.6	.75	.45	1125	651.8	344.4	-33.6
39.50	67.6	-0.2	67.4	.65	.37	1154	650.9	343.8	-33.4
39.75	66.1	-0.2	65.9	.66	.40	1142	650.1	343.3	-33.2
40.00	45.2	-0.2	45.0	.82	.54	1088	649.3	342.7	-32.9
40.25	42.0	-0.2	41.9	.85	.55	1082	648.5	342.2	-32.7
40.50	40.8	-0.2	40.6	.87	.56	1078	647.7	341.6	-32.5
40.75	40.0	-0.2	39.8	.88	.57	1074	646.9	341.1	-32.3
41.00	41.2	-0.2	41.0	.86	.57	1073	646.1	340.6	-32.1
41.25	47.3	-0.2	47.1	.80	.53	1087	645.3	340.0	-31.8
41.50	49.9	-0.2	49.7	.78	.51	1092	644.5	339.5	-31.6
41.75	42.8	-0.2	42.6	.85	.58	1067	643.7	338.9	-31.4
42.00	35.9	-0.2	35.8	.93	.65	1040	642.9	338.4	-31.1
42.25	33.6	-0.2	33.4	.96	.68	1030	642.1	337.8	-30.9
42.50	32.9	-0.2	32.7	.97	.68	1028	641.3	337.3	-30.6
42.75	32.7	-0.2	32.6	.97	.68	1029	640.5	336.7	-30.4
43.00	33.6	-0.2	33.4	.96	.67	1031	639.8	336.2	-30.1

1964 4A (Echo 2)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40343.20	33.6	-0.2	33.5	-15.96	-17.67	1030	639.5	335.7	-29.9
43.40	33.5	-0.2	33.3	.96	.68	1027	639.0	335.3	-29.7
43.60	34.4	-0.2	34.2	.95	.67	1027	638.4	334.8	-29.4
43.80	35.7	-0.2	35.5	.94	.68	1026	637.8	334.4	-29.2
44.00	40.7	-0.2	40.6	.88	.65	1039	637.3	334.0	-29.0
44.20	38.1	-0.2	37.9	.91	.66	1032	636.7	333.5	-28.8
44.40	35.6	-0.1	35.5	.94	.68	1025	636.2	333.1	-28.5
44.60	34.9	-0.1	34.7	.95	.70	1019	635.6	332.6	-28.3
44.80	33.6	-0.1	33.4	.97	.72	1014	635.1	332.2	-28.0
45.00	32.5	-0.1	32.4	.98	.73	1010	634.5	331.7	-27.8
45.20	32.1	-0.1	32.0	.99	.73	1008	634.0	331.3	-27.5
45.40	31.6	-0.1	31.4	-16.00	.75	1004	633.5	330.8	-27.3
45.60	30.7	-0.1	30.6	.01	.76	1001	632.9	330.4	-27.0
45.80	31.5	-0.1	31.3	.00	.75	1004	632.4	329.9	-26.8
46.00	31.8	-0.1	31.6	.00	.75	1002	631.9	329.5	-26.5
46.20	32.1	-0.1	31.9	-15.99	.76	1001	631.3	329.0	-26.2
46.40	32.6	-0.1	32.4	.99	.75	1003	630.8	328.6	-25.9
46.60	33.1	-0.1	32.9	.98	.75	1005	630.3	328.1	-25.7
46.80	33.9	-0.1	33.7	.97	.75	1006	629.8	327.7	-25.4
47.00	34.2	-0.1	34.1	.97	.76	1006	629.3	327.2	-25.1
47.20	35.2	-0.1	35.1	.95	.76	1009	628.7	326.8	-24.8
47.40	36.7	-0.1	36.6	.94	.75	1013	628.2	326.3	-24.5
47.60	37.1	-0.1	37.0	.93	.75	1016	627.7	325.9	-24.2
47.80	37.3	-0.1	37.1	.93	.74	1018	627.2	325.4	-23.9
48.00	37.3	-0.1	37.1	.94	.74	1016	626.6	325.0	-23.6
48.20	37.5	-0.1	37.4	.93	.74	1013	626.1	324.5	-23.3
48.40	36.9	-0.1	36.8	.94	.75	1008	625.6	324.0	-22.9
48.60	36.5	-0.1	36.4	.95	.75	1007	625.1	323.6	-22.6
48.80	36.0	-0.1	35.9	.96	.74	1006	624.5	323.1	-22.3
49.00	35.4	-0.1	35.3	.97	.74	1005	624.0	322.7	-22.0
49.20	34.6	-0.1	34.4	.98	.75	998	623.5	322.2	-21.6
49.40	35.9	-0.1	35.8	.96	.74	1001	622.9	321.7	-21.3
49.60	36.9	-0.1	36.8	.95	.73	1004	622.4	321.3	-21.0
49.80	39.5	-0.1	39.4	.92	.71	1010	621.8	320.8	-20.6
50.00	42.1	-0.1	42.0	.90	.70	1016	621.2	320.4	-20.3
50.20	45.7	-0.1	45.6	.86	.67	1026	620.7	319.9	-19.9
50.40	46.6	-0.1	46.5	.86	.68	1026	620.1	319.4	-19.6
50.60	45.2	-0.1	45.1	.87	.70	1019	619.5	319.0	-19.2
50.80	45.1	-0.1	45.0	.87	.71	1018	618.9	318.5	-18.9
51.00	45.8	-0.1	45.7	.87	.71	1018	618.3	318.0	-18.5
51.20	51.8	-0.1	51.7	.81	.67	1031	617.7	317.6	-18.2
51.40	50.0	-0.1	49.9	.83	.69	1024	617.1	317.1	-17.8
51.60	47.3	-0.1	47.2	.86	.71	1015	616.5	316.6	-17.5
51.80	46.9	-0.1	46.9	.86	.72	1004	615.2	314.9	-8.8
52.00	48.2	-0.1	48.1	.86	.71	1008	614.9	314.4	-8.5
52.20	42.8	-0.1	42.7	.91	.75	991	614.6	314.0	-8.1
52.40	45.3	-0.1	45.2	.89	.73	999	614.2	313.5	-7.8
52.60	42.9	-0.1	42.8	.91	.76	990	613.8	313.1	-7.5
52.80	47.3	-0.1	47.2	.87	.73	1002	613.2	312.6	-7.2
53.00	52.6	-0.1	52.5	.83	.69	1016	612.6	312.1	-6.9
53.20	52.5	-0.1	52.5	.83	.69	1016	612.0	311.7	-6.6
53.40	48.1	-0.1	48.0	.87	.74	1002	611.3	311.2	-6.3
53.60	49.5	-0.1	49.5	.86	.74	1005	610.5	310.8	-6.0
53.80	57.3	-0.1	57.3	.79	.69	1024	609.7	310.3	-5.8
54.00	67.3	-0.1	67.2	.72	.64	1043	608.9	309.9	-5.5
54.20	82.9	-0.1	82.9	.63	.59	1067	608.0	309.4	-5.2
54.40	87.2	0.0	87.2	.61	.60	1070	607.1	309.0	-5.0
54.60	86.8	0.0	86.7	.61	.61	1068	606.2	308.5	-4.7
54.80	85.3	0.0	85.3	.62	.62	1063	605.3	308.1	-4.5
55.00	84.7	0.0	84.7	.63	.63	1059	604.3	307.6	-4.3

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	-10^5 P	$10^5 P_r$	$-10^5 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
40355.20	8.68	0.00	8.68	-15.62	-17.61	1058	603.5	308.3	-11.1
55.40	8.40	0.00	8.39	.64	.62	1051	602.5	307.8	-10.9
55.60	7.46	0.00	7.46	.69	.67	1033	601.6	307.4	-10.7
55.80	6.57	0.00	6.57	.75	.72	1013	600.6	306.9	-10.5
56.00	11.83	0.00	11.82	.49	.50	1097	599.7	306.5	-10.3
56.20	17.01	0.00	17.00	.34	.39	1148	598.7	306.0	-10.1
56.40	15.63	0.00	15.63	.38	.44	1130	597.7	305.6	-10.0
56.60	14.03	0.00	14.02	.42	.50	1108	596.8	305.2	-9.8
56.80	12.08	0.00	12.08	.49	.58	1077	595.9	304.7	-9.6
57.00	11.28	0.00	11.28	.52	.62	1065	594.9	304.3	-9.4
57.20	9.82	0.00	9.82	.59	.67	1044	594.0	303.8	-9.2
57.40	7.36	0.00	7.35	.71	.79	1001	593.1	303.4	-9.0
57.60	6.75	0.00	6.75	.75	.82	989	592.3	303.0	-8.9
57.80	6.55	0.00	6.55	.77	.82	988	591.4	302.5	-8.7
58.00	6.57	0.00	6.57	.77	.80	990	590.6	302.1	-8.5
58.20	6.67	0.00	6.67	.77	.80	989	589.8	301.6	-8.3
58.40	6.66	0.00	6.66	.77	.82	985	589.0	301.2	-8.2
58.60	6.52	0.00	6.52	.78	.83	981	588.2	300.7	-8.0
58.80	6.41	0.00	6.41	.79	.83	979	587.4	300.3	-7.8
59.00	6.61	0.00	6.61	.78	.82	982	586.7	299.9	-7.6
59.20	7.69	0.00	7.69	.72	.78	998	586.0	299.4	-7.5
59.40	7.20	0.00	7.20	.75	.83	986	585.3	299.0	-7.3
59.60	6.98	0.00	6.98	.76	.84	981	584.6	298.5	-7.1
59.80	6.73	0.00	6.73	.78	.87	974	584.0	298.1	-6.9
60.00	7.45	0.00	7.45	.74	.84	984	583.3	297.6	-6.7
60.20	7.68	0.00	7.67	.73	.83	986	582.7	297.2	-6.6
60.40	7.06	0.00	7.06	.77	.85	977	582.1	296.7	-6.4
60.60	7.07	0.00	7.07	.77	.85	975	581.5	296.3	-6.2
60.80	7.72	0.00	7.72	.73	.83	984	581.0	295.8	-6.0
61.00	7.59	0.00	7.59	.74	.84	980	580.4	295.4	-5.8
61.20	7.48	0.00	7.48	.75	.85	977	579.9	294.9	-5.7
61.40	7.44	0.00	7.44	.76	.85	974	579.3	294.5	-5.5
61.60	7.66	0.00	7.66	.75	.84	977	578.6	294.0	-5.3
61.80	7.95	0.00	7.95	.74	.82	981	577.8	293.6	-5.1
62.00	8.31	0.00	8.31	.72	.82	984	577.0	293.1	-4.9
62.20	8.96	0.00	8.96	.69	.80	992	576.1	292.7	-4.7
62.40	9.29	0.00	9.29	.67	.80	993	575.3	292.2	-4.5
62.60	9.37	0.00	9.37	.67	.81	992	574.5	291.8	-4.4
62.80	9.09	0.00	9.09	.69	.83	985	573.6	291.3	-4.2
63.00	8.39	0.00	8.39	.72	.87	973	572.8	290.9	-4.0
63.20	8.22	0.00	8.22	.73	.89	969	571.9	290.4	-3.8
63.40	8.28	0.00	8.28	.73	.89	968	571.1	290.0	-3.6
63.60	8.37	0.00	8.37	.73	.91	967	570.2	289.5	-3.4
63.80	8.59	0.00	8.59	.72	.92	967	569.3	289.1	-3.2
64.00	8.57	0.00	8.57	.72	.92	965	568.4	288.6	-3.1
64.20	8.57	0.00	8.57	.73	.92	964	567.5	288.2	-2.9
64.40	8.53	0.00	8.53	.73	.93	962	566.6	287.7	-2.7
64.60	8.54	0.00	8.54	.73	.95	958	565.7	287.3	-2.5
64.80	8.40	0.00	8.40	.74	.97	953	564.7	286.8	-2.3
65.00	8.41	0.00	8.41	.74	.97	952	563.8	286.3	-2.2
65.20	8.46	0.00	8.46	.74	.97	951	562.9	285.9	-2.0
65.40	8.68	0.00	8.68	.73	.97	952	561.9	285.4	-1.8
65.60	8.87	0.00	8.87	.72	.97	952	561.0	285.0	-1.6
65.80	9.28	0.00	9.27	.70	.96	956	560.0	284.5	-1.5
66.00	9.31	0.00	9.31	.70	.96	953	559.0	284.1	-1.3
66.20	9.11	0.00	9.11	.71	.99	947	558.0	283.6	-1.1
66.40	8.86	0.00	8.86	.73	-18.00	942	557.1	283.2	-1.0
66.60	8.83	0.00	8.83	.73	-17.99	941	556.1	282.7	-0.8
66.80	8.83	0.00	8.83	.74	.99	940	555.1	282.3	-0.7
67.00	8.79	0.00	8.79	.74	-18.01	936	554.1	281.8	-0.5

Table 4 (Cont.)

1964 4A (Echo 2)

MJD	-10^5 P	$10^5 P_r$	$-10^5 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40367.20	8.78	0.00	8.78	-15.74	-18.02	933	553.1	281.4	-0.4
67.40	8.80	0.00	8.80	.74	.03	931	552.0	280.9	-0.2
67.60	8.82	0.00	8.82	.74	.03	930	551.0	280.5	-0.1
67.80	8.83	0.00	8.83	.74	.03	928	550.0	280.0	0.1
68.00	8.83	0.00	8.82	.74	.04	925	548.9	279.6	0.2
40368.25	8.86	0.00	8.86	-15.74	-18.05	921	546.9	279.0	0.3
68.50	8.89	0.00	8.89	.74	.05	919	545.6	278.5	0.5
68.75	8.94	0.00	8.94	.74	.06	916	544.2	277.9	0.6
69.00	8.97	0.00	8.97	.74	.07	913	542.8	277.4	0.7
69.25	9.36	0.00	9.35	.72	.07	914	541.5	276.8	0.9
69.50	10.20	0.00	10.20	.68	.05	921	540.1	276.3	1.0
69.75	10.76	0.00	10.76	.66	.04	923	538.6	275.7	1.1
70.00	10.20	0.00	10.20	.69	.06	914	537.2	275.2	1.1
70.25	9.92	0.00	9.92	.70	.06	908	535.8	274.6	1.2
70.50	9.91	0.00	9.91	.70	.07	905	534.3	274.1	1.3
70.75	10.15	0.00	10.15	.69	.07	904	532.8	273.5	1.3
71.00	10.51	0.00	10.51	.68	.06	903	531.2	273.0	1.3
71.25	10.78	0.00	10.78	.67	.06	902	529.7	272.5	1.4
71.50	11.33	0.00	11.33	.65	.05	904	528.1	271.9	1.4
71.75	11.61	0.00	11.61	.64	.05	902	526.4	271.4	1.3
72.00	11.94	0.00	11.94	.62	.05	902	524.7	270.9	1.3
72.25	11.90	0.00	11.90	.63	.07	894	521.0	270.3	1.3
72.50	11.86	0.00	11.86	.63	.08	888	519.1	269.8	1.2
72.75	11.83	0.00	11.82	.63	.10	884	517.3	269.3	1.1
73.00	11.83	0.00	11.83	.63	.11	879	515.4	268.8	1.1
73.25	11.72	0.00	11.71	.63	.12	874	513.6	268.3	0.9
73.50	11.54	0.00	11.54	.64	.12	870	511.8	267.7	0.8
73.75	11.53	0.00	11.53	.65	.13	866	509.9	267.2	0.7
74.00	11.64	0.00	11.64	.64	.14	862	508.1	266.7	0.5
74.25	11.97	0.00	11.97	.63	.14	862	506.2	266.2	0.3
74.50	12.52	0.00	12.52	.61	.15	863	504.3	265.7	0.1
74.75	13.20	0.00	13.20	.59	.14	865	502.3	265.2	-0.1
75.00	14.04	0.00	14.03	.56	.13	868	500.2	264.7	-0.3
75.25	15.11	0.00	15.11	.53	.12	872	498.0	264.2	-0.6
75.50	16.36	0.00	16.36	.50	.10	877	495.6	263.7	-0.9
75.75	17.88	0.00	17.88	.46	.08	883	492.9	263.2	-1.2
76.00	19.68	0.00	19.68	.42	.08	888	490.0	262.7	-1.5
76.25	21.79	0.00	21.78	.37	.06	894	486.8	262.2	-1.8
76.50	24.17	0.00	24.16	.33	.05	900	483.2	261.7	-2.2
76.75	26.92	0.00	26.92	.28	.04	905	479.1	261.2	-2.5
77.00	29.98	0.00	29.98	.24	.03	911	474.6	260.7	-2.9
77.25	33.45	0.00	33.44	.19	.03	914	469.5	260.3	-3.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38726.00	7.63	7.26	14.89	-16.37	-16.69	676	532.3	314.0	45.7
28.00	6.76	7.41	14.17	.41	.70	667	534.2	309.5	50.2
30.00	5.91	7.47	13.38	.45	.72	658	536.3	305.1	54.8
32.00	5.86	7.36	13.22	.47	.72	657	538.4	300.5	59.3
34.00	5.93	7.12	13.05	.50	.72	658	540.6	295.7	63.8
36.00	6.16	6.79	12.95	.50	.71	655	542.8	290.9	68.2
38.00	7.21	6.34	13.55	.49	.68	664	544.9	285.8	72.7
40.00	7.99	5.78	13.77	.50	.67	674	547.0	280.4	77.0
42.00	8.56	5.11	13.67	.50	.66	672	548.9	274.6	81.3
44.00	10.28	4.43	14.71	.46	.62	684	550.6	268.3	85.6
46.00	11.73	3.60	15.33	.44	.59	692	552.1	261.2	89.7
48.00	12.47	2.72	15.19	.44	.58	696	553.5	252.7	93.7
50.00	12.95	1.82	14.77	.46	.59	697	554.5	241.9	97.5
52.00	13.04	0.88	13.92	.49	.61	690	555.2	227.3	100.9
54.00	12.90	-0.13	12.77	.52	.65	675	555.7	205.8	103.5
56.00	13.54	-1.18	12.36	.54	.66	670	555.8	175.9	104.7
58.00	14.68	-2.18	12.50	.53	.66	674	555.6	145.0	103.8
60.00	15.63	-3.11	12.52	.53	.66	676	555.1	121.8	101.2
62.00	17.05	-4.03	13.02	.50	.64	683	554.2	106.0	97.7
64.00	19.09	-4.91	14.18	.44	.60	700	553.0	94.7	93.8
66.00	21.10	-5.74	15.36	.41	.58	719	551.5	85.8	89.6
68.00	23.33	-6.48	16.85	.35	.54	733	549.6	78.5	85.3
38782.00	39.6	-8.2	31.5	-15.97	-16.30	817	534.6	41.6	53.8
83.00	41.1	-8.1	33.0	.94	.28	823	533.5	39.4	51.5
84.00	35.7	-7.9	27.8	-16.02	.36	804	532.5	37.2	49.1
85.00	29.7	-7.7	22.1	.12	.47	778	531.5	35.0	46.7
86.00	30.2	-7.4	22.7	.10	.46	781	530.5	32.8	44.4
87.00	31.4	-7.2	24.3	.06	.43	788	529.6	30.6	42.0
88.00	35.2	-6.9	28.3	-15.99	.37	806	528.8	28.5	39.6
89.00	37.1	-6.5	30.6	.95	.33	815	528.1	26.4	37.3
90.00	37.2	-6.2	30.9	.94	.33	816	527.5	24.2	34.9
91.00	35.2	-5.9	29.3	.96	.36	810	526.9	22.1	32.5
92.00	34.7	-5.5	29.2	.96	.36	810	526.4	20.0	30.1
93.00	34.7	-5.1	29.6	.95	.36	811	525.9	17.9	27.7
94.00	36.3	-4.7	31.7	.92	.33	819	525.6	15.9	25.3
95.00	37.8	-4.2	33.5	.89	.30	824	525.4	13.8	22.8
96.00	38.9	-3.8	35.1	.86	.28	828	525.2	11.7	20.4
97.00	37.6	-3.4	34.2	.88	.29	825	525.1	9.6	18.0
98.00	45.7	-2.9	42.7	.78	.19	849	525.2	7.6	15.6
99.00	51.7	-2.5	49.2	.71	.13	866	525.3	5.5	13.1
38800.00	37.8	-2.0	35.8	.85	.27	829	525.5	3.5	10.7
01.00	33.1	-1.5	31.6	.91	.32	814	525.8	1.4	8.2
02.00	29.7	-1.0	28.7	.95	.36	804	526.2	359.4	5.8
03.00	23.9	-0.5	23.4	-16.04	.45	782	526.7	357.3	3.3
04.00	21.2	0.0	21.2	.09	.50	773	527.3	355.2	0.9
38805.00	20.9	0.5	21.	-16.10	-16.50	771	528.0	353.2	-1.6
05.50	23.9	0.7	25.	.02	.42	789	528.3	352.2	-2.8
06.00	23.3	0.9	24.	.04	.43	784	528.7	351.1	-4.0
06.50	19.4	1.1	20.	.12	.51	765	529.2	350.1	-5.3
07.00	23.5	1.3	25.	.02	.41	789	529.6	349.1	-6.5
07.50	19.3	1.5	21.	.10	.49	771	530.0	348.0	-7.7
08.00	17.2	1.8	19.	.15	.54	761	530.5	347.0	-9.0
08.50	15.3	2.0	17.	.21	.59	750	531.0	345.9	-10.2
09.00	14.2	2.2	16.	.24	.61	744	531.5	344.9	-11.4
09.50	14.2	2.4	17.	.21	.59	751	532.0	343.9	-12.7
10.00	13.9	2.7	17.	.21	.58	750	532.5	342.8	-13.9
10.50	13.7	2.9	17.	.21	.56	750	533.0	341.8	-15.2

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^7 P	10^7 P_r	-10^7 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg)	$\delta_\pi-\delta_O$ (deg)
38811.00	14.2	3.1	17.	-16.22	-16.58	750	533.6	340.7	-16.4
11.50	14.2	3.3	18.	.19	.55	756	534.2	339.7	-17.6
12.00	17.1	3.5	21.	.12	.47	772	534.7	338.6	-18.9
12.50	14.2	3.8	18.	.19	.53	755	535.3	337.5	-20.1
13.00	12.7	3.9	17.	.21	.56	749	535.9	336.5	-21.3
13.50	10.1	4.1	14.	.31	.65	730	536.5	335.4	-22.6
14.00	10.7	4.3	15.	.29	.62	737	537.2	334.3	-23.8
14.50	17.7	4.5	22.	.11	.44	778	537.8	333.2	-25.1
15.00	22.7	4.7	27.	.02	.34	799	538.4	332.2	-26.3
15.50	17.8	4.8	23.	.09	.41	782	539.1	331.1	-27.6
16.00	17.0	5.0	22.	.12	.43	778	539.7	330.0	-28.8
16.50	16.0	5.1	21.	.14	.45	774	540.4	328.9	-30.0
17.00	13.5	5.3	19.	.19	.49	764	541.0	327.7	-31.3
17.50	13.5	5.4	19.	.20	.49	764	541.7	326.6	-32.5
18.00	13.3	5.5	19.	.20	.49	764	542.4	325.5	-33.8
18.50	12.3	5.7	18.	.23	.51	758	543.1	324.3	-35.0
19.00	11.6	5.8	17.	.25	.53	752	543.7	323.2	-36.3
19.50	10.9	5.9	17.	.26	.53	753	544.4	322.0	-37.5
20.00	9.9	6.0	16.	.29	.56	747	545.1	320.9	-38.7
20.50	9.4	6.1	15.	.32	.58	740	545.8	319.7	-40.0
21.00	7.6	6.1	14.	.36	.61	733	546.5	318.5	-41.2
21.50	11.0	6.2	17.	.28	.52	755	547.2	317.3	-42.5
22.00	14.2	6.3	20.	.20	.44	772	547.8	316.0	-43.7
22.50	15.5	6.3	22.	.15	.39	781	548.5	314.8	-45.0
23.00	16.4	6.3	23.	.12	.36	785	549.2	313.5	-46.2
23.50	26.0	6.4	32.	-15.99	.22	823	549.9	312.2	-47.4
24.00	15.7	6.4	22.	-16.18	.40	785	550.5	310.9	-48.7
38825.00	10.3	6.4	16.7	-16.31	-16.52	756	551.9	308.2	-51.1
26.00	8.9	6.3	15.2	.35	.55	745	553.2	305.4	-53.6
27.00	7.7	6.2	13.9	.40	.59	735	554.5	302.4	-56.1
28.00	5.2	6.1	11.3	.51	.68	711	555.7	299.2	-58.5
29.00	4.4	5.9	10.3	.56	.72	698	556.9	295.8	-61.0
30.00	3.8	5.7	9.5	.60	.75	686	558.1	292.2	-63.4
31.00	3.6	5.3	8.9	.63	.78	675	559.2	288.1	-65.8
32.00	4.9	4.9	9.8	.58	.72	689	560.3	283.6	-68.1
33.00	7.1	4.4	11.5	.50	.63	713	561.3	278.4	-70.4
34.00	5.7	3.8	9.6	.58	.70	686	562.3	272.4	-72.6
35.00	6.2	3.2	9.3	.60	.71	681	563.2	265.3	-74.8
36.00	6.1	2.3	8.4	.66	.76	665	565.0	256.5	-76.8
37.00	6.8	1.4	8.2	.68	.77	661	565.7	245.7	-78.5
38.00	8.2	0.2	8.3	.67	.76	665	566.3	232.7	-79.9
39.00	9.0	0.0	9.0	.63	.71	680	566.8	217.5	-80.9
40.00	9.8	0.0	9.8	.58	.67	692	567.1	201.3	-81.4
41.00	10.6	0.0	10.6	.56	.64	702	567.3	185.7	-81.3
38842.00	12.1	0.0	12.	-16.50	-16.58	717	567.4	172.1	-80.7
42.50	12.9	0.0	13.	.44	.53	723	567.4	166.2	-80.3
43.00	14.0	0.0	14.	.41	.50	731	567.4	160.9	-79.8
43.50	12.7	0.0	13.	.45	.54	720	567.3	156.1	-79.3
44.00	12.4	0.0	12.	.49	.58	708	567.3	151.7	-78.7
44.50	14.1	0.0	14.	.42	.51	729	567.2	147.8	-78.1
45.00	13.1	0.0	13.	.45	.54	716	567.0	144.2	-77.4
45.50	12.5	0.0	12.	.49	.58	704	566.9	141.0	-76.7
38846.00	12.4	0.0	12.4	-16.48	-16.57	709	566.7	138.0	-75.9
47.00	11.9	0.0	11.9	.51	.61	702	566.3	132.6	-74.4
48.00	11.6	0.0	11.6	.54	.63	696	565.8	127.9	-72.9
49.00	11.1	0.0	11.1	.56	.66	687	565.2	123.8	-71.2
50.00	10.8	0.0	10.8	.57	.67	680	564.5	120.0	-69.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
38851.00	10.6	0.0	10.6	-16.58	-16.68	672	563.8	116.6	-67.9
52.00	10.6	0.0	10.6	.58	.69	671	562.9	113.4	-66.2
53.00	11.2	0.0	11.2	.55	.67	680	562.0	110.4	-64.5
54.00	11.2	0.0	11.2	.54	.66	676	561.1	107.5	-62.8
55.00	11.6	0.0	11.6	.52	.65	680	560.1	104.8	-61.0
56.00	12.4	0.0	12.4	.48	.62	689	559.0	102.2	-59.3
57.00	14.0	0.0	14.0	.41	.56	705	557.9	99.7	-57.5
58.00	15.0	0.0	15.0	.38	.54	714	556.8	97.2	-55.8
59.00	16.5	0.0	16.5	.34	.50	727	555.6	94.9	-54.0
60.00	17.1	0.0	17.1	.31	.48	729	554.4	92.5	-52.2
61.00	16.3	0.0	16.3	.33	.51	723	553.1	90.3	-50.5
62.00	17.0	0.0	17.0	.30	.49	728	551.9	88.0	-48.7
63.00	17.7	0.0	17.7	.27	.48	732	550.6	85.8	-46.9
64.00	17.5	0.0	17.5	.27	.49	730	549.3	83.6	-45.1
65.00	19.3	0.0	19.3	.23	.45	743	548.0	81.5	-43.3
66.00	21.3	0.0	21.3	.17	.41	755	546.8	79.4	-41.6
67.00	21.2	0.0	21.2	.17	.42	753	545.3	77.3	-39.8
38867.40	20.	0.	20.	-16.20	-16.45	747	544.8	76.4	-39.1
67.60	20.	0.	20.	.20	.45	747	544.6	76.0	-38.7
67.80	23.	0.	23.	.12	.38	761	544.3	75.6	-38.3
68.00	28.	0.	28.	.02	.28	782	544.1	75.2	-38.0
68.20	51.	0.	51.	-15.76	.02	853	543.8	74.8	-37.6
68.40	78.	0.	78.	.56	-15.83	903	543.6	74.4	-37.3
68.60	75.	0.	75.	.57	.83	894	543.3	73.9	-36.9
68.80	73.	0.	73.	.59	.85	893	543.1	73.5	-36.5
69.00	51.	0.	51.	.75	-16.02	851	542.8	73.1	-36.2
69.20	39.	0.	39.	.88	.15	821	542.6	72.7	-35.8
69.40	36.	0.	36.	.91	.19	813	542.4	72.3	-35.5
69.60	33.	0.	33.	.95	.23	803	542.1	71.9	-35.1
69.80	31.	0.	31.	.97	.25	794	541.9	71.5	-34.7
70.00	30.	0.	30.	.98	.26	790	541.6	71.0	-34.4
70.20	29.	0.	29.	-16.00	.28	786	541.4	70.6	-34.0
70.40	29.	0.	29.	.00	.28	787	541.2	70.2	-33.7
70.60	31.	0.	31.	-15.97	.25	795	540.9	69.8	-33.3
70.80	28.	0.	28.	-16.01	.30	783	540.7	69.4	-32.9
38871.00	27.0	0.0	27.0	-16.03	-16.32	780	540.5	69.0	-32.6
72.00	26.5	0.0	26.5	.04	.34	779	539.4	67.0	-30.8
73.00	26.4	0.0	26.4	.04	.34	779	538.3	64.9	-29.0
74.00	26.1	0.0	26.1	.03	.35	777	537.3	62.9	-27.2
75.00	25.6	0.0	25.6	.04	.36	776	536.4	60.9	-25.4
76.00	24.7	0.0	24.7	.05	.38	772	535.5	58.9	-23.6
77.00	24.0	-0.7	23.3	.07	.41	765	534.6	56.9	-21.7
78.00	24.1	-1.5	22.5	.08	.43	762	533.9	54.8	-19.9
79.00	24.2	-2.1	22.1	.09	.44	762	533.2	52.8	-18.1
80.00	24.9	-2.5	22.4	.08	.43	764	532.6	50.8	-16.3
81.00	25.0	-2.6	22.4	.07	.43	765	532.1	48.8	-14.5
82.00	24.7	-2.8	22.0	.08	.45	765	531.6	46.8	-12.6
83.00	24.1	-2.6	21.5	.09	.46	764	531.2	44.8	-10.8
84.00	23.9	-2.5	21.4	.09	.46	764	530.9	42.7	-9.0
38884.50	23.9	-2.3	22.	-16.08	-16.45	768	530.8	41.7	-8.1
85.00	26.7	-2.3	24.	.03	.40	776	530.7	40.7	-7.1
85.50	32.8	-2.1	31.	-15.92	.29	802	530.6	39.7	-6.2
86.00	30.9	-2.0	29.	.95	.32	795	530.5	38.7	-5.3
86.50	29.6	-1.9	28.	.96	.34	794	530.5	37.7	-4.4
87.00	26.2	-1.8	24.	-16.03	.41	778	530.5	36.6	-3.5
87.50	25.1	-1.6	24.	.03	.41	779	530.5	35.6	-2.5
88.00	25.4	-1.5	24.	.03	.41	781	530.5	34.6	-1.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
38888.50	27.2	-1.3	26.	-16.00	-16.37	790	530.5	33.6	-0.7
89.00	32.6	-1.2	31.	-15.92	.29	807	530.6	32.5	0.2
89.50	31.3	-1.0	30.	.93	.30	805	530.6	31.5	1.2
90.00	29.6	-0.8	29.	.95	.32	803	530.7	30.5	2.1
90.50	27.3	-0.6	27.	.98	.35	796	530.8	29.4	3.0
91.00	24.2	-0.4	24.	-16.03	.41	785	531.0	28.4	3.9
38892.00	23.2	0.0	23.2	-16.05	-16.42	784	531.3	26.3	5.8
93.00	21.4	0.4	21.8	.08	.45	779	531.7	24.2	7.7
94.00	20.5	0.7	21.2	.09	.46	778	532.2	22.0	9.5
95.00	21.6	1.1	22.7	.06	.43	787	532.7	19.9	11.4
96.00	24.7	1.5	26.2	.00	.35	803	533.5	17.7	13.3
97.00	32.6	1.9	34.5	-15.87	.22	836	534.1	15.5	15.2
98.00	26.2	2.3	28.5	.96	.31	819	534.8	13.3	17.1
99.00	24.3	2.6	26.9	.99	.33	816	535.4	11.1	19.0
38900.00	25.5	3.0	28.6	.96	.30	825	536.2	8.8	20.8
01.00	26.4	3.4	29.8	.95	.28	831	536.9	6.5	22.7
02.00	29.9	3.8	33.6	.89	.22	846	537.7	4.1	24.6
03.00	30.8	4.1	34.9	.88	.20	852	538.5	1.7	26.5
04.00	26.5	4.5	30.9	.94	.25	840	539.4	359.2	28.4
05.00	21.1	4.8	25.9	-16.02	.33	822	540.3	356.7	30.3
06.00	19.0	5.1	24.1	.05	.36	816	541.1	354.1	32.2
07.00	17.0	5.4	22.5	.09	.39	809	542.0	351.4	34.1
08.00	15.0	5.7	20.7	.13	.42	801	543.0	348.6	36.0
09.00	12.9	6.0	18.9	.17	.46	794	543.9	345.7	37.9
10.00	10.5	6.2	16.7	.23	.52	783	544.8	342.6	39.8
11.00	8.0	6.5	14.5	.30	.57	770	545.7	339.3	41.7
12.00	5.3	6.7	12.0	.38	.65	752	546.6	335.8	43.6
13.00	4.1	7.0	11.1	.42	.68	746	547.5	332.0	45.4
14.00	4.9	7.2	12.1	.39	.64	756	548.3	327.8	47.2
15.00	7.6	7.4	15.0	.29	.53	780	549.2	323.2	49.0
16.00	9.0	7.5	16.5	.24	.48	792	550.0	317.9	50.8
17.00	7.2	7.7	14.9	.29	.53	784	550.8	311.8	52.5
18.00	5.6	7.8	13.4	.35	.58	776	551.5	304.5	54.1
19.00	5.7	7.9	13.7	.34	.56	780	552.2	295.8	55.5
20.00	9.4	8.0	17.4	.22	.44	806	552.9	285.1	56.7
21.00	8.4	8.1	16.5	.24	.46	804	553.5	272.3	57.7
22.00	7.9	8.1	16.1	.27	.47	805	554.1	257.3	58.2
23.00	7.3	8.2	15.5	.28	.48	803	554.6	241.3	58.2
24.00	4.3	8.2	12.5	.37	.57	783	555.0	225.8	57.7
25.00	1.7	8.2	9.9	.48	.67	760	555.3	212.1	56.8
38926.00	5.	8.	13.	-16.34	-16.54	788	555.6	200.7	55.5
26.20	8.	8.	16.	.25	.45	809	555.7	198.6	55.2
26.40	8.	8.	16.	.26	.45	810	555.8	196.7	54.9
26.60	6.	8.	14.	.31	.51	796	555.8	194.8	54.6
26.80	5.	8.	13.	.33	.53	787	555.9	193.0	54.3
27.00	8.	8.	16.	.24	.43	808	555.9	191.3	54.0
27.20	13.	8.	21.	.12	.31	837	556.0	189.6	53.7
27.40	14.	8.	22.	.10	.29	842	556.1	188.0	53.3
27.60	45.	8.	53.	-15.71	-15.90	946	556.1	186.5	53.0
27.80	61.	8.	69.	.59	.78	981	556.2	185.0	52.7
28.00	52.	8.	60.	.65	.84	960	556.2	183.5	52.3
28.20	47.	8.	55.	.69	.88	950	556.3	182.1	52.0
28.40	33.	8.	40.	.84	-16.03	910	556.3	180.8	51.6
28.60	19.	8.	27.	-16.02	.20	865	556.3	179.5	51.2
28.80	10.	8.	17.	.22	.41	816	556.4	178.2	50.9
29.00	5.	8.	12.	.38	.57	780	556.4	177.0	50.5
29.20	8.	8.	15.	.28	.47	802	556.5	175.8	50.1
29.40	9.	8.	17.	.23	.41	816	556.5	174.7	49.8

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg)	$\delta_\pi-\delta_O$ (deg.)
38929.60	7.	8.	15.	-16.30	-16.49	804	556.5	173.6	49.4
29.80	2.	8.	10.	.49	.67	763	556.6	172.5	49.0
38930.00	3.6	7.7	11.3	-16.42	-16.61	775	556.6	171.4	48.6
31.00	-0.3	7.6	7.3	.63	.82	730	556.8	166.6	46.7
32.00	-1.6	7.4	5.9	.74	.92	705	556.9	162.2	44.8
33.00	0.2	7.2	7.4	.64	.82	732	556.9	158.3	42.8
34.00	0.8	7.0	7.8	.61	.80	738	557.0	154.6	40.7
35.00	1.6	6.8	8.3	.58	.77	745	557.0	151.3	38.7
36.00	2.9	6.5	9.4	.53	.71	759	556.9	148.1	36.7
37.00	6.3	6.2	12.5	.39	.58	788	556.9	145.1	34.6
38.00	6.4	5.8	12.3	.40	.58	786	556.8	142.2	32.6
39.00	6.0	5.4	11.4	.44	.63	779	556.6	139.5	30.5
40.00	5.8	4.9	10.7	.47	.66	772	556.5	136.8	28.5
41.00	6.1	4.3	10.4	.47	.66	768	556.4	134.2	26.4
42.00	7.0	3.6	10.6	.46	.65	769	556.2	131.7	24.4
43.00	7.8	2.6	10.4	.47	.66	768	556.0	129.2	22.3
44.00	8.3	1.0	9.3	.53	.72	757	555.8	126.8	20.3
45.00	8.7	0.0	8.7	.57	.76	750	555.6	124.5	18.2
46.00	8.6	0.0	8.6	.57	.77	749	555.4	122.1	16.2
47.00	9.6	0.0	9.6	.51	.71	760	555.3	119.9	14.1
48.00	15.0	0.0	15.0	.31	.51	807	555.1	117.6	12.1
49.00	13.7	0.0	13.7	.34	.54	798	554.9	115.4	10.1
50.00	15.7	0.0	15.7	.27	.47	812	554.8	113.2	8.0
51.00	14.2	0.0	14.2	.32	.52	802	554.7	111.0	6.0
52.00	12.8	0.0	12.8	.37	.57	792	554.6	108.8	4.0
53.00	11.8	0.0	11.8	.42	.62	785	554.5	106.6	2.0
54.00	11.5	0.0	11.5	.43	.63	781	554.4	104.5	0.0
55.00	11.7	0.0	11.7	.42	.62	782	554.4	102.4	-2.1
56.00	13.0	0.0	13.0	.37	.57	794	554.5	100.3	-4.1
57.00	13.0	0.0	13.0	.37	.57	793	554.6	98.2	-6.1
58.00	11.4	0.0	11.4	.44	.63	780	554.7	96.1	-8.0
59.00	10.8	0.0	10.8	.47	.99	775	555.5	94.0	-10.0
60.00	12.7	0.0	12.7	.38	.91	791	555.5	91.9	-12.0
61.00	14.6	0.0	14.6	.32	.84	807	555.6	89.8	-14.0
62.00	13.7	0.0	13.7	.35	.87	801	555.8	87.8	-16.0
63.00	11.7	0.0	11.7	.43	.94	783	556.0	85.7	-17.9
64.00	11.5	0.0	11.5	.43	.94	780	556.3	83.7	-19.9
65.00	11.7	0.0	11.7	.41	.92	781	556.7	81.6	-21.8
66.00	11.3	0.0	11.3	.43	.94	777	557.2	79.5	-23.8
67.00	10.7	0.0	10.7	.47	.96	772	557.8	77.5	-25.7
68.00	10.5	0.0	10.5	.48	.96	770	558.4	75.4	-27.7
69.00	11.5	0.0	11.5	.43	.91	779	559.2	73.4	-29.6
70.00	12.8	0.0	12.8	.38	.86	792	560.0	71.3	-31.5
71.00	12.7	0.0	12.7	.39	.86	793	560.8	69.3	-33.4
72.00	11.8	0.0	11.8	.43	.89	786	561.8	67.2	-35.3
73.00	11.7	0.0	11.7	.44	.89	786	562.8	65.1	-37.2
74.00	12.2	0.0	12.2	.42	.86	790	563.8	63.1	-39.2
75.00	14.3	0.0	14.3	.35	.78	810	565.0	61.0	-41.1
76.00	14.8	0.0	14.8	.34	.76	816	566.1	58.9	-42.9
77.00	14.7	0.0	14.7	.35	.75	817	567.4	56.8	-44.8
78.00	14.5	0.0	14.5	.36	.75	817	568.7	54.7	-46.7
79.00	14.5	0.0	14.5	.36	.75	817	570.0	52.5	-48.6
80.00	14.1	0.0	14.1	.38	.75	814	571.3	50.4	-50.5
81.00	13.7	0.0	13.7	.39	.76	811	572.7	48.2	-52.3
82.00	13.5	0.0	13.5	.41	.76	809	574.1	46.0	-54.2
83.00	12.9	1.0	13.9	.40	.74	814	575.6	43.7	-56.0
84.00	10.9	2.3	13.2	.43	.76	808	577.0	41.5	-57.9
85.00	8.5	3.4	11.8	.49	.80	794	578.5	39.2	-59.7
86.00	7.4	4.3	11.6	.50	.80	792	580.0	36.8	-61.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg)	$\delta_\pi - \delta_\odot$ (deg)
38987.00	6.4	5.0	11.3	-16.52	-16.81	787	581.5	34.4	-63.4
88.00	5.5	5.5	11.0	.54	.82	785	582.9	31.9	-65.2
89.00	4.8	6.0	10.8	.54	.82	780	584.4	29.4	-67.0
90.00	5.3	6.4	11.6	.52	.78	792	585.9	26.7	-68.8
91.00	5.2	6.7	11.9	.51	.76	793	587.3	24.0	-70.6
92.00	5.0	7.0	12.0	.50	.75	792	588.7	21.1	-72.4
93.00	4.7	7.2	11.9	.52	.75	794	590.1	18.1	-74.1
94.00	2.6	7.5	10.1	.61	.83	773	591.4	14.8	-75.9
95.00	2.0	7.7	9.7	.65	.85	772	592.7	11.3	-77.6
96.00	1.6	7.8	9.4	.65	.85	763	593.9	7.5	-79.3
97.00	1.5	8.0	9.5	.65	.84	762	595.1	3.3	-80.9
98.00	0.7	8.1	8.8	.69	.88	751	596.3	358.6	-82.5
99.00	-0.3	8.2	8.0	.75	.92	738	597.4	353.1	-84.1
39000.00	-0.9	8.3	7.4	.80	.96	726	598.4	346.7	-85.5
01.00	-1.3	8.4	7.1	.83	.98	719	599.4	339.0	-86.9
02.00	-1.3	8.4	7.1	.83	.98	717	600.3	329.5	-88.0
03.00	-1.0	8.4	7.5	.80	.95	723	601.1	317.9	-88.9
04.00	-1.1	8.5	7.4	.81	.96	723	601.9	304.0	-89.4
05.00	-1.9	8.5	6.6	.87	-17.01	702	602.5	288.1	-89.5
06.00	-2.2	8.4	6.2	.91	.04	691	603.1	271.9	-89.0
07.00	-2.0	8.4	6.3	.89	.02	692	603.7	256.9	-87.9
08.00	-0.6	8.3	7.7	.79	-16.92	732	604.1	244.2	-86.4
09.00	-1.7	8.3	6.5	.87	-17.00	700	604.5	233.8	-84.7
10.00	-2.1	8.2	6.1	.90	.02	687	604.8	225.3	-82.7
11.00	-2.6	8.1	5.5	.95	.07	658	605.1	218.3	-80.5
12.00	-2.5	7.9	5.4	.97	.09	659	605.2	212.5	-78.3
13.00	-2.7	7.8	5.1	-17.01	.12	631	605.3	207.4	-76.0
14.00	-2.8	7.7	4.9	.03	.14	620	605.3	203.0	-73.6
15.00	-2.6	7.5	4.9	.02	.14	620	605.2	199.0	-71.2
16.00	-2.3	7.3	5.0	.00	.12	620	605.1	195.4	-68.7
17.00	-2.2	7.2	5.0	.02	.13	622	604.8	192.1	-66.2
18.00	-2.1	7.0	4.9	.03	.15	623	604.6	189.0	-63.8
39019.00	-1.0	6.8	6.	-16.90	-17.03	663	604.0	186.0	-61.2
19.50	0.6	6.7	7.	.81	-16.95	695	603.9	184.6	-60.0
20.00	0.8	6.6	7.	.82	.96	697	603.7	183.2	-58.7
20.50	0.6	6.5	7.	.83	.97	701	603.5	181.9	-57.4
21.00	-0.2	6.4	6.	.90	-17.04	659	603.3	180.6	-56.2
21.50	-0.7	6.3	6.	.91	.05	665	603.1	179.3	-54.9
39022.00	-0.9	6.1	5.2	-16.97	-17.11	622	602.9	178.0	-53.6
23.00	-0.9	5.9	5.0	.99	.13	623	602.4	175.6	-51.1
24.00	-1.2	5.6	4.4	-17.07	.20	625	601.8	173.2	-48.5
25.00	-1.1	5.4	4.3	.08	.22	626	601.2	170.8	-46.0
26.00	-1.2	5.1	3.9	.12	.26	626	600.6	168.6	-43.4
27.00	-0.5	4.9	4.4	.05	.20	625	599.9	166.3	-40.8
28.00	-0.3	4.6	4.3	.05	.21	624	599.2	164.1	-38.3
29.00	0.5	4.4	4.8	.00	.16	624	598.5	162.0	-35.7
39029.50	1.1	4.2	5.	-16.98	-17.15	624	598.2	160.9	-34.4
30.00	1.0	4.1	5.	.98	.14	624	597.8	159.8	-33.1
30.50	1.6	4.0	6.	.90	.07	624	597.4	158.8	-31.8
31.00	5.1	3.8	9.	.70	-16.88	728	597.1	157.7	-30.5
31.50	5.7	3.7	9.	.68	.87	720	596.7	156.7	-29.2
32.00	2.3	3.5	6.	.88	-17.06	622	596.3	155.6	-27.9
32.50	2.2	3.4	6.	.89	.07	623	596.0	154.6	-26.7
33.00	2.3	3.3	6.	.88	.07	623	595.6	153.5	-25.4
33.50	1.2	3.2	4.	-17.06	.25	623	595.2	152.5	-24.1
34.00	1.3	3.0	4.	.08	.26	624	594.9	151.5	-22.8
34.50	2.3	2.9	5.	-16.98	.16	624	594.5	150.5	-21.5

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39035.00	2.9	2.7	6.	-16.88	-17.07	622	594.2	149.4	-20.2
35.50	3.6	2.6	6.	.85	.06	620	593.8	148.4	-18.9
36.00	4.3	2.5	7.	.78	-16.99	660	593.5	147.4	-17.6
36.50	4.5	2.3	7.	.79	-17.00	665	593.1	146.4	-16.3
37.00	3.9	2.2	6.	.87	.07	621	592.8	145.4	-15.0
37.50	3.8	2.0	6.	.87	.07	621	592.5	144.4	-13.7
38.00	3.7	1.9	6.	.86	.07	620	592.1	143.4	-12.5
39039.00	4.4	1.6	6.1	-16.84	-17.06	619	591.5	141.4	-9.9
40.00	5.4	1.4	6.8	.80	.02	642	591.0	139.4	-7.3
41.00	6.5	1.1	7.6	.74	-16.97	668	590.4	137.4	-4.7
42.00	6.4	0.9	7.3	.75	.98	648	589.9	135.4	-2.2
43.00	6.3	0.7	7.0	.79	-17.01	626	589.5	133.4	0.4
44.00	6.2	0.5	6.7	.81	.03	619	589.1	131.4	3.0
45.00	6.3	0.3	6.6	.81	.04	618	588.7	129.4	5.6
46.00	6.7	0.1	6.7	.80	.03	617	588.4	127.5	8.1
47.00	6.4	-0.1	6.3	.82	.06	616	588.2	125.5	10.7
48.00	6.7	-0.2	6.4	.82	.05	616	588.0	123.5	13.2
49.00	6.3	-0.4	5.9	.87	.09	618	587.9	121.5	15.8
50.00	6.7	-0.4	6.3	.84	.07	617	587.8	119.5	18.3
51.00	7.3	-0.4	6.9	.79	.02	615	587.8	117.5	20.9
52.00	7.6	-0.4	7.2	.76	.00	615	587.8	115.5	23.4
53.00	7.2	-0.2	7.1	.77	.01	614	587.9	113.4	26.0
54.00	7.2	0.0	7.2	.77	.00	613	588.0	111.4	28.5
55.00	7.9	0.0	7.9	.72	-16.95	620	588.2	109.4	31.0
39055.50	9.4	0.0	9.	-16.65	-16.89	665	588.3	108.3	32.3
56.00	11.3	0.0	11.	.54	.79	703	588.4	107.3	33.5
56.50	16.1	0.0	16.	.37	.62	761	588.6	106.3	34.8
57.00	16.1	0.0	16.	.37	.61	760	588.7	105.2	36.0
57.50	13.9	0.0	14.	.43	.67	741	588.9	104.2	37.3
58.00	12.0	0.0	12.	.50	.74	716	589.0	103.1	38.6
58.50	11.7	0.0	12.	.50	.74	715	589.2	102.1	39.8
39059.00	11.9	0.0	11.9	-16.51	-16.75	714	589.4	101.0	41.1
60.00	12.5	0.0	12.5	.50	.73	724	589.8	98.9	43.6
61.00	13.4	0.0	13.4	.46	.69	732	590.2	96.8	46.1
62.00	12.7	0.0	12.7	.49	.71	722	590.7	94.6	48.5
63.00	12.4	0.0	12.4	.51	.72	717	591.2	92.4	51.0
64.00	12.6	0.0	12.6	.50	.71	718	591.8	90.1	53.5
65.00	12.7	0.0	12.7	.50	.71	719	592.3	87.9	56.0
66.00	13.0	0.0	13.0	.49	.70	722	592.9	85.6	58.4
67.00	12.8	0.0	12.8	.51	.70	719	593.5	83.2	60.9
68.00	13.3	0.0	13.3	.49	.68	724	594.1	80.8	63.3
39068.50	13.8	0.0	14.	-16.46	-16.65	731	594.5	79.5	64.5
69.00	15.5	0.0	15.	.43	.62	743	594.8	78.3	65.7
69.50	17.6	0.0	18.	.36	.54	774	595.1	77.0	67.0
70.00	18.2	0.0	18.	.34	.53	767	595.4	75.7	68.2
70.50	19.5	0.0	20.	.30	.48	783	595.8	74.4	69.4
71.00	18.5	0.0	19.	.33	.51	776	596.1	73.1	70.6
71.50	16.8	0.0	17.	.38	.56	758	596.4	71.7	71.8
72.00	14.7	0.0	15.	.44	.61	740	596.7	70.4	73.0
39073.00	13.0	0.0	13.0	-16.51	-16.68	714	597.4	67.5	75.3
74.00	12.5	0.0	12.5	.54	.70	707	598.0	64.5	77.7
75.00	12.0	0.0	12.0	.56	.71	700	598.7	61.3	80.0
76.00	12.3	0.0	12.3	.55	.70	703	599.3	57.9	82.4
77.00	13.1	0.0	13.1	.52	.67	713	600.0	54.2	84.7
78.00	13.6	0.0	13.6	.51	.65	718	600.6	50.2	86.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39079.00	12.8	0.0	12.8	-16.55	-16.68	707	601.2	45.7	89.1
80.00	12.2	0.0	12.2	.58	.70	699	601.8	40.7	91.3
81.00	11.3	0.0	11.3	.61	.73	680	602.4	34.8	93.4
82.00	12.1	0.0	12.1	.58	.70	693	603.0	27.9	95.4
83.00	12.7	0.0	12.7	.56	.68	700	603.8	19.7	97.3
84.00	14.6	0.0	14.6	.50	.61	726	604.4	9.5	98.9
85.00	11.5	1.4	12.9	.56	.67	697	604.9	357.2	100.3
86.00	8.6	3.0	11.7	.62	.72	679	605.3	342.5	101.2
87.00	7.4	3.9	11.3	.65	.75	677	605.8	326.3	101.7
88.00	6.6	4.4	11.1	.67	.76	674	606.1	310.3	101.6
89.00	5.9	4.8	10.7	.69	.78	663	606.5	295.8	101.0
90.00	6.1	5.1	11.2	.67	.76	675	606.7	283.7	100.0
91.00	5.7	5.3	10.9	.69	.77	670	607.0	273.7	98.8
92.00	5.5	5.4	10.8	.69	.78	672	607.1	265.5	97.3
93.00	5.5	5.4	11.0	.69	.77	680	607.3	258.7	95.7
94.00	5.8	5.5	11.3	.67	.76	688	607.3	252.9	94.0
95.00	6.1	5.4	11.5	.66	.74	687	607.4	247.9	92.2
96.00	6.1	5.4	11.5	.65	.74	686	607.3	243.4	90.4
97.00	5.7	5.3	11.0	.68	.77	687	607.3	239.4	88.5
98.00	4.8	5.2	10.0	.73	.82	670	607.2	235.7	86.6
99.00	4.8	5.0	9.8	.74	.83	668	607.0	232.2	84.7
39100.00	4.5	4.9	9.4	.77	.85	666	606.8	229.0	82.7
01.00	4.3	4.7	9.0	.79	.87	660	606.6	225.9	80.7
02.00	4.4	4.5	8.9	.80	.88	663	606.4	222.9	78.7
03.00	4.7	4.3	8.9	.79	.88	667	606.1	220.1	76.7
04.00	4.7	4.1	8.8	.80	.89	667	605.8	217.4	74.7
05.00	4.9	3.8	8.7	.80	.89	666	605.5	214.7	72.6
06.00	5.6	3.5	9.1	.77	.87	679	605.1	212.1	70.6
07.00	5.7	3.3	9.0	.78	.88	685	604.8	209.6	68.5
08.00	4.6	3.0	7.6	.87	.96	653	604.4	207.1	66.4
09.00	4.4	2.7	7.1	.91	-17.00	647	604.0	204.7	64.3
10.00	4.0	2.4	6.4	.95	.05	601	603.7	202.3	62.2
11.00	4.5	2.1	6.6	.94	.04	641	603.3	199.9	60.0
12.00	5.0	2.0	7.0	.91	.01	663	602.9	197.6	57.9
13.00	5.0	1.5	6.5	.93	.04	632	602.5	195.3	55.8
14.00	5.7	1.2	6.9	.91	.02	669	602.2	193.0	53.6
15.00	5.3	0.9	6.2	.96	.07	646	601.9	190.7	51.4
16.00	5.7	0.5	6.2	.96	.07	655	601.5	188.4	49.2
17.00	5.8	0.2	6.0	.97	.09	654	601.2	186.2	47.1
18.00	5.7	-0.2	5.5	-17.02	.13	624	601.0	184.0	44.9
19.00	6.7	-0.5	6.2	-16.95	.07	673	600.7	181.7	42.6
20.00	7.5	-0.9	6.6	.90	.04	687	600.5	179.5	40.4
21.00	8.1	-1.2	6.8	.89	.03	702	600.3	177.3	38.2
22.00	8.9	-1.6	7.3	.85	-16.99	721	600.2	175.1	36.0
23.00	9.4	-1.9	7.4	.83	.98	728	600.1	173.0	33.7
24.00	8.7	-2.3	6.4	.90	-17.05	706	600.0	170.8	31.4
25.00	8.0	-2.6	5.4	.98	.13	673	599.9	168.6	29.2
26.00	8.5	-3.1	5.5	.99	.13	695	599.9	166.4	26.9
27.00	9.0	-3.3	5.7	.96	.11	705	600.0	164.3	24.6
28.00	9.5	-3.6	5.8	.94	.09	708	600.0	162.1	22.3
29.00	9.9	-4.0	5.9	.93	.09	718	600.1	159.9	20.0
30.00	10.1	-4.3	5.8	.93	.09	716	600.3	157.8	17.7
31.00	10.9	-4.6	6.3	.89	.05	741	600.5	155.6	15.4
32.00	10.9	-4.9	6.0	.92	.07	737	600.7	153.4	13.1
33.00	11.4	-5.2	6.2	.88	.04	737	600.9	151.3	10.8
34.00	11.6	-5.4	6.2	.87	.04	739	601.1	149.1	8.4
35.00	11.7	-5.7	6.1	.87	.04	739	601.4	146.9	6.1
36.00	12.1	-5.9	6.1	.87	.04	742	601.7	144.7	3.8
37.00	12.0	-6.2	5.8	.90	.06	741	602.1	142.5	1.4
38.00	12.3	-6.4	5.9	.88	.05	748	602.4	140.3	-0.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39139.00	12.6	-6.6	6.0	-16.86	-17.03	751	602.7	138.1	-3.3
40.00	13.5	-6.7	6.7	.79	-16.96	765	603.1	135.9	-5.7
41.00	14.3	-6.9	7.4	.73	.90	781	603.4	133.7	-8.0
42.00	15.1	-7.0	8.1	.68	.85	796	603.4	131.4	-10.4
43.00	16.2	-7.1	9.1	.61	.79	811	603.7	129.2	-12.8
44.00	17.4	-7.1	10.3	.55	.73	826	604.0	126.9	-15.2
45.00	18.7	-7.1	11.6	.48	.66	840	604.3	124.6	-17.6
39145.50	19.3	-7.1	12.	-16.46	-16.63	844	604.5	123.4	-18.8
46.00	20.7	-7.0	14.	.38	.55	860	604.7	122.2	-20.0
46.50	22.9	-7.0	16.	.32	.49	876	604.9	121.0	-21.2
47.00	24.3	-6.9	17.	.29	.46	883	605.2	119.9	-22.4
47.50	25.3	-6.8	19.	.24	.41	896	605.4	118.7	-23.6
48.00	21.5	-6.7	15.	.34	.51	868	605.6	117.5	-24.7
48.50	21.2	-6.6	15.	.35	.52	870	605.8	116.2	-25.9
49.00	20.7	-6.4	14.	.39	.55	863	606.1	115.0	-27.1
49.50	19.1	-6.2	13.	.42	.58	855	606.3	113.8	-28.3
39150.00	18.7	-6.0	12.8	-16.42	-16.59	854	606.6	112.5	-29.5
51.00	17.5	-5.4	12.1	.45	.61	848	607.1	109.9	-31.9
52.00	16.1	-4.6	11.4	.48	.64	843	607.6	107.3	-34.3
53.00	13.0	-3.6	9.4	.58	.73	822	608.1	104.6	-36.7
54.00	10.0	-1.6	8.4	.63	.77	808	608.6	101.8	-39.1
55.00	8.5	0.0	8.5	.62	.76	810	609.1	98.8	-41.5
56.00	7.8	0.0	7.8	.67	.81	802	609.6	95.7	-43.8
57.00	7.1	0.0	7.1	.71	.84	790	610.0	92.4	-46.2
58.00	7.6	0.0	7.6	.68	.81	799	610.5	88.9	-48.5
59.00	8.8	0.0	8.8	.60	.73	817	610.9	85.1	-50.9
60.00	9.5	0.0	9.5	.56	.69	824	611.3	80.9	-53.2
61.00	10.3	0.0	10.3	.51	.64	833	611.7	76.2	-55.4
62.00	11.7	0.0	11.7	.45	.58	848	612.0	70.8	-57.6
63.00	9.9	0.0	9.9	.53	.66	831	612.3	64.6	-59.8
64.00	8.2	0.0	8.2	.62	.74	809	612.6	57.2	-61.8
65.00	7.7	0.0	7.7	.65	.77	801	612.8	48.1	-63.7
66.00	9.1	0.0	9.1	.58	.70	821	612.9	37.0	-65.3
67.00	10.7	0.0	10.7	.50	.62	838	613.1	23.5	-66.6
68.00	10.9	0.0	10.9	.49	.61	838	613.1	8.0	-67.5
69.00	10.2	0.0	10.2	.54	.65	829	613.1	351.6	-67.8
70.00	8.4	0.0	8.4	.64	.76	802	613.1	336.1	-67.6
71.00	8.7	0.0	8.7	.64	.76	805	612.9	322.7	-66.9
72.00	8.3	0.0	8.3	.67	.78	794	612.8	311.6	-65.9
39173.00	8.3	0.0	8.	-16.70	-16.81	786	612.6	302.7	-64.7
73.50	8.1	0.0	8.	.70	.82	785	612.4	298.8	-64.0
74.00	7.6	0.0	8.	.70	.81	782	612.3	295.3	-63.3
74.50	6.7	0.0	7.	.76	.88	761	612.1	292.1	-62.6
39174.80	5.	0.	5.	-16.92	-17.04	702	612.0	290.3	-62.2
75.00	5.	0.	5.	.93	.04	702	612.0	289.1	-61.9
75.20	5.	0.	5.	.92	.04	700	611.9	288.0	-61.5
75.40	7.	0.	7.	.77	-16.89	758	611.8	286.9	-61.2
75.60	13.	0.	13.	.49	.61	840	611.8	285.9	-60.9
75.80	15.	0.	15.	.42	.54	854	611.7	284.8	-60.6
76.00	18.	0.	18.	.33	.45	873	611.6	283.8	-60.3
76.20	18.	0.	18.	.33	.45	872	611.5	282.9	-60.0
76.40	13.	0.	13.	.47	.59	832	611.5	281.9	-59.7
76.60	11.	0.	11.	.54	.67	810	611.4	281.0	-59.3
76.80	11.	0.	11.	.55	.67	810	611.3	280.1	-59.0
77.00	10.	0.	10.	.61	.73	800	611.2	279.2	-58.7
77.20	8.	0.	8.	.72	.84	773	611.1	278.3	-58.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39177.50	7.0	0.0	7.	-16.78	-16.90	751	611.0	277.1	-57.9
78.00	8.5	0.0	9.	.68	.80	790	610.8	275.1	-57.0
78.50	9.5	0.0	9.	.67	.79	786	610.5	273.2	-56.2
79.00	10.9	0.0	11.	.56	.69	806	610.3	271.3	-55.3
79.50	12.4	0.0	12.	.51	.64	813	610.0	269.6	-54.5
80.00	10.0	0.0	10.	.60	.73	788	609.8	267.9	-53.6
80.50	8.3	0.0	8.	.70	.84	756	609.5	266.3	-52.8
39181.00	7.8	0.0	7.8	-16.72	-16.86	751	609.2	264.7	-51.9
82.00	6.1	0.0	6.1	.86	.99	710	608.7	261.7	-50.2
83.00	5.2	0.0	5.2	.95	-17.08	667	608.1	258.8	-48.4
84.00	4.3	0.0	4.3	-17.04	.17	633	607.5	256.1	-46.7
85.00	3.3	1.7	5.0	-16.98	.11	633	606.8	253.5	-44.9
39186.00	1.0	3.2	4.	-17.08	-17.21	633	606.2	250.9	-43.2
86.50	0.1	3.7	4.	.09	.22	633	605.9	249.7	-42.3
87.00	-0.6	4.1	3.	.21	.34	632	605.5	248.5	-41.4
87.50	-1.5	4.4	3.	.20	.34	631	605.2	247.3	-40.5
88.00	-0.3	4.6	4.	.06	.21	630	604.9	246.1	-39.6
88.50	0.9	4.8	6.	-16.90	.04	680	604.6	244.9	-38.7
89.00	0.1	5.0	5.	.98	.12	631	604.2	243.8	-37.8
89.50	-0.7	5.1	4.	-17.08	.23	631	603.9	242.6	-36.9
90.00	-1.2	5.1	4.	.10	.23	631	603.6	241.5	-36.0
39191.00	-1.5	5.2	3.7	-17.13	-17.27	631	603.0	239.3	-34.3
92.00	-1.4	5.2	3.8	.13	.27	631	602.3	237.1	-32.5
93.00	-1.0	5.1	4.2	.09	.23	631	601.7	234.9	-30.7
94.00	-0.7	5.0	4.3	.06	.21	626	601.2	232.7	-28.9
95.00	0.2	4.8	5.0	-16.99	.14	627	600.6	230.6	-27.1
96.00	0.5	4.6	5.1	.98	.14	627	600.0	228.5	-25.3
39197.00	1.6	4.3	6.	-16.92	-17.07	640	599.5	226.5	-23.5
97.50	1.5	4.2	6.	.92	.07	642	599.3	225.4	-22.6
39197.60	2.	4.	7.	-16.86	-17.01	700	599.2	225.2	-22.4
97.80	1.	4.	5.	-17.00	.15	626	599.1	224.8	-22.0
98.00	4.	4.	9.	-16.71	-16.88	733	599.0	224.4	-21.7
98.20	5.	4.	9.	.67	.86	717	599.0	224.0	-21.3
98.40	11.	4.	15.	.42	.61	787	598.9	223.6	-20.9
98.60	18.	4.	22.	.25	.45	839	598.8	223.2	-20.6
98.80	13.	4.	17.	.39	.57	811	598.7	222.8	-20.2
99.00	4.	4.	8.	.74	.92	699	598.6	222.3	-19.9
99.20	3.	4.	6.	.89	-17.06	624	598.5	221.9	-19.5
99.40	5.	4.	8.	.77	-16.94	713	598.4	221.5	-19.1
99.60	3.	4.	7.	.84	-17.00	684	598.3	221.1	-18.8
39200.00	3.3	3.5	6.8	-16.84	-17.01	672	598.4	220.3	-18.0
01.00	3.9	3.1	7.0	.83	.00	680	598.0	218.3	-16.2
02.00	4.5	2.8	7.3	.80	-16.97	689	597.5	216.3	-14.4
03.00	5.3	2.5	7.7	.75	.94	692	597.1	214.3	-12.6
04.00	7.7	2.2	9.9	.62	.82	733	596.6	212.3	-10.8
05.00	7.8	1.8	9.6	.63	.83	727	596.2	210.3	-9.0
06.00	7.4	1.4	8.9	.68	.87	715	595.8	208.3	-7.2
39207.00	9.	1.	10.	-16.63	-16.83	737	595.4	206.3	-5.4
07.20	9.	1.	10.	.62	.82	731	595.3	205.9	-5.0
07.40	12.	1.	13.	.49	.70	768	595.2	205.5	-4.7
07.60	15.	1.	16.	.38	.60	790	595.2	205.1	-4.3
07.80	22.	1.	23.	.20	.42	831	595.1	204.7	-3.9
08.00	17.	1.	18.	.31	.53	799	595.0	204.4	-3.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39208.20	12.	1.	13.	-16.49	-16.70	764	595.0	204.0	-3.2
08.40	12.	1.	13.	.54	.73	782	594.9	203.6	-2.8
08.60	8.	0.	8.	.77	.95	706	594.8	203.2	-2.5
08.80	8.	0.	8.	.78	.95	706	594.7	202.8	-2.1
09.00	9.	0.	10.	.67	.85	746	594.7	202.4	-1.8
39209.50	9.5	0.1	10.	-16.65	-16.84	733	594.5	201.4	-0.8
10.00	9.4	-0.1	9.	.68	.88	708	594.4	200.4	0.1
10.50	9.1	-0.3	9.	.68	.88	704	594.2	199.4	1.0
11.00	8.7	-0.5	8.	.73	.93	676	594.1	198.4	1.9
11.50	9.1	-0.7	8.	.74	.94	680	593.9	197.4	2.8
12.00	10.5	-0.9	10.	.65	.85	728	593.8	196.4	3.7
12.50	11.2	-1.1	10.	.64	.84	722	593.7	195.4	4.6
13.00	16.0	-1.3	15.	.44	.65	778	593.6	194.5	5.5
13.50	13.3	-1.5	12.	.55	.76	751	593.5	193.5	6.4
14.00	8.6	-1.6	7.	.81	-17.01	644	593.4	192.5	7.3
14.50	9.0	-1.8	7.	.80	.01	645	593.3	191.5	8.2
15.00	9.6	-2.0	8.	.74	-16.95	687	593.2	190.5	9.1
15.50	10.3	-2.2	8.	.75	.95	690	593.2	189.5	10.0
16.00	10.4	-2.4	8.	.75	.95	693	593.1	188.5	10.9
16.50	10.6	-2.6	8.	.72	.94	686	593.0	187.5	11.8
17.00	12.3	-2.8	9.	.64	.87	700	593.0	186.5	12.7
17.50	12.7	-3.0	10.	.60	.82	721	593.0	185.5	13.6
18.00	11.9	-3.2	9.	.66	.88	709	592.9	184.5	14.5
18.50	11.8	-3.4	8.	.72	.94	686	592.9	183.4	15.5
19.00	11.9	-3.5	8.	.71	.93	684	592.9	182.4	16.4
19.50	11.6	-3.7	8.	.71	.93	683	592.8	181.4	17.3
20.00	10.8	-3.9	7.	.77	.99	646	592.8	180.4	18.2
20.50	10.4	-4.1	6.	.84	-17.06	620	592.8	179.4	19.1
21.00	10.6	-4.2	6.	.83	.06	620	592.8	178.3	20.0
21.50	11.4	-4.4	7.	.76	-16.99	646	592.8	177.3	20.9
22.00	18.3	-4.6	14.	.45	.68	776	592.8	176.3	21.8
22.50	17.2	-4.8	12.	.52	.75	756	592.9	175.2	22.7
23.00	15.4	-4.9	10.	.60	.83	730	592.9	174.2	23.6
23.50	15.1	-5.1	10.	.60	.83	729	592.9	173.1	24.5
39224.00	14.8	-5.3	9.5	-16.62	-16.85	722	592.9	172.1	25.4
25.00	14.8	-5.6	9.2	.63	.86	720	593.0	170.0	27.2
26.00	14.7	-5.9	8.8	.66	.89	716	593.0	167.8	29.0
27.00	14.9	-6.2	8.7	.67	.90	716	593.1	165.6	30.8
39228.00	16.6	-6.5	10.	-16.60	-16.83	738	593.2	163.4	32.6
28.50	17.4	-6.6	11.	.54	.78	750	593.2	162.3	33.5
29.00	18.9	-6.7	12.	.49	.73	761	593.3	161.1	34.4
29.50	19.8	-6.9	13.	.46	.70	773	593.3	160.0	35.3
30.00	19.1	-7.0	12.	.50	.74	764	593.3	158.8	36.2
39231.00	18.8	-7.2	11.6	-16.52	-16.76	764	593.4	156.5	38.0
32.00	19.3	-7.4	11.8	.51	.75	769	593.4	154.0	39.7
33.00	19.9	-7.6	12.3	.49	.72	775	593.4	151.6	41.5
39234.00	20.3	-7.8	13.	-16.46	-16.70	785	593.4	149.0	43.3
34.50	20.2	-7.9	12.	.50	.74	776	593.4	147.7	44.2
35.00	21.2	-7.9	13.	.46	.70	787	593.4	146.3	45.1
35.50	21.6	-8.0	14.	.42	.66	794	593.4	144.9	46.0
39241.00	27.9	-8.2	20.	-16.22	-16.48	847	592.7	126.6	55.4
41.50	27.0	-8.2	19.	.24	.50	842	592.6	124.5	56.3
42.00	26.3	-8.1	18.	.26	.52	837	592.4	122.2	57.1

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39242.50	26.6	-8.1	19.	-16.24	-16.50	844	592.3	119.8	57.9
43.00	27.9	-8.0	20.	.21	.47	850	592.2	117.2	58.7
43.50	29.6	-7.9	22.	.17	.43	861	592.0	114.5	59.4
39244.00	31.1	-7.9	23.2	-16.14	-16.41	867	591.8	111.5	60.2
45.00	33.2	-7.7	25.5	.09	.36	879	591.5	104.7	61.6
46.00	38.8	-7.5	31.4	-15.99	.26	905	591.1	96.6	63.0
47.00	37.7	-7.2	30.6	-16.00	.27	903	590.7	86.7	64.1
48.00	36.0	-6.8	29.2	.01	.29	900	590.2	74.5	64.9
49.00	37.1	-6.5	30.7	-15.98	.26	908	589.8	60.1	65.4
50.00	36.1	-6.0	30.1	.99	.27	907	589.3	44.2	65.4
51.00	30.9	-5.5	25.4	-16.06	.35	888	588.7	28.3	64.8
52.00	28.6	-4.9	23.6	.09	.39	880	588.2	13.9	63.8
53.00	26.1	-4.3	21.8	.13	.43	871	587.6	1.7	62.4
54.00	25.0	-3.6	21.5	.13	.44	868	587.0	351.8	60.7
55.00	23.0	-2.7	20.3	.17	.47	861	586.4	343.6	58.8
56.00	21.2	-1.7	19.5	.19	.50	856	585.8	336.8	56.8
57.00	22.3	-0.8	21.5	.14	.46	865	585.2	331.1	54.7
58.00	23.7	-0.1	23.6	.10	.42	875	584.6	326.1	52.6
59.00	22.0	0.0	22.0	.14	.46	867	584.0	321.7	50.4
60.00	20.6	0.0	20.6	.17	.51	860	583.4	317.7	48.1
61.00	22.6	0.0	22.6	.13	.47	870	582.8	314.0	45.9
62.00	25.2	0.0	25.2	.08	.42	881	582.2	310.7	43.6
63.00	27.2	0.0	27.2	.05	.39	889	581.6	307.5	41.4
64.00	25.8	0.0	25.8	.08	.43	883	581.0	304.5	39.1
65.00	24.0	0.0	24.0	.11	.47	874	580.5	301.6	36.8
66.00	25.6	0.0	25.6	.08	.44	882	580.0	298.9	34.5
67.00	23.7	0.0	23.7	.11	.47	874	579.5	296.2	32.2
39267.50	22.4	0.0	22.	-16.14	-16.51	866	579.2	294.9	31.1
68.00	21.1	0.0	21.	.16	.53	861	579.0	293.7	29.9
68.50	20.0	0.0	20.	.19	.56	855	578.8	292.4	28.8
69.00	19.4	0.0	19.	.22	.59	849	578.6	291.2	27.6
69.50	18.3	0.0	18.	.24	.61	842	578.4	289.9	26.5
70.00	18.3	0.0	18.	.24	.62	841	578.2	288.7	25.3
70.50	18.3	0.0	18.	.24	.62	841	578.0	287.5	24.2
39271.00	18.	0.	18.	-16.24	-16.62	840	577.8	286.3	23.0
71.20	20.	0.	20.	.19	.57	851	577.7	285.8	22.6
71.40	34.	0.	34.	-15.96	.33	912	577.7	285.4	22.1
71.60	44.	0.	44.	.83	.21	940	577.6	284.9	21.6
71.80	67.	0.	67.	.64	.01	992	577.5	284.4	21.2
72.00	57.	0.	57.	.71	.08	969	577.5	284.0	20.7
72.20	42.	0.	42.	.85	.22	932	577.4	283.5	20.3
72.40	25.	0.	25.	-16.09	.47	874	577.3	283.0	19.8
72.60	20.	0.	20.	.21	.58	851	577.3	282.6	19.3
72.80	20.	0.	20.	.21	.59	852	577.2	282.1	18.9
39273.00	17.7	0.0	18.	-16.26	-16.64	839	577.1	281.6	18.4
73.50	16.1	0.0	16.	.31	.69	825	577.0	280.5	17.3
74.00	14.0	0.0	14.	.37	.75	809	576.9	279.4	16.1
74.50	13.7	0.0	14.	.37	.75	809	576.8	278.2	15.0
75.00	13.4	0.0	13.	.41	.79	801	576.6	277.1	13.8
75.50	12.9	0.0	13.	.41	.79	801	576.6	276.0	12.7
39275.60	14.	0.	14.	-16.38	-16.76	809	576.5	275.7	12.5
75.80	10.	0.	10.	.52	.90	770	576.5	275.3	12.0
76.00	13.	0.	13.	.40	.79	799	576.5	274.9	11.5
76.20	18.	0.	18.	.26	.64	834	576.4	274.4	11.1
76.40	32.	0.	32.	.00	.38	898	576.4	274.0	10.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 P$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
39276.60	35.	0.	35.	-15.95	-16.34	908	576.4	273.5	10.2
76.80	41.	0.	41.	.89	.27	927	576.3	273.1	9.7
77.00	32.	0.	32.	.99	.37	896	576.3	272.6	9.2
77.20	31.	0.	31.	-16.00	.38	892	576.3	272.2	8.8
77.40	16.	0.	16.	.30	.68	818	576.3	271.8	8.3
77.60	16.	0.	16.	.32	.70	821	576.3	271.3	7.9
77.80	15.	0.	15.	.36	.74	817	576.2	270.9	7.4
39278.00	14.8	0.0	15.	-16.36	-16.74	817	576.2	270.4	7.0
78.50	13.9	0.0	14.	.39	.76	807	576.2	269.4	5.8
79.00	12.5	0.0	13.	.42	.80	798	576.2	268.3	4.7
39280.00	10.5	0.0	10.5	-16.52	-16.90	774	576.2	266.1	2.4
81.00	8.3	0.0	8.3	.63	-17.00	745	576.2	263.9	0.1
82.00	7.2	0.0	7.2	.70	.07	725	576.4	261.8	-2.2
83.00	5.8	2.2	8.0	.66	.02	739	576.5	259.7	-4.4
84.00	4.7	3.5	8.2	.66	.01	742	576.8	257.5	-6.7
85.00	3.1	4.2	7.3	.73	.07	727	577.0	255.4	-9.0
86.00	1.6	4.6	6.2	.81	.14	702	577.4	253.3	-11.2
87.00	0.5	4.8	5.3	.88	.21	668	577.8	251.2	-13.5
88.00	0.5	4.9	5.4	.88	.20	668	578.2	249.1	-15.7
89.00	0.5	4.9	5.5	.87	.19	668	578.7	246.9	-18.0
90.00	1.0	4.9	5.8	.85	.17	682	579.3	244.8	-20.2
91.00	1.4	4.8	6.1	.84	.14	694	579.9	242.7	-22.5
92.00	1.3	4.6	5.8	.86	.16	679	580.6	240.6	-24.7
93.00	1.3	4.4	5.7	.87	.16	674	581.3	238.5	-27.0
94.00	1.7	4.1	5.8	.88	.15	682	582.1	236.4	-29.2
95.00	2.0	3.8	5.9	.87	.14	685	582.9	234.3	-31.4
96.00	2.4	3.5	5.9	.87	.14	680	583.8	232.2	-33.6
97.00	2.6	3.2	5.8	.88	.14	672	584.7	230.0	-35.8
98.00	2.9	2.9	5.8	.90	.14	677	585.7	227.9	-38.1
99.00	3.2	2.6	5.7	.90	.14	669	586.6	225.8	-40.3
39300.00	5.1	2.2	7.	-16.79	-17.04	705	587.6	223.6	-42.5
00.50	6.3	2.0	8.	.74	-16.98	734	588.1	222.5	-43.6
01.00	8.1	1.8	10.	.63	.87	766	588.7	221.4	-44.7
01.50	7.8	1.6	9.	.67	.91	746	589.2	220.4	-45.7
02.00	7.8	1.4	9.	.69	.92	754	589.7	219.3	-46.8
02.50	6.5	1.3	8.	.75	.97	735	590.2	218.2	-47.9
03.00	6.5	1.1	8.	.75	.97	738	590.8	217.1	-49.0
03.50	6.5	0.9	7.	.82	-17.02	714	591.3	216.0	-50.1
39304.00	6.2	0.7	6.8	-16.84	-17.04	707	591.8	214.9	-51.2
05.00	6.7	0.3	7.0	.83	.02	712	592.9	212.7	-53.4
06.00	7.5	-0.1	7.4	.80	-16.99	720	593.9	210.4	-55.5
07.00	8.1	-0.5	7.6	.79	.97	724	595.0	208.2	-57.7
08.00	8.4	-0.9	7.5	.80	.97	723	596.0	205.9	-59.8
09.00	8.8	-1.2	7.5	.81	.97	723	597.0	203.6	-62.0
10.00	9.5	-1.6	7.9	.78	.94	731	598.0	201.2	-64.1
11.00	10.2	-2.0	8.2	.76	.92	734	598.9	198.8	-66.2
12.00	9.9	-2.4	7.5	.80	.95	715	599.8	196.4	-68.3
13.00	10.4	-2.7	7.7	.79	.94	725	600.6	193.9	-70.4
39313.50	10.7	-2.9	8.	-16.77	-16.92	734	601.0	192.7	-71.5
14.00	11.0	-3.1	8.	.77	.91	731	601.4	191.4	-72.5
14.50	12.3	-3.3	9.	.70	.85	745	601.8	190.1	-73.5
15.00	14.6	-3.5	11.	.60	.75	775	602.1	188.8	-74.6
15.50	15.7	-3.7	12.	.55	.70	788	602.4	187.4	-75.6
16.00	16.0	-3.8	12.	.56	.71	792	602.8	186.1	-76.6
16.50	15.0	-4.0	11.	.60	.75	777	603.0	184.7	-77.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg)
39317.00	14.8	-4.2	11.	-16.61	-16.75	780	603.3	183.3	-78.7
17.50	14.6	-4.3	10.	.66	.80	770	603.6	181.8	-79.7
18.00	15.2	-4.5	11.	.62	.75	787	603.8	180.3	-80.7
18.50	15.3	-4.7	11.	.61	.74	781	604.0	178.8	-81.7
19.00	15.1	-4.8	10.	.66	.79	768	604.2	177.2	-82.7
19.50	15.3	-5.0	10.	.67	.80	777	604.3	175.6	-83.7
20.00	15.2	-5.1	10.	.67	.80	779	604.4	174.0	-84.7
20.50	13.8	-5.3	9.	.72	.84	756	604.5	172.2	-85.7
39321.00	14.4	-5.5	8.9	-16.72	-16.84	754	604.9	170.5	-86.7
22.00	15.3	-5.7	9.6	.68	.80	767	605.2	166.6	-88.6
23.00	16.4	-6.0	10.3	.64	.76	775	605.4	162.5	-90.5
24.00	17.5	-6.3	11.2	.60	.73	792	605.5	157.8	-92.4
25.00	18.2	-6.5	11.7	.59	.71	805	605.5	152.4	-94.1
26.00	18.3	-6.8	11.5	.59	.71	802	605.5	146.2	-95.8
27.00	18.8	-7.0	11.8	.57	.70	803	605.3	138.7	-97.4
28.00	20.2	-7.2	13.0	.52	.65	819	605.1	129.6	-98.8
39328.50	20.2	-7.3	13.	-16.52	-16.65	820	604.9	124.3	-99.5
29.00	20.8	-7.4	13.	.52	.65	823	604.7	118.4	-100.0
29.50	21.7	-7.5	14.	.48	.61	835	604.5	111.9	-100.5
30.00	22.0	-7.6	14.	.47	.61	834	604.3	104.8	-100.8
30.50	21.7	-7.7	14.	.47	.61	836	604.1	97.2	-101.0
31.00	22.0	-7.7	14.	.47	.61	839	603.8	89.1	-101.1
31.50	21.7	-7.8	14.	.46	.61	840	603.5	80.7	-101.1
32.00	22.2	-7.9	14.	.45	.60	840	603.2	72.4	-100.9
32.50	22.6	-7.9	15.	.41	.57	850	602.9	64.4	-100.6
33.00	24.3	-8.0	16.	.38	.54	860	602.5	56.8	-100.1
33.50	27.0	-8.0	19.	.29	.46	884	602.2	49.7	-99.5
34.00	34.0	-8.1	26.	.16	.32	933	601.8	43.3	-98.9
34.50	29.0	-8.1	21.	.25	.41	901	601.4	37.5	-98.1
35.00	28.8	-8.1	21.	.25	.42	901	600.9	32.3	-97.3
35.50	28.1	-8.1	20.	.27	.44	896	600.5	27.6	-96.4
39336.00	28.1	-8.1	19.9	-16.27	-16.44	896	600.0	23.3	-95.4
37.00	27.9	-8.2	19.7	.26	.45	894	599.1	16.0	-93.4
38.00	27.4	-8.2	19.2	.27	.46	889	598.0	9.8	-91.3
39.00	27.2	-8.1	19.0	.28	.48	887	596.9	4.5	-89.1
40.00	27.7	-8.1	19.6	.26	.47	891	595.7	359.9	-86.9
39340.50	28.4	-8.1	20.	-16.25	-16.46	891	595.1	357.8	-85.7
41.00	28.5	-8.0	21.	.23	.44	897	594.5	355.8	-84.6
41.50	28.7	-8.0	21.	.23	.45	896	593.8	353.9	-83.4
42.00	30.1	-7.9	22.	.20	.43	901	593.2	352.1	-82.2
42.50	32.5	-7.9	25.	.14	.37	917	592.5	350.3	-81.1
43.00	32.1	-7.8	24.	.16	.39	910	591.8	348.6	-79.9
43.50	28.4	-7.7	21.	.22	.46	892	591.1	347.0	-78.7
44.00	26.0	-7.6	18.	.29	.53	869	590.5	345.4	-77.5
39345.00	25.0	-7.3	17.7	-16.30	-16.55	866	589.0	342.4	-75.1
46.00	24.1	-7.1	17.0	.32	.58	857	587.6	339.6	-72.7
39346.50	24.1	-6.9	17.	-16.31	-16.27	855	586.9	338.2	-71.5
47.00	25.0	-6.8	18.	.28	.24	860	586.1	336.8	-70.3
47.50	25.6	-6.6	19.	.26	.22	865	585.4	335.5	-69.1
48.00	25.6	-6.5	19.	.26	.23	866	584.6	334.2	-67.8
48.50	25.7	-6.3	19.	.26	.23	864	583.9	332.9	-66.6
49.00	25.8	-6.1	20.	.23	.21	867	583.1	331.7	-65.4
49.50	24.6	-5.9	19.	.25	.23	860	582.4	330.4	-64.2
50.00	22.4	-5.7	17.	.30	.29	845	581.6	329.2	-62.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^7 P	10^7 $\dot{P}_r$	-10^7 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg)	$\delta_\pi-\delta_O$ (deg.)
39350.50	22.2	-5.5	17.	-16.31	-16.30	846	580.8	328.0	-61.7
51.00	22.5	-5.2	17.	.31	.31	845	580.1	326.8	-60.5
51.50	21.6	-4.9	17.	.30	.31	843	579.3	325.6	-59.3
52.00	21.4	-4.6	17.	.30	.31	843	578.6	324.5	-58.0
52.50	20.0	-4.2	16.	.33	.35	835	577.8	323.3	-56.8
53.00	19.6	-3.8	16.	.33	.35	833	577.1	322.2	-55.5
53.50	17.6	-3.4	14.	.39	.41	815	576.3	321.0	-54.3
54.00	17.2	-2.9	14.	.39	.42	815	575.6	319.9	-53.1
54.50	15.8	-2.3	14.	.39	.43	814	574.9	318.8	-51.8
55.00	16.2	-1.6	15.	.36	.40	822	574.1	317.7	-50.6
55.50	17.3	-0.9	16.	.32	.37	827	573.4	316.6	-49.3
56.00	20.8	0.0	21.	.19	.24	858	572.7	315.5	-48.1
56.50	23.5	0.0	24.	.13	.18	873	572.0	314.4	-46.9
57.00	21.4	0.0	21.	.18	.25	854	571.3	313.4	-45.6
57.50	18.7	0.0	19.	.23	.30	843	570.6	312.3	-44.4
58.00	18.1	0.0	18.	.26	.33	836	569.9	311.2	-43.1
58.50	17.1	0.0	17.	.28	.36	828	569.3	310.2	-41.9
59.00	17.3	0.0	17.	.28	.37	827	568.6	309.1	-40.6
59.50	17.8	0.0	18.	.26	.35	834	568.0	308.1	-39.4
60.00	19.5	0.0	20.	.21	.30	844	567.3	307.1	-38.1
60.50	21.8	0.0	22.	.15	.25	852	566.7	306.0	-36.8
61.00	23.6	0.0	24.	.11	.21	860	566.1	305.0	-35.6
61.50	25.4	0.0	25.	.09	.19	865	565.5	304.0	-34.3
62.00	24.2	0.0	24.	.11	.22	860	565.0	302.9	-33.1
62.50	23.2	0.0	23.	.13	.24	855	564.4	301.9	-31.8
63.00	22.8	0.0	23.	.12	.24	854	563.9	300.9	-30.6
63.50	21.6	0.0	22.	.14	.27	849	563.3	299.9	-29.3
64.00	21.8	0.0	22.	.15	.27	848	562.8	298.9	-28.0
64.50	21.9	0.0	22.	.14	.27	847	562.4	297.9	-26.8
65.00	21.8	0.0	22.	.14	.28	847	561.9	296.9	-25.5
65.50	21.7	0.0	22.	.14	.28	846	561.4	295.9	-24.3
66.00	22.2	0.0	22.	.14	.28	844	561.0	294.8	-23.0
66.50	22.7	0.0	23.	.12	.26	848	560.6	293.8	-21.7
39366.80	24.	0.	24.	-16.10	-16.24	851	560.4	293.2	-21.0
67.00	29.	0.	29.	.01	.15	872	560.4	292.8	-20.5
67.20	38.	0.	38.	-15.89	.03	902	560.2	292.4	-20.0
67.40	22.	0.	22.	-16.12	.26	834	560.1	292.0	-19.5
67.60	27.	0.	27.	.03	.18	859	560.0	291.6	-19.0
67.80	42.	0.	42.	-15.84	-15.99	912	559.9	291.3	-18.5
68.00	80.	0.	80.	.56	.70	997	559.8	290.9	-17.9
68.20	62.	0.	62.	.66	.81	959	559.7	290.5	-17.4
68.40	51.	0.	51.	.76	.91	937	559.6	290.1	-16.9
68.60	24.	0.	24.	-16.10	-16.25	845	559.5	289.7	-16.4
68.80	23.	0.	23.	.11	.26	839	559.4	289.3	-15.9
39369.00	23.2	0.0	23.	-16.11	-16.27	839	559.3	288.9	-15.4
69.50	21.0	0.0	21.	.15	.31	826	559.0	287.9	-14.1
70.00	21.3	0.0	21.	.15	.31	824	558.8	286.9	-12.9
70.50	21.2	0.0	21.	.16	.32	824	558.6	285.9	-11.6
71.00	21.9	0.0	22.	.14	.30	828	558.4	284.9	-10.3
39371.20	23.	0.	23.	-16.12	-16.28	831	558.3	284.5	-9.8
71.40	26.	0.	26.	.07	.23	845	558.2	284.1	-9.3
71.60	34.	0.	34.	-15.95	.11	875	558.2	283.7	-8.8
71.80	35.	0.	35.	.93	.09	875	558.1	283.3	-8.3
72.00	50.	0.	50.	.76	-15.92	917	558.0	282.9	-7.8
72.20	51.	0.	51.	.74	.90	912	558.0	282.5	-7.3
72.40	55.	0.	55.	.71	.86	919	557.9	282.1	-6.8
72.60	54.	0.	54.	.73	.89	924	557.8	281.7	-6.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)
39372.80	4.2	0.0	4.2	-15.85	-16.01	895	557.8	281.3	-5.8
73.00	2.6	0.0	2.6	-16.07	.23	839	557.7	280.9	-5.2
73.20	2.3	0.0	2.3	.13	.30	827	557.7	280.5	-4.7
39373.50	1.73	0.00	1.7	-16.27	-16.43	791	557.6	279.9	-4.0
74.00	1.63	0.00	1.6	.29	.46	783	557.5	279.0	-2.7
74.50	1.36	0.00	1.4	.34	.51	765	557.4	278.0	-1.4
75.00	1.27	0.00	1.3	.38	.55	756	557.4	277.0	-0.2
75.50	1.38	0.00	1.4	.36	.53	765	557.3	276.0	1.1
76.00	1.67	0.00	1.7	.27	.44	785	557.2	275.0	2.4
76.50	2.09	0.00	2.1	.17	.34	807	557.2	274.0	3.7
77.00	1.96	0.00	2.0	.19	.36	800	557.2	273.0	5.0
77.50	1.80	0.00	1.8	.24	.41	789	557.2	272.0	6.2
78.00	1.36	0.00	1.4	.35	.52	759	557.2	271.0	7.5
78.50	1.33	0.00	1.3	.39	.56	749	557.2	270.0	8.8
79.00	1.30	0.00	1.3	.39	.56	749	557.3	269.0	10.1
79.50	1.10	0.00	1.1	.47	.64	729	557.3	268.0	11.3
80.00	1.08	0.00	1.1	.49	.66	731	557.4	267.0	12.6
80.50	1.01	0.00	1.0	.53	.69	718	557.5	266.0	13.9
81.00	1.02	0.00	1.0	.52	.69	717	557.6	265.0	15.2
81.50	1.06	0.00	1.1	.48	.65	729	557.7	264.0	16.5
82.00	1.10	0.00	1.1	.49	.65	729	557.8	263.0	17.8
82.50	1.37	0.00	1.4	.38	.54	758	557.9	262.0	19.0
83.00	1.64	0.00	1.6	.30	.47	770	558.0	261.0	20.3
83.50	1.38	0.00	1.4	.35	.52	753	558.2	259.9	21.6
84.00	1.30	0.00	1.3	.39	.55	744	558.3	258.9	22.9
39385.00	1.33	0.00	1.33	-16.38	-16.54	747	558.7	256.9	25.4
86.00	1.38	0.00	1.38	.36	.52	753	559.0	254.8	28.0
87.00	1.79	0.00	1.79	.25	.40	784	559.4	252.7	30.6
88.00	2.07	0.00	2.07	.17	.32	798	559.8	250.6	33.1
89.00	2.05	0.00	2.05	.17	.32	796	560.3	248.4	35.7
90.00	1.87	0.00	1.87	.22	.36	786	560.7	246.3	38.3
91.00	1.98	0.00	1.98	.20	.34	791	561.2	244.0	40.8
92.00	2.16	0.00	2.16	.16	.30	798	561.6	241.8	43.4
93.00	2.29	-0.04	2.25	.15	.28	801	562.1	239.5	45.9
94.00	2.32	-0.08	2.24	.15	.28	799	562.5	237.2	48.5
95.00	2.32	-0.13	2.19	.16	.29	793	563.0	234.7	51.0
96.00	2.28	-0.18	2.10	.19	.31	786	563.4	232.3	53.6
97.00	2.30	-0.23	2.07	.20	.32	785	563.8	229.7	56.1
98.00	2.23	-0.27	1.96	.23	.34	775	564.1	227.0	58.6
39399.00	2.23	-0.31	1.9	-16.24	-16.36	770	564.5	224.3	61.2
99.50	1.99	-0.33	1.7	.30	.41	756	564.6	222.8	62.4
39400.00	2.01	-0.35	1.7	.31	.42	758	564.8	221.3	63.7
00.50	2.03	-0.37	1.7	.31	.42	758	564.9	219.8	64.9
01.00	2.02	-0.39	1.6	.34	.44	749	565.0	218.2	66.2
01.50	2.20	-0.41	1.8	.29	.39	764	565.2	216.6	67.4
02.00	2.38	-0.43	1.9	.25	.36	768	565.3	214.9	68.6
02.50	3.17	-0.45	2.7	.09	.20	809	565.4	213.1	69.9
39402.60	3.2	-0.5	2.7	-16.09	-16.20	809	565.4	212.8	70.1
02.80	4.2	-0.5	3.7	-15.95	.06	846	565.4	212.0	70.6
03.00	4.9	-0.5	4.4	.87	-15.97	864	565.4	211.3	71.1
03.20	5.0	-0.5	4.6	.84	.94	867	565.5	210.5	71.6
03.40	5.2	-0.5	4.8	.82	.93	873	565.5	209.7	72.1
03.60	5.3	-0.5	4.8	.83	.93	873	565.5	208.9	72.5
03.80	5.1	-0.5	4.6	.85	.95	869	565.5	208.1	73.0
04.00	4.7	-0.5	4.2	.89	.99	857	565.6	207.3	73.5
04.20	4.1	-0.5	3.6	.96	-16.06	839	565.6	206.5	74.0

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_\odot$ (deg.)	$\delta_\pi-\delta_\odot$ (deg.)
39404.40	3.8	-0.5	3.3	-16.00	-16.10	827	565.6	205.6	74.5
39405.00	3.48	-0.54	2.9	-16.06	-16.16	812	565.6	202.9	75.9
05.50	3.19	-0.56	2.6	.12	.22	800	565.6	200.5	77.1
06.00	2.98	-0.57	2.4	.15	.25	790	565.6	197.9	78.2
06.50	3.02	-0.59	2.4	.15	.25	788	565.6	195.1	79.4
07.00	3.12	-0.61	2.5	.14	.24	793	565.5	192.1	80.5
07.50	3.22	-0.62	2.6	.12	.22	796	565.5	188.8	81.6
08.00	3.33	-0.64	2.7	.10	.20	800	565.4	185.2	82.6
08.50	3.13	-0.65	2.5	.14	.24	791	565.3	181.2	83.7
09.00	3.01	-0.67	2.3	.18	.28	780	565.2	176.8	84.7
09.50	3.37	-0.68	2.7	.11	.21	800	565.1	171.9	85.6
10.00	3.77	-0.69	3.1	.05	.15	816	564.9	166.6	86.5
10.50	4.21	-0.71	3.5	-15.99	.09	829	564.8	160.6	87.3
11.00	4.72	-0.72	4.0	.92	.03	844	564.6	154.0	88.0
11.50	5.14	-0.73	4.4	.88	-15.99	855	564.4	146.9	88.6
12.00	5.11	-0.74	4.4	.88	.99	855	564.2	139.2	89.1
12.50	4.82	-0.75	4.1	.91	-16.02	846	563.9	131.2	89.4
13.00	4.80	-0.78	4.0	.92	.04	843	563.7	123.0	89.6
39413.20	4.1	-0.8	3.4	-16.00	-16.11	823	563.6	119.7	89.7
13.40	6.4	-0.8	5.6	-15.78	-15.89	885	563.5	116.5	89.7
13.60	5.8	-0.8	5.1	.81	.93	871	563.4	113.3	89.7
13.80	9.7	-0.8	8.9	.57	.68	944	563.2	110.1	89.7
14.00	8.6	-0.8	7.9	.62	.73	925	563.1	107.1	89.6
14.20	8.7	-0.8	7.9	.61	.73	924	563.0	104.0	89.6
14.40	8.7	-0.8	8.0	.61	.72	925	562.9	101.1	89.5
14.60	7.8	-0.8	7.0	.66	.78	905	562.7	98.3	89.4
14.80	8.1	-0.8	7.3	.64	.76	910	562.6	95.5	89.3
15.00	8.1	-0.8	7.3	.65	.76	912	562.5	92.9	89.2
15.20	7.9	-0.8	7.0	.67	.79	909	562.3	90.3	89.0
15.40	7.7	-0.8	6.9	.68	.80	908	562.2	87.9	88.9
39415.50	7.34	-0.81	6.5	-15.70	-15.82	900	562.1	86.7	88.8
16.00	6.21	-0.82	5.4	.78	.91	876	561.8	81.1	88.3
16.50	6.17	-0.83	5.3	.79	.92	874	561.4	76.0	87.8
17.00	5.86	-0.83	5.0	.82	.95	866	561.0	71.4	87.2
17.50	5.68	-0.84	4.8	.83	.97	859	559.9	67.3	86.6
18.00	5.69	-0.85	4.8	.83	.97	858	559.4	63.6	85.9
18.50	5.61	-0.85	4.8	.83	.97	857	558.9	60.1	85.2
19.00	5.81	-0.86	5.0	.81	.96	862	558.4	57.0	84.4
19.50	5.93	-0.86	5.1	.80	.95	865	557.9	54.1	83.7
20.00	6.10	-0.87	5.2	.79	.94	867	557.4	51.4	82.9
20.50	6.11	-0.87	5.2	.79	.94	867	556.9	48.9	82.1
21.00	5.84	-0.88	5.0	.80	.96	860	556.3	46.6	81.3
21.50	6.41	-0.88	5.5	.76	.92	872	555.8	44.3	80.5
22.00	6.94	-0.88	6.1	.71	.88	884	555.2	42.2	79.7
22.50	8.52	-0.88	7.6	.61	.78	909	554.7	40.2	78.9
23.00	9.15	-0.88	8.3	.57	.74	918	554.1	38.3	78.0
23.50	9.12	-0.88	8.2	.57	.75	914	553.6	36.5	77.2
24.00	9.14	-0.88	8.3	.57	.75	914	553.0	34.8	76.3
24.50	9.05	-0.88	8.2	.57	.76	912	552.4	33.1	75.5
25.00	7.72	-0.88	6.8	.66	.84	888	551.9	31.5	74.6
25.50	7.12	-0.88	6.2	.70	.89	876	551.3	29.9	73.7
26.00	6.42	-0.88	5.5	.75	.95	860	550.7	28.3	72.8
26.50	6.17	-0.88	5.3	.76	.97	855	550.1	26.9	72.0
27.00	6.15	-0.87	5.3	.76	.97	855	549.6	25.4	71.1
27.50	6.21	-0.87	5.3	.76	.97	854	549.0	24.0	70.2
28.00	6.26	-0.87	5.4	.75	.97	856	548.4	22.6	69.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39428.20	6.6	-0.9	5.7	-15.73	-15.94	863	548.2	22.0	68.9
28.40	7.1	-0.9	6.2	.69	.90	873	547.9	21.5	68.6
28.60	7.6	-0.9	6.7	.65	.87	884	547.7	20.9	68.2
28.80	8.1	-0.9	7.2	.62	.84	892	547.5	20.4	67.9
29.00	8.1	-0.9	7.2	.62	.84	888	547.2	19.9	67.5
29.20	9.4	-0.9	8.5	.54	.76	908	547.0	19.3	67.2
29.40	11.6	-0.9	10.8	.44	.66	940	546.8	18.8	66.8
29.60	11.6	-0.9	10.8	.44	.66	940	546.5	18.3	66.4
29.80	13.1	-0.9	12.2	.38	.61	957	546.3	17.8	66.1
30.00	11.4	-0.8	10.5	.45	.67	935	546.1	17.2	65.7
30.20	10.7	-0.8	9.9	.47	.70	927	545.8	16.7	65.4
30.40	9.7	-0.8	8.8	.52	.75	911	545.6	16.2	65.0
30.60	10.0	-0.8	9.2	.50	.73	916	545.4	15.7	64.6
30.80	11.8	-0.8	10.9	.43	.66	939	545.1	15.2	64.3
31.00	11.8	-0.8	10.9	.43	.66	940	544.9	14.7	63.9
31.20	9.1	-0.8	8.3	.55	.78	904	544.7	14.2	63.6
31.40	8.0	-0.8	7.2	.61	.85	886	544.4	13.7	63.2
39431.50	7.65	-0.83	6.8	-15.63	-15.87	878	544.3	13.5	63.0
32.00	7.73	-0.83	6.9	.63	.87	880	543.8	12.2	62.1
32.50	8.13	-0.82	7.3	.60	.85	886	543.2	11.0	61.2
33.00	7.87	-0.81	7.1	.61	.86	882	542.6	9.8	60.3
33.50	6.65	-0.80	5.9	.69	.95	860	542.1	8.6	59.4
34.00	7.11	-0.79	6.3	.66	.93	869	541.5	7.4	58.4
34.50	7.36	-0.78	6.6	.64	.91	873	541.0	6.3	57.5
35.00	7.63	-0.77	6.9	.62	.89	879	540.4	5.1	56.6
35.50	8.01	-0.76	7.2	.60	.87	885	539.9	3.9	55.7
36.00	8.32	-0.76	7.6	.57	.85	893	539.4	2.8	54.7
36.50	8.80	-0.74	8.1	.55	.83	903	538.8	1.6	53.8
37.00	8.95	-0.73	8.2	.54	.82	903	538.3	0.5	52.9
37.50	9.21	-0.72	8.5	.52	.80	908	537.8	359.4	52.0
38.00	9.29	-0.71	8.6	.51	.80	912	537.3	358.3	51.0
38.50	9.32	-0.70	8.6	.51	.81	913	536.8	357.1	50.1
39.00	9.38	-0.68	8.7	.51	.80	914	536.4	356.0	49.2
39.50	9.51	-0.67	8.8	.50	.80	913	535.9	354.9	48.2
40.00	9.62	-0.66	9.0	.49	.79	914	535.4	353.8	47.3
40.50	9.71	-0.65	9.1	.48	.79	917	535.0	352.7	46.3
41.00	9.83	-0.63	9.2	.48	.78	920	534.5	351.6	45.4
41.50	9.94	-0.62	9.3	.47	.78	922	534.1	350.5	44.5
42.00	10.01	-0.61	9.4	.47	.78	922	533.7	349.4	43.5
42.50	9.86	-0.60	9.3	.47	.78	920	533.3	348.3	42.6
43.00	9.71	-0.58	9.1	.48	.80	918	532.9	347.3	41.6
43.50	9.45	-0.57	8.9	.49	.81	917	532.5	346.2	40.7
44.00	9.51	-0.55	9.0	.48	.81	919	532.2	345.1	39.7
44.50	9.54	-0.53	9.0	.48	.81	918	531.8	344.0	38.7
45.00	9.70	-0.52	9.2	.47	.80	920	531.5	342.9	37.8
45.50	10.04	-0.50	9.5	.46	.79	924	531.2	341.9	36.8
46.00	10.13	-0.49	9.6	.45	.79	925	530.7	340.8	35.9
46.50	10.12	-0.47	9.6	.45	.79	924	530.5	339.7	34.9
47.00	10.38	-0.46	9.9	.44	.78	929	530.2	338.6	33.9
47.50	10.47	-0.44	10.0	.43	.78	930	529.9	337.6	33.0
48.00	10.22	-0.42	9.8	.44	.79	924	529.7	336.5	32.0
48.50	10.04	-0.41	9.6	.45	.79	921	529.5	335.4	31.0
49.00	9.86	-0.39	9.5	.45	.80	921	529.3	334.3	30.1
49.50	9.58	-0.38	9.2	.46	.82	918	529.2	333.3	29.1
50.00	9.27	-0.36	8.9	.48	.84	915	529.0	332.2	28.1
50.50	8.78	-0.34	8.4	.50	.86	907	528.9	331.1	27.1
51.00	8.24	-0.33	7.9	.53	.89	900	528.8	330.1	26.2
51.50	7.94	-0.31	7.6	.55	.91	897	528.7	329.0	25.2
52.00	7.60	-0.29	7.3	.56	.93	893	528.7	327.9	24.2

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 P$	$10^6 P_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)
39452.50	7.32	-0.28	7.0	-15.58	-15.95	889	528.7	326.8	23.2
53.00	7.12	-0.26	6.9	.59	.96	887	528.7	325.8	22.2
53.50	6.91	-0.24	6.7	.60	.97	882	528.7	324.7	21.2
54.00	6.84	-0.23	6.6	.61	.98	881	528.7	323.6	20.2
54.50	6.67	-0.21	6.5	.61	.98	881	528.8	322.6	19.2
55.00	6.63	-0.19	6.4	.62	.99	878	528.9	321.5	18.3
55.50	6.79	-0.18	6.6	.61	.97	881	529.0	320.4	17.3
56.00	6.61	-0.16	6.4	.62	.99	879	529.1	319.3	16.3
56.50	6.48	-0.14	6.3	.63	-16.00	878	529.2	318.2	15.3
57.00	6.41	-0.13	6.3	.63	.00	878	529.4	317.2	14.3
39457.20	6.6	-0.1	6.5	-15.61	-15.98	882	529.5	316.7	13.9
57.40	6.7	-0.1	6.6	.61	.98	885	529.5	316.3	13.5
57.60	6.7	-0.1	6.6	.61	.97	884	529.6	315.9	13.1
57.80	6.6	-0.1	6.5	.61	.98	880	529.7	315.4	12.7
58.00	7.7	-0.1	7.6	.55	.90	898	529.8	315.0	12.2
58.20	8.3	-0.1	8.2	.51	.87	907	529.9	314.6	11.8
58.40	8.1	-0.1	8.0	.52	.88	906	530.0	314.1	11.4
58.60	6.8	-0.1	6.7	.60	.96	886	530.0	313.7	11.0
58.80	6.1	-0.1	6.1	.64	-16.01	875	530.1	313.3	10.6
59.00	6.1	0.0	6.0	.65	.02	874	530.2	312.8	10.2
59.20	6.2	0.0	6.2	.64	.00	880	530.3	312.4	9.8
59.40	6.6	0.0	6.6	.61	-15.97	886	530.4	312.0	9.4
59.60	7.4	0.0	7.4	.56	.92	897	530.6	311.5	9.0
59.80	8.6	0.0	8.6	.49	.85	916	530.7	311.1	8.6
60.00	8.3	0.0	8.3	.51	.87	912	530.8	310.6	8.2
60.20	7.9	0.0	7.9	.53	.89	907	530.9	310.2	7.8
60.40	6.2	0.0	6.2	.64	.99	876	531.0	309.8	7.4
60.60	5.5	0.0	5.5	.69	-16.05	864	531.1	309.3	7.0
60.80	5.3	0.0	5.3	.71	.07	861	531.2	308.9	6.6
39461.00	4.92	0.00	4.9	-15.74	-16.10	852	531.4	308.5	6.2
61.50	4.77	0.00	4.8	.75	.11	852	531.7	307.4	5.2
62.00	4.63	0.00	4.6	.77	.13	849	532.0	306.2	4.1
62.50	4.53	0.00	4.5	.78	.14	849	532.4	305.1	3.1
63.00	4.32	0.00	4.3	.80	.16	845	532.8	304.0	2.1
39463.20	4.6	0.0	4.6	-15.77	-16.13	853	532.9	303.6	1.7
63.40	4.9	0.0	4.9	.74	.09	859	533.1	303.1	1.3
63.60	7.1	0.0	7.1	.58	-15.93	903	533.2	302.7	0.9
63.80	8.5	0.0	8.5	.50	.85	927	533.4	302.3	0.4
64.00	6.6	0.0	6.6	.61	.96	896	533.5	301.8	0.0
64.20	6.0	0.0	6.0	.65	.99	884	533.7	301.4	-0.4
64.40	6.6	0.0	6.6	.61	.95	896	533.8	300.9	-0.8
64.60	7.1	0.0	7.1	.58	.92	907	534.0	300.5	-1.2
64.80	7.5	0.0	7.5	.56	.90	916	534.2	300.0	-1.6
65.00	7.9	0.0	7.9	.53	.87	922	534.3	299.6	-2.0
65.20	7.5	0.0	7.5	.56	.89	916	534.5	299.1	-2.4
65.40	7.4	0.0	7.4	.56	.90	917	534.7	298.7	-2.9
65.60	7.1	0.0	7.1	.58	.92	913	534.8	298.2	-3.3
65.80	6.6	0.0	6.6	.61	.95	906	535.0	297.8	-3.7
39466.00	6.25	0.00	6.2	-15.64	-15.98	899	535.2	297.3	-4.1
66.50	6.03	0.00	6.0	.66	.99	898	535.6	296.2	-5.1
67.00	6.00	0.00	6.0	.66	.99	899	536.0	295.0	-6.2
67.50	5.94	0.00	5.9	.66	.99	899	536.5	293.9	-7.2
68.00	5.97	0.00	6.0	.66	.98	903	536.9	292.7	-8.3
68.50	6.04	0.00	6.0	.66	.98	904	537.4	291.6	-9.3
69.00	6.38	0.00	6.4	.63	.94	916	537.8	290.4	-10.3
69.50	6.78	0.00	6.8	.60	.91	927	538.5	289.2	-11.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39470.00	6.87	0.00	6.9	-15.60	-15.89	930	539.0	288.1	-12.4
70.50	6.98	0.00	7.0	.59	.88	935	539.5	286.9	-13.5
71.00	6.67	0.00	6.7	.61	.90	932	540.0	285.7	-14.5
71.50	6.83	0.00	6.8	.61	.89	936	540.5	284.5	-15.6
72.00	6.66	0.00	6.7	.61	.89	935	541.0	283.3	-16.6
39472.20	7.5	0.0	7.5	-15.56	-15.84	950	541.2	282.8	-17.1
72.40	8.2	0.0	8.2	.53	.80	958	541.4	282.3	-17.5
72.60	9.6	0.0	9.6	.46	.73	978	541.6	281.8	-17.9
72.80	11.1	0.0	11.1	.40	.66	1000	541.8	281.3	-18.3
73.00	11.4	0.0	11.4	.38	.65	1007	542.0	280.8	-18.8
73.20	11.1	0.0	11.1	.40	.66	1006	542.2	280.3	-19.2
73.40	9.7	0.0	9.7	.45	.72	985	542.4	279.8	-19.6
73.60	12.6	0.0	12.6	.34	.60	1024	542.6	279.3	-20.0
73.80	15.4	0.0	15.4	.26	.51	1051	542.8	278.8	-20.5
74.00	14.3	0.0	14.3	.29	.54	1034	543.0	278.3	-20.9
74.20	10.2	0.0	10.2	.44	.69	986	543.2	277.8	-21.3
74.40	7.9	0.0	7.9	.55	.80	955	543.4	277.3	-21.7
74.60	7.3	0.0	7.3	.58	.84	948	543.6	276.8	-22.2
74.80	6.6	0.0	6.6	.62	.88	935	543.8	276.3	-22.6
39475.00	7.12	0.00	7.1	-15.59	-15.85	946	543.9	275.8	-23.0
75.50	6.79	0.00	6.8	.61	.86	943	544.4	274.5	-24.1
76.00	6.50	0.00	6.5	.63	.88	939	544.9	273.2	-25.2
76.50	6.45	0.00	6.5	.63	.88	940	545.3	271.8	-26.2
77.00	7.05	0.00	7.1	.59	.84	953	545.8	270.5	-27.3
77.50	6.97	0.00	7.0	.60	.84	953	546.2	269.1	-28.4
78.00	6.15	0.00	6.2	.65	.90	939	546.7	267.7	-29.5
78.50	5.72	0.00	5.7	.69	.93	929	547.1	266.3	-30.5
79.00	5.18	0.00	5.2	.73	.97	919	547.5	264.9	-31.6
79.50	5.50	0.00	5.5	.70	.94	927	548.0	263.4	-32.7
80.00	6.08	0.00	6.1	.66	.89	940	548.4	261.9	-33.8
80.50	6.09	0.00	6.1	.66	.89	940	548.8	260.4	-34.8
81.00	5.93	0.00	5.9	.67	.90	937	549.2	258.8	-35.9
81.50	5.89	0.00	5.9	.67	.89	938	549.5	257.2	-37.0
82.00	5.86	0.00	5.9	.67	.89	940	549.9	255.6	-38.1
82.50	5.77	0.00	5.8	.68	.90	940	550.3	253.9	-39.1
83.00	5.63	0.00	5.6	.69	.91	937	550.6	252.1	-40.2
83.50	5.67	0.00	5.7	.68	.89	940	551.0	250.3	-41.3
84.00	5.88	0.00	5.9	.67	.88	947	551.3	248.4	-42.3
84.50	6.08	0.00	6.1	.65	.86	953	551.6	246.4	-43.4
39484.80	6.1	0.0	6.1	-15.65	-15.86	953	551.8	245.1	-44.0
85.00	6.8	0.0	6.8	.60	.81	968	551.9	244.3	-44.4
85.20	7.1	0.0	7.1	.59	.79	974	552.0	243.4	-44.9
85.40	7.6	0.0	7.6	.56	.76	984	552.1	242.6	-45.3
85.60	8.1	0.0	8.1	.53	.73	993	552.2	241.7	-45.7
85.80	8.4	0.0	8.4	.51	.71	997	552.3	240.7	-46.1
86.00	8.5	0.0	8.5	.51	.70	999	552.4	239.8	-46.5
86.20	8.2	0.0	8.2	.52	.72	994	552.5	238.8	-46.9
86.40	7.9	0.0	7.9	.54	.73	988	552.6	237.9	-47.4
86.60	7.5	0.0	7.5	.56	.75	982	552.7	236.9	-47.8
86.80	6.9	0.0	6.9	.60	.79	970	552.8	235.8	-48.2
39487.00	6.85	0.00	6.8	-15.60	-15.79	970	552.9	234.8	-48.6
87.50	5.96	0.00	6.0	.66	.85	957	553.1	232.0	-49.6
88.00	6.16	0.00	6.2	.64	.83	964	553.3	229.0	-50.6
88.50	5.82	0.00	5.8	.67	.86	957	553.4	225.7	-51.5
89.00	5.59	0.00	5.6	.68	.88	954	553.5	222.1	-52.5
89.50	6.19	0.00	6.2	.64	.83	970	553.6	218.3	-53.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39490.00	6.69	0.00	6.7	-15.61	-15.80	982	553.7	214.0	-54.3
90.50	6.91	0.00	6.9	.59	.78	988	553.8	209.2	-55.1
91.00	6.96	0.00	7.0	.59	.78	990	553.8	204.0	-55.9
39491.20	7.4	0.0	7.4	-15.57	-15.75	998	553.8	201.7	-56.1
91.40	8.7	0.0	8.7	.50	.68	1020	553.8	199.3	-56.4
91.60	11.4	0.0	11.4	.38	.56	1062	553.8	196.9	-56.7
91.80	13.6	0.0	13.6	.31	.49	1088	553.8	194.3	-56.9
92.00	11.7	0.0	11.7	.37	.55	1061	553.7	191.6	-57.2
92.20	10.6	0.0	10.6	.41	.60	1048	553.7	188.9	-57.4
92.40	10.9	0.0	10.9	.40	.58	1055	553.7	186.0	-57.6
92.60	11.0	0.0	11.0	.40	.58	1058	553.6	183.1	-57.8
92.80	11.0	0.0	11.0	.40	.58	1060	553.6	180.0	-58.0
39493.00	11.12	0.00	11.1	-15.40	-15.58	1061	553.5	176.9	-58.1
93.50	11.64	0.00	11.6	.38	.56	1066	553.4	168.8	-58.4
94.00	11.66	0.00	11.7	.38	.56	1069	553.2	160.4	-58.5
94.50	11.94	0.00	11.9	.37	.56	1077	553.0	152.0	-58.5
95.00	12.30	0.00	12.3	.36	.54	1081	552.7	143.8	-58.4
95.50	12.62	0.00	12.6	.35	.54	1085	552.4	136.0	-58.1
96.00	12.87	0.00	12.9	.34	.53	1089	552.0	128.7	-57.7
96.50	13.15	0.00	13.1	.34	.52	1088	551.7	122.1	-57.2
97.00	13.39	0.00	13.4	.33	.52	1091	551.3	116.1	-56.6
97.50	17.36	0.00	17.4	.22	.41	1133	550.9	110.7	-56.0
98.00	25.27	0.00	25.3	.06	.24	1195	550.5	105.8	-55.3
98.50	22.55	0.00	22.5	.11	.30	1165	550.1	101.4	-54.5
99.00	16.84	0.00	16.8	.23	.43	1114	549.7	97.4	-53.7
99.50	14.20	0.00	14.2	.30	.50	1089	549.2	93.8	-52.9
39500.00	12.93	0.00	12.9	.34	.55	1075	548.8	90.5	-52.0
00.50	12.16	0.00	12.2	.37	.58	1069	548.3	87.4	-51.1
01.00	12.32	0.00	12.3	.36	.58	1068	547.8	84.6	-50.2
01.50	13.88	0.00	13.9	.31	.52	1083	547.4	81.9	-49.3
02.00	12.96	0.00	13.0	.34	.56	1072	546.9	79.5	-48.4
02.50	11.63	0.00	11.6	.39	.61	1057	546.4	77.1	-47.4
03.00	11.92	0.00	11.9	.37	.60	1063	545.9	74.9	-46.5
03.50	14.95	0.00	15.0	.28	.50	1096	545.4	72.8	-45.5
39503.60	16.2	0.0	16.2	-15.24	-15.47	1108	545.3	72.4	-45.3
03.80	18.3	0.0	18.2	.19	.42	1125	545.1	71.6	-44.9
04.00	30.4	-0.1	30.3	-14.97	.20	1226	544.9	70.8	-44.5
04.20	29.0	-0.1	28.9	-15.00	.22	1206	544.7	70.1	-44.2
04.40	17.7	-0.1	17.6	.22	.43	1097	544.6	69.3	-43.8
04.60	14.8	-0.2	14.7	.29	.51	1071	544.4	68.6	-43.4
39505.00	12.77	-0.21	12.6	-15.35	-15.58	1060	544.0	67.1	-42.6
05.50	11.55	-0.26	11.3	.39	.63	1045	543.5	65.3	-41.6
06.00	11.37	-0.29	11.1	.40	.64	1039	543.0	63.6	-40.7
06.50	11.20	-0.32	10.9	.41	.65	1034	542.5	62.0	-39.7
07.00	10.57	-0.34	10.2	.44	.69	1025	542.0	60.4	-38.7
07.50	10.27	-0.35	9.9	.45	.70	1022	541.5	58.8	-37.7
08.00	10.18	-0.36	9.8	.45	.71	1020	541.0	57.3	-36.7
08.50	10.17	-0.36	9.8	.45	.71	1019	540.5	55.8	-35.7
09.00	10.16	-0.37	9.8	.45	.71	1017	540.0	54.3	-34.8
09.50	9.90	-0.37	9.5	.46	.73	1011	539.5	52.9	-33.8
10.00	9.56	-0.38	9.2	.47	.75	1005	539.0	51.5	-32.8
10.50	11.52	-0.38	11.1	.39	.66	1030	538.5	50.1	-31.8
11.00	18.95	-0.38	18.6	.17	.44	1118	538.0	48.8	-30.8
11.50	15.50	-0.38	15.1	.26	.53	1080	537.5	47.4	-29.8
12.00	15.16	-0.38	14.8	.27	.54	1078	537.0	46.1	-28.8
12.50	16.00	-0.37	15.6	.25	.52	1091	536.6	44.8	-27.8

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39513.00	16.91	-0.37	16.5	-15.22	-15.50	1099	536.0	43.6	-26.9
13.50	17.77	-0.37	17.4	.20	.48	1107	535.4	42.3	-25.9
14.00	18.30	-0.36	17.9	.19	.47	1112	534.7	41.1	-24.9
14.50	19.25	-0.35	18.9	.16	.45	1124	534.1	39.8	-23.9
15.00	20.74	-0.34	20.4	.13	.42	1137	533.4	38.6	-22.9
15.50	22.14	-0.33	21.8	.10	.39	1145	532.7	37.4	-21.9
16.00	23.21	-0.33	22.9	.08	.38	1154	532.0	36.2	-20.9
16.50	24.00	-0.32	23.7	.06	.37	1160	531.2	35.0	-20.0
17.00	24.56	-0.31	24.3	.05	.36	1165	530.5	33.8	-19.0
17.50	25.40	-0.30	25.1	.04	.35	1171	529.8	32.6	-18.0
39518.00	26.5	-0.3	26.2	-15.02	-15.33	1176	529.0	31.5	-17.0
18.20	27.3	-0.3	27.0	.00	.32	1180	528.7	31.0	-16.6
18.40	28.7	-0.3	28.4	-14.99	.30	1182	528.4	30.5	-16.2
18.60	29.3	-0.3	29.0	.98	.29	1182	528.1	30.1	-15.8
18.80	29.2	-0.3	29.0	.98	.29	1188	527.8	29.6	-15.4
19.00	29.0	-0.3	28.7	.98	.30	1187	527.5	29.2	-15.1
19.20	28.0	-0.3	27.7	.99	.31	1177	527.2	28.7	-14.7
19.40	28.2	-0.2	28.0	.99	.31	1180	526.9	28.3	-14.3
19.60	28.0	-0.2	27.7	.99	.32	1177	526.6	27.8	-13.9
39520.00	28.34	-0.23	28.1	-14.98	-15.32	1183	526.1	26.9	-13.1
20.50	28.78	-0.22	28.6	.98	.31	1186	525.3	25.8	-12.1
21.00	29.25	-0.20	29.0	.97	.31	1187	524.6	24.6	-11.2
21.50	29.73	-0.19	29.5	.96	.31	1189	523.8	23.5	-10.2
22.00	30.11	-0.18	29.9	.96	.30	1188	523.1	22.4	-9.2
22.50	30.49	-0.16	30.3	.95	.30	1186	522.4	21.3	-8.2
23.00	30.27	-0.14	30.1	.95	.31	1185	521.7	20.2	-7.3
39523.50	29.0	-0.1	28.9	-14.97	-15.33	1176	521.0	19.1	-6.3
23.75	28.8	-0.1	28.6	.97	.34	1171	520.7	18.6	-5.8
24.00	28.3	-0.1	28.2	.98	.35	1166	520.4	18.0	-5.3
24.25	28.3	-0.1	28.2	.98	.35	1166	520.0	17.5	-4.8
24.50	28.3	-0.1	28.2	.97	.35	1165	519.7	16.9	-4.4
24.75	28.9	-0.1	28.8	.97	.34	1168	519.4	16.4	-3.9
25.00	30.2	-0.1	30.2	.94	.33	1176	519.1	15.8	-3.4
25.25	30.5	-0.1	30.4	.94	.32	1174	518.8	15.3	-2.9
25.50	31.0	-0.1	30.9	.94	.32	1173	518.5	14.7	-2.4
25.75	32.0	-0.1	31.9	.92	.30	1175	518.2	14.2	-2.0
26.00	33.5	0.0	33.5	.90	.28	1181	517.9	13.7	-1.5
26.25	34.2	0.0	34.2	.90	.28	1180	517.6	13.1	-1.0
26.50	33.8	0.0	33.8	.90	.28	1179	517.3	12.6	-0.5
26.75	33.0	0.0	33.0	.91	.30	1175	517.0	12.0	0.0
27.00	31.7	0.0	31.6	.93	.32	1166	516.7	11.5	0.5
27.25	31.7	0.0	31.7	.92	.32	1171	516.5	11.0	0.9
27.50	32.3	0.0	32.3	.92	.31	1174	516.2	10.4	1.4
27.75	32.1	0.0	32.1	.92	.31	1172	516.0	9.9	1.9
28.00	32.2	0.0	32.3	.92	.31	1172	515.7	9.4	2.4
28.25	33.6	0.0	33.6	.90	.30	1179	515.5	8.8	2.9
28.50	35.1	0.0	35.1	.88	.28	1190	515.2	8.3	3.3
39528.80	37.0	0.0	37.1	-14.86	-15.25	1200	516.5	7.7	3.9
29.00	45.0	0.1	45.1	.78	.16	1231	516.3	7.2	4.3
29.20	51.9	0.1	52.0	.72	.09	1255	516.2	6.8	4.7
29.40	46.8	0.1	46.9	.77	.14	1229	516.0	6.4	5.1
29.60	43.9	0.1	43.9	.80	.17	1219	515.8	5.9	5.5
29.80	42.9	0.1	43.0	.80	.18	1218	515.7	5.5	5.9
30.00	33.7	0.1	33.8	.91	.29	1163	515.6	5.1	6.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39530.50	30.58	0.11	30.7	-14.94	-15.34	1150	515.2	4.0	7.2
31.00	27.66	0.12	27.8	.98	.39	1136	514.9	3.0	8.2
31.50	26.33	0.14	26.5	-15.00	.41	1127	514.7	1.9	9.1
32.00	26.06	0.15	26.2	.01	.42	1122	514.4	0.9	10.1
32.50	25.36	0.17	25.5	.02	.43	1109	514.2	359.8	11.0
33.00	24.02	0.18	24.2	.04	.46	1097	514.0	358.7	12.0
33.50	22.51	0.20	22.7	.07	.49	1089	513.9	357.7	12.9
34.00	21.59	0.22	21.8	.08	.51	1081	513.8	356.6	13.9
34.50	22.40	0.24	22.6	.07	.50	1086	513.7	355.6	14.9
35.00	23.60	0.25	23.9	.05	.47	1093	513.6	354.5	15.8
35.50	23.08	0.27	23.4	.05	.48	1087	513.6	353.5	16.8
36.00	22.69	0.29	23.0	.06	.49	1084	513.6	352.4	17.7
36.50	21.70	0.30	22.0	.08	.51	1077	513.6	351.4	18.7
39537.00	21.8	0.3	22.1	-15.08	-15.51	1076	513.6	350.3	19.6
37.20	21.9	0.3	22.2	.08	.51	1067	513.6	349.9	20.0
37.40	26.6	0.3	26.9	.00	.42	1097	513.7	349.5	20.4
37.60	41.6	0.3	41.9	-14.81	.22	1180	513.7	349.1	20.8
37.80	33.9	0.3	34.2	.90	.31	1129	513.7	348.6	21.1
38.00	26.5	0.3	26.9	-15.00	.42	1090	513.8	348.2	21.5
38.20	22.5	0.4	22.9	.07	.49	1065	513.8	347.8	21.9
39538.50	21.98	0.37	22.3	-15.08	-15.50	1062	513.9	347.2	22.5
39.00	19.71	0.38	20.1	.13	.55	1047	514.0	346.1	23.4
39.50	18.09	0.39	18.5	.16	.59	1034	514.2	345.1	24.4
40.00	16.15	0.41	16.6	.21	.64	1020	514.4	344.0	25.3
40.50	15.87	0.42	16.3	.22	.65	1016	514.6	342.9	26.3
41.00	16.02	0.43	16.5	.21	.64	1014	514.8	341.9	27.2
41.50	16.62	0.45	17.1	.20	.63	1021	515.1	340.8	28.2
42.00	16.54	0.46	17.0	.20	.63	1020	515.3	339.8	29.1
42.50	17.36	0.47	17.8	.18	.61	1026	515.6	338.7	30.0
43.00	18.21	0.48	18.7	.16	.58	1033	515.9	337.6	31.0
43.50	19.28	0.49	19.8	.14	.56	1043	516.2	336.6	31.9
39543.80	19.7	0.5	20.2	-15.13	-15.55	1045	516.4	335.9	32.5
44.00	22.1	0.5	22.6	.08	.50	1065	516.5	335.5	32.9
44.20	21.6	0.5	22.1	.09	.51	1060	516.7	335.1	33.3
44.40	22.6	0.5	23.1	.08	.49	1070	516.8	334.6	33.6
44.60	20.7	0.5	21.3	.11	.52	1054	516.9	334.2	34.0
44.80	21.9	0.5	22.4	.09	.50	1059	517.1	333.8	34.4
45.00	19.8	0.5	20.3	.14	.54	1040	517.2	333.3	34.8
45.20	17.9	0.5	18.4	.18	.58	1027	517.3	332.9	35.1
45.40	16.8	0.5	17.3	.20	.61	1023	517.5	332.5	35.5
45.60	17.2	0.5	17.8	.19	.60	1027	517.6	332.0	35.9
45.80	16.6	0.5	17.2	.21	.61	1021	517.8	331.6	36.3
46.00	17.4	0.6	17.9	.19	.59	1026	517.9	331.2	36.6
46.20	17.8	0.6	18.4	.18	.58	1030	518.1	330.7	37.0
46.40	18.3	0.6	18.8	.17	.57	1030	518.2	330.3	37.4
46.60	18.9	0.6	19.4	.16	.55	1032	518.4	329.9	37.8
46.80	17.7	0.6	18.2	.19	.58	1023	518.5	329.4	38.1
47.00	17.5	0.6	18.1	.19	.58	1022	518.7	329.0	38.5
39547.50	16.94	0.58	17.5	-15.21	-15.60	1016	519.1	327.9	39.5
48.00	16.48	0.58	17.1	.22	.61	1016	519.5	326.8	40.4
48.50	16.02	0.59	16.6	.23	.62	1013	519.9	325.7	41.3
49.00	15.82	0.60	16.4	.24	.62	1011	520.4	324.6	42.3
49.50	16.31	0.60	16.9	.23	.61	1017	520.7	323.5	43.2
50.00	17.18	0.61	17.8	.20	.58	1025	521.1	322.3	44.2
50.50	17.91	0.61	18.5	.19	.56	1031	521.4	321.2	45.1
51.00	18.69	0.62	19.3	.17	.55	1040	521.8	320.1	46.0

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39551.50	19.16	0.62	19.8	-15.16	-15.53	1045	522.1	318.9	47.0
52.00	19.79	0.63	20.4	.15	.52	1049	522.4	317.8	47.9
52.50	21.69	0.63	22.3	.11	.48	1063	522.8	316.6	48.8
53.00	20.92	0.63	21.5	.13	.49	1055	523.1	315.4	49.8
53.50	21.25	0.63	21.9	.12	.48	1060	523.5	314.2	50.7
54.00	20.40	0.63	21.0	.14	.50	1052	523.9	313.0	51.6
39554.20	20.4	0.6	21.0	-15.14	-15.50	1051	524.0	312.5	52.0
54.40	21.4	0.6	22.0	.12	.47	1057	524.2	312.0	52.4
54.60	22.6	0.6	23.2	.10	.45	1068	524.3	311.6	52.7
54.80	23.7	0.6	24.3	.08	.43	1075	524.5	311.1	53.1
55.00	25.0	0.6	25.6	.06	.41	1083	524.6	310.6	53.5
55.20	21.9	0.6	22.6	.11	.46	1060	524.8	310.1	53.8
55.40	20.4	0.6	21.0	.14	.49	1047	525.0	309.6	54.2
39556.00	17.39	0.63	18.0	-15.21	-15.56	1025	525.5	308.1	55.3
56.50	16.11	0.63	16.7	.24	.60	1013	525.9	306.8	56.2
57.00	15.24	0.63	15.9	.26	.62	1006	526.3	305.5	57.2
57.50	12.69	0.63	13.3	.34	.70	979	526.8	304.2	58.1
58.00	12.58	0.62	13.2	.34	.70	978	527.3	302.8	59.0
39558.40	13.9	0.6	14.5	-15.30	-15.65	992	527.6	301.7	59.7
58.60	14.3	0.6	14.9	.29	.64	993	527.8	301.1	60.1
58.80	15.4	0.6	16.0	.26	.61	1001	528.0	300.6	60.5
59.00	16.9	0.6	17.5	.22	.56	1014	528.2	300.0	60.8
59.20	18.8	0.6	19.4	.18	.52	1029	528.4	299.4	61.2
59.40	15.7	0.6	16.3	.25	.59	1002	528.6	298.9	61.6
59.60	14.1	0.6	14.7	.30	.64	992	528.8	298.3	61.9
39560.00	11.66	0.58	12.2	-15.38	-15.72	967	529.2	297.1	62.7
60.50	9.33	0.55	9.9	.47	.81	938	529.8	295.6	63.6
61.00	9.28	0.53	9.8	.47	.81	937	530.3	294.0	64.5
61.50	9.74	0.51	10.3	.45	.79	944	530.8	292.4	65.4
62.00	10.44	0.49	10.9	.43	.76	952	531.4	290.7	66.3
62.50	11.42	0.47	11.9	.39	.72	964	531.9	289.0	67.2
63.00	11.04	0.44	11.5	.40	.73	958	532.5	287.2	68.0
63.50	10.26	0.41	10.7	.43	.76	949	533.0	285.3	68.9
64.00	9.25	0.38	9.6	.48	.80	935	533.6	283.4	69.8
64.50	8.57	0.35	8.9	.51	.83	927	534.1	281.3	70.6
65.00	7.86	0.30	8.2	.55	.87	918	534.6	279.1	71.5
65.50	7.50	0.25	7.8	.57	.88	912	535.2	276.7	72.3
66.00	8.65	0.19	8.8	.52	.82	928	535.7	274.3	73.2
66.50	9.09	0.07	9.2	.50	.80	935	536.2	271.6	74.0
67.00	9.72	0.06	9.8	.47	.77	945	536.7	268.7	74.8
39567.20	10.5	0.1	10.5	-15.44	-15.73	955	536.9	267.5	75.1
67.40	10.6	0.0	10.7	.43	.72	956	537.0	266.2	75.4
67.60	15.5	0.0	15.5	.27	.56	1009	537.2	264.9	75.7
67.80	20.5	0.0	20.5	.15	.43	1052	537.4	263.5	76.0
68.00	16.4	0.0	16.5	.24	.52	1017	537.6	262.1	76.3
68.20	12.5	0.0	12.5	.36	.64	977	537.7	260.7	76.6
68.40	13.2	0.0	13.2	.33	.62	985	537.8	259.1	76.9
68.60	15.9	0.0	15.9	.25	.54	1016	538.0	257.5	77.2
68.80	23.6	0.0	23.6	.08	.36	1083	538.2	255.9	77.4
69.00	17.9	0.0	17.9	.20	.48	1031	538.3	254.2	77.7
69.20	14.6	0.0	14.6	.29	.56	1000	538.4	252.4	77.9
69.40	14.5	0.0	14.5	.29	.57	1002	538.6	250.5	78.2
39569.50	13.98	0.00	14.0	-15.31	-15.58	998	538.7	249.5	78.3
70.00	13.68	0.00	13.7	.31	.59	997	539.0	244.4	78.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39570.50	13.40	0.00	13.4	-15.32	-15.59	997	539.3	238.6	79.4
71.00	13.34	0.00	13.3	.32	.59	998	539.5	232.2	79.8
71.50	11.64	0.00	11.6	.38	.65	979	539.8	225.1	80.1
72.00	11.09	0.00	11.1	.40	.67	977	540.0	217.4	80.3
39572.20	11.8	0.0	11.8	-15.37	-15.64	986	540.1	214.2	80.3
72.40	12.3	0.0	12.3	.35	.62	994	540.2	210.9	80.4
72.60	12.7	0.0	12.7	.34	.61	998	540.2	207.6	80.4
72.80	14.7	0.0	14.7	.28	.54	1019	540.3	204.2	80.3
73.00	15.0	0.0	15.0	.27	.53	1018	540.3	200.8	80.3
73.20	14.6	0.0	14.6	.28	.55	1013	540.4	197.3	80.2
73.40	14.4	0.0	14.4	.29	.55	1015	540.5	193.9	80.1
73.60	14.3	0.0	14.3	.29	.56	1016	540.5	190.5	80.0
73.80	14.1	0.0	14.1	.30	.56	1010	540.5	187.2	79.8
74.00	14.0	0.0	14.0	.30	.57	1009	540.6	183.9	79.6
74.20	14.1	0.0	14.1	.30	.56	1012	540.6	180.7	79.4
39574.50	14.21	0.00	14.2	-15.30	-15.56	1012	540.6	176.0	79.1
75.00	14.72	0.00	14.7	.29	.55	1016	540.7	168.7	78.4
75.50	15.27	0.00	15.3	.27	.53	1022	540.7	162.0	77.7
76.00	18.04	0.00	18.0	.21	.46	1044	540.7	156.0	76.8
76.50	23.08	0.00	23.1	.10	.35	1082	540.6	150.6	75.8
77.00	24.88	0.00	24.9	.07	.32	1094	540.5	145.8	74.8
77.50	21.74	0.00	21.7	.13	.39	1070	540.4	141.4	73.8
78.00	21.76	0.00	21.8	.13	.39	1073	540.3	137.5	72.7
78.50	22.60	0.00	22.6	.11	.37	1081	540.1	134.0	71.5
79.00	25.30	0.00	25.3	.07	.32	1098	539.9	130.7	70.4
39579.20	25.2	0.0	25.2	-15.07	-15.33	1098	539.9	129.5	69.9
79.40	24.8	0.0	24.8	.08	.33	1092	539.8	128.3	69.4
79.60	25.4	0.0	25.4	.07	.32	1097	539.7	127.2	69.0
79.80	26.2	0.0	26.2	.05	.31	1103	539.6	126.0	68.5
80.00	27.3	0.0	27.3	.04	.29	1108	539.5	125.0	68.0
80.20	27.2	0.0	27.2	.04	.30	1106	539.4	123.9	67.5
80.40	24.2	0.0	24.2	.09	.35	1088	539.3	122.9	67.0
80.60	22.8	0.0	22.8	.11	.38	1082	539.2	121.9	66.5
80.80	23.3	0.0	23.3	.10	.37	1086	539.1	121.0	66.0
81.00	22.7	0.0	22.7	.11	.38	1080	539.0	120.0	65.5
81.20	22.8	0.0	22.8	.11	.38	1079	538.9	119.1	65.0
81.40	23.7	0.0	23.7	.10	.36	1084	538.7	118.2	64.5
81.60	26.8	0.0	26.8	.04	.31	1101	538.6	117.3	64.0
81.80	36.7	0.0	36.7	-14.91	.17	1157	538.5	116.5	63.5
82.00	33.1	0.0	33.1	.95	.22	1134	538.4	115.7	63.0
82.20	26.7	0.0	26.7	-15.05	.31	1096	538.2	114.8	62.5
82.40	25.2	0.0	25.2	.07	.34	1091	538.1	114.0	62.0
82.60	30.2	0.0	30.2	-14.99	.26	1121	538.0	113.2	61.5
82.80	31.8	0.0	31.8	.97	.24	1126	537.8	112.5	61.0
83.00	22.4	0.0	22.4	-15.12	.39	1063	537.7	111.7	60.5
83.20	21.3	0.0	21.3	.14	.42	1056	537.5	111.0	60.0
83.40	21.7	0.0	21.7	.13	.41	1061	537.4	110.3	59.4
83.60	22.5	0.0	22.5	.11	.40	1070	537.3	109.5	58.9
83.80	21.6	0.0	21.6	.13	.42	1064	537.1	108.8	58.4
84.00	21.4	0.0	21.4	.14	.42	1062	537.0	108.1	57.9
84.20	25.2	0.0	25.2	.06	.35	1089	536.8	107.4	57.4
84.40	24.0	0.0	24.0	.09	.37	1074	536.7	106.8	56.9
84.60	25.7	0.0	25.7	.06	.34	1084	536.5	106.1	56.3
84.80	25.5	0.0	25.5	.06	.35	1081	536.4	105.5	55.8
85.00	24.2	0.0	24.2	.08	.37	1073	536.2	104.8	55.3
85.20	23.4	0.0	23.4	.10	.39	1070	536.1	104.2	54.8
85.40	22.5	0.0	22.5	.11	.41	1061	535.9	103.5	54.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)
39585.60	22.3	0.0	22.3	-15.12	-15.41	1057	535.7	102.9	53.7
85.80	21.2	0.0	21.2	.14	.43	1048	535.6	102.3	53.2
86.00	22.7	0.0	22.7	.11	.41	1061	535.4	101.7	52.7
86.20	23.5	0.0	23.5	.09	.39	1068	535.3	101.1	52.2
86.40	22.9	0.0	22.9	.10	.40	1061	535.1	100.5	51.6
86.60	23.9	0.0	23.9	.09	.38	1067	535.0	99.9	51.1
86.80	23.2	0.0	23.2	.10	.40	1062	534.8	99.3	50.6
87.00	22.5	0.0	22.5	.11	.41	1059	534.7	98.7	50.1
87.20	22.7	0.0	22.7	.11	.41	1062	534.5	98.2	49.5
39587.50	21.60	0.00	21.6	-15.13	-15.43	1053	534.3	97.3	48.7
88.00	22.27	0.00	22.3	.11	.42	1059	533.9	95.9	47.4
88.50	22.48	0.00	22.5	.11	.42	1061	533.7	94.6	46.1
89.00	22.71	0.00	22.7	.10	.41	1064	533.4	93.2	44.8
89.50	23.77	0.00	23.8	.08	.39	1073	533.1	91.9	43.5
90.00	23.88	0.00	23.9	.08	.39	1074	532.8	90.6	42.2
90.50	24.04	0.00	24.0	.08	.39	1074	532.5	89.4	40.9
91.00	25.06	0.00	25.1	.06	.37	1083	532.2	88.1	39.5
91.50	24.72	0.00	24.7	.06	.38	1080	531.9	86.9	38.2
92.00	25.18	0.00	25.2	.05	.37	1082	531.6	85.7	36.9
92.50	24.23	0.00	24.2	.07	.39	1075	531.3	84.4	35.6
93.00	24.44	0.00	24.4	.07	.39	1080	531.1	83.2	34.2
93.50	23.72	0.00	23.7	.08	.40	1075	530.8	82.1	32.9
94.00	23.70	0.00	23.7	.08	.40	1074	530.5	80.9	31.6
94.50	23.79	0.00	23.8	.07	.40	1074	530.2	79.7	30.2
95.00	24.00	0.00	24.0	.07	.40	1076	529.9	78.6	28.9
95.50	23.97	0.00	24.0	.07	.40	1076	529.6	77.4	27.6
96.00	24.54	0.00	24.5	.06	.39	1078	529.2	76.3	26.3
96.50	25.86	0.00	25.9	.04	.36	1084	528.9	75.1	24.9
97.00	27.54	0.00	27.5	.01	.34	1091	528.6	74.0	23.6
97.50	28.14	0.00	28.1	.00	.33	1097	528.3	72.9	22.3
98.00	28.20	0.00	28.2	.00	.33	1102	528.0	71.8	20.9
98.50	28.22	0.00	28.2	-14.99	.33	1103	527.6	70.7	19.6
99.00	29.46	0.00	29.5	.98	.31	1108	527.3	69.6	18.3
99.50	32.03	0.00	32.0	.94	.27	1118	527.0	68.5	16.9
39600.00	31.85	0.00	31.9	.94	.28	1119	526.6	67.4	15.6
00.50	31.31	0.00	31.3	.95	.29	1120	526.3	66.3	14.3
01.00	31.46	0.00	31.5	.94	.29	1123	526.0	65.2	13.0
01.50	31.70	0.00	31.7	.94	.29	1123	525.6	64.1	11.6
39601.80	32.7	0.0	32.7	-14.93	-15.27	1130	525.4	63.5	10.8
02.00	32.7	0.0	32.7	.93	.27	1130	525.3	63.0	10.3
02.20	33.0	0.0	33.0	.92	.27	1130	525.2	62.6	9.8
02.40	35.9	0.0	35.9	.89	.23	1141	525.0	62.2	9.2
02.60	37.2	0.0	37.2	.87	.21	1146	524.9	61.7	8.7
02.80	35.2	0.0	35.2	.90	.24	1137	524.8	61.3	8.2
03.00	35.3	0.0	35.3	.89	.24	1142	524.6	60.9	7.6
03.20	34.6	0.0	34.6	.90	.25	1139	524.5	60.4	7.1
03.40	34.4	0.0	34.4	.90	.25	1140	524.4	60.0	6.6
03.60	35.1	0.0	35.1	.89	.25	1146	524.2	59.6	6.0
03.80	38.7	0.0	38.7	.85	.20	1159	524.1	59.2	5.5
04.00	40.5	0.0	40.5	.84	.18	1160	524.0	58.7	5.0
04.20	37.6	0.0	37.6	.87	.21	1144	523.9	58.3	4.4
04.40	36.3	0.0	36.3	.88	.23	1137	523.7	57.9	3.9
04.60	35.7	0.0	35.7	.89	.24	1136	523.6	57.4	3.4
39605.00	35.76	0.00	35.8	-14.89	-15.24	1139	523.4	56.6	2.3
05.50	35.36	0.00	35.4	.89	.24	1143	523.1	55.5	1.0
06.00	33.57	0.00	33.6	.91	.27	1140	522.8	54.5	-0.3
06.50	32.53	0.00	32.5	.92	.29	1135	522.6	53.4	-1.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39607.00	31.62	0.00	31.6	-14.93	-15.30	1130	522.3	52.3	-3.0
07.50	31.86	0.01	31.9	.93	.30	1133	522.1	51.3	-4.3
08.00	31.86	0.01	31.9	.93	.30	1132	521.9	50.2	-5.6
08.50	31.50	0.02	31.5	.93	.31	1130	521.8	49.1	-7.0
09.00	32.86	0.03	32.9	.92	.29	1139	521.6	48.1	-8.3
09.50	33.80	0.04	33.8	.91	.27	1143	521.5	47.0	-9.6
10.00	32.01	0.06	32.1	.93	.30	1130	521.4	46.0	-11.0
10.50	34.84	0.07	34.9	.89	.26	1150	521.3	44.9	-12.3
11.00	32.74	0.09	32.8	.92	.29	1138	521.2	43.8	-13.6
39611.20	31.7	0.1	31.8	-14.93	-15.30	1132	521.2	43.4	-14.1
11.40	30.2	0.1	30.3	.96	.32	1118	521.2	43.0	-14.7
11.60	27.6	0.1	27.7	-15.00	.36	1098	521.2	42.5	-15.2
11.80	30.4	0.1	30.5	-14.95	.32	1119	521.2	42.1	-15.7
39611.90	34.6	0.1	35.	-14.90	-15.27	1147	521.2	41.9	-16.0
12.00	39.9	0.1	40.	.84	.20	1172	521.2	41.7	-16.2
12.10	35.5	0.1	36.	.89	.25	1139	521.3	41.5	-16.5
12.20	26.7	0.1	27.	-15.02	.37	1082	521.3	41.3	-16.8
12.30	28.0	0.1	28.	-14.99	.35	1096	521.3	41.1	-17.0
12.40	38.6	0.1	39.	.85	.22	1167	521.3	40.8	-17.3
12.50	41.7	0.1	42.	.82	.18	1185	521.3	40.6	-17.6
12.60	33.6	0.1	34.	.91	.27	1134	521.3	40.4	-17.8
12.70	26.8	0.1	27.	-15.01	.37	1083	521.4	40.2	-18.1
12.80	25.9	0.2	26.	.03	.38	1078	521.4	40.0	-18.4
12.90	30.9	0.2	31.	-14.95	.31	1114	521.4	39.8	-18.6
13.00	44.6	0.2	45.	.79	.15	1191	521.4	39.6	-18.9
13.10	56.0	0.2	56.	.69	.05	1244	521.5	39.4	-19.2
13.20	51.6	0.2	52.	.73	.09	1220	521.5	39.1	-19.4
13.30	41.7	0.2	42.	.83	.18	1166	521.5	38.9	-19.7
13.40	39.1	0.2	39.	.86	.20	1145	521.6	38.7	-19.9
13.50	39.0	0.2	39.	.86	.20	1146	521.6	38.5	-20.2
13.60	38.6	0.2	39.	.86	.21	1146	521.7	38.3	-20.5
39613.80	36.7	0.2	36.9	-14.88	-15.23	1131	521.7	37.9	-21.0
14.00	29.4	0.2	29.6	.98	.33	1094	521.8	37.4	-21.5
14.20	27.3	0.2	27.5	-15.01	.36	1089	521.9	37.0	-22.1
39614.50	24.72	0.21	24.9	-15.05	-15.41	1077	522.1	36.4	-22.8
15.00	23.64	0.22	23.9	.06	.43	1075	522.4	35.3	-24.2
15.50	21.14	0.24	21.4	.11	.47	1056	522.7	34.2	-25.5
16.00	19.94	0.26	20.2	.14	.50	1047	523.1	33.1	-26.8
16.50	20.22	0.28	20.5	.13	.49	1053	523.6	32.1	-28.1
17.00	20.48	0.29	20.8	.13	.48	1056	524.0	31.0	-29.4
17.50	22.29	0.31	22.6	.09	.44	1069	524.6	29.9	-30.8
18.00	18.79	0.33	19.1	.16	.52	1044	525.1	28.8	-32.1
18.50	16.76	0.35	17.1	.21	.56	1029	525.8	27.7	-33.4
19.00	15.53	0.36	15.9	.25	.59	1017	526.4	26.6	-34.7
19.50	14.95	0.38	15.3	.26	.61	1012	527.1	25.5	-36.0
20.00	13.98	0.39	14.4	.29	.63	1005	527.8	24.4	-37.3
20.50	12.65	0.40	13.1	.34	.67	990	528.6	23.3	-38.6
21.00	11.71	0.42	12.1	.37	.70	977	529.4	22.2	-39.9
21.50	11.22	0.43	11.7	.39	.71	973	530.3	21.1	-41.3
22.00	11.70	0.45	12.1	.38	.70	980	531.2	20.0	-42.6
22.50	11.58	0.46	12.0	.38	.70	979	532.1	18.9	-43.9
23.00	12.25	0.47	12.7	.36	.67	989	533.0	17.7	-45.2
23.50	12.10	0.49	12.6	.36	.67	989	533.9	16.6	-46.5
24.00	10.65	0.50	11.2	.42	.72	975	534.9	15.5	-47.8
24.50	10.79	0.51	11.3	.42	.71	979	535.9	14.3	-49.1
25.00	11.35	0.52	11.9	.40	.68	988	536.9	13.2	-50.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39625.50	11.15	0.54	11.7	-15.41	-15.69	988	537.9	12.0	-51.7
26.00	10.31	0.55	10.9	.44	.71	981	538.9	10.8	-53.0
26.50	10.31	0.56	10.9	.44	.71	982	540.0	9.7	-54.3
27.00	10.78	0.57	11.4	.43	.68	990	541.0	8.5	-55.6
27.50	11.18	0.58	11.8	.41	.67	996	542.0	7.3	-56.9
28.00	11.18	0.59	11.8	.42	.66	997	543.0	6.1	-58.2
28.50	11.60	0.60	12.2	.40	.64	1005	544.0	4.9	-59.5
29.00	12.08	0.61	12.7	.39	.62	1015	544.9	3.6	-60.8
29.50	11.39	0.62	12.0	.42	.64	1007	545.9	2.4	-62.1
30.00	11.29	0.63	11.9	.42	.64	1009	546.8	1.2	-63.4
30.50	11.35	0.63	12.0	.42	.64	1014	547.7	359.9	-64.7
31.00	11.01	0.64	11.6	.44	.65	1010	548.5	358.6	-66.0
31.50	11.08	0.65	11.7	.44	.64	1014	549.3	357.3	-67.3
32.00	11.95	0.65	12.6	.41	.60	1026	550.1	356.0	-68.6
32.50	11.54	0.66	12.2	.42	.61	1023	550.8	354.6	-69.9
33.00	11.48	0.66	12.1	.43	.61	1027	551.5	353.3	-71.2
33.50	11.98	0.67	12.7	.41	.59	1036	552.2	351.9	-72.4
34.00	12.50	0.67	13.2	.40	.57	1041	552.9	350.5	-73.7
34.50	12.16	0.68	12.8	.41	.58	1036	553.5	349.0	-75.0
35.00	12.64	0.68	13.3	.40	.56	1043	554.2	347.5	-76.3
39635.40	17.6	0.7	18.3	-15.26	-15.42	1104	554.6	346.3	-77.3
35.60	12.6	0.7	13.3	.40	.55	1042	554.9	345.7	-77.8
39635.80	3.5	0.7	4.	-15.91	-16.06	850	555.1	345.1	-78.3
35.90	58.6	0.7	59.	-14.75	-14.90	1325	555.2	344.8	-78.6
36.00	109.2	0.7	110.	.49	.63	1515	555.3	344.5	-78.8
36.10	66.8	0.7	68.	.70	.84	1357	555.4	344.2	-79.1
36.20	51.1	0.7	52.	.82	.95	1267	555.5	343.8	-79.3
36.30	51.7	0.7	52.	.82	.95	1256	555.7	343.5	-79.6
36.40	49.9	0.7	51.	.83	.96	1255	555.8	343.2	-79.9
39636.60	22.9	0.7	23.6	-15.16	-15.29	1124	556.0	342.6	-80.4
36.80	15.4	0.7	16.1	.32	.46	1066	556.2	341.9	-80.9
39637.00	16.34	0.69	17.0	-15.30	-15.44	1080	556.4	341.2	-81.4
37.50	13.89	0.69	14.6	.36	.51	1063	556.9	339.5	-82.6
39638.00	11.0	0.7	11.7	-15.46	-15.60	1027	557.6	337.6	-84.2
38.20	10.0	0.7	10.6	.51	.64	1009	557.8	336.8	-84.6
38.40	9.9	0.7	10.6	.51	.64	1010	558.0	336.1	-85.1
38.60	11.8	0.7	12.5	.44	.57	1034	558.2	335.4	-85.6
39638.80	17.7	0.7	18.	-15.28	-15.41	1093	558.5	334.6	-86.1
38.90	21.7	0.7	22.	.19	.32	1129	558.6	334.2	-86.4
39.00	20.9	0.7	22.	.19	.32	1127	558.7	333.8	-86.6
39.10	19.6	0.7	20.	.23	.36	1112	558.8	333.4	-86.9
39.20	16.6	0.7	17.	.30	.43	1084	558.9	333.0	-87.1
39.30	13.0	0.7	14.	.39	.52	1049	559.0	332.6	-87.4
39.40	12.2	0.7	13.	.42	.55	1034	559.1	332.2	-87.6
39.50	14.4	0.7	15.	.36	.48	1057	559.2	331.8	-87.8
39.60	17.2	0.7	18.	.28	.41	1094	559.3	331.4	-88.1
39.70	14.1	0.7	15.	.36	.49	1066	559.4	330.9	-88.3
39.80	11.7	0.7	12.	.46	.58	1028	559.5	330.5	-88.6
39.90	11.5	0.7	12.	.46	.58	1031	559.6	330.1	-88.8
39640.00	10.1	0.7	10.8	-15.50	-15.63	1016	559.7	329.7	-89.1
40.20	7.4	0.7	8.1	.63	.76	973	559.9	328.8	-89.5
40.40	5.1	0.7	5.8	.78	.90	923	560.1	327.9	-90.0
40.60	4.3	0.7	4.9	.85	.98	898	560.3	326.9	-90.5

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39640.70	7.0	0.7	8.	-15.64	-15.76	971	560.4	326.5	-90.8
40.80	16.2	0.7	17.	.31	.43	1092	560.5	326.0	-91.0
40.90	18.9	0.7	20.	.24	.36	1115	560.6	325.5	-91.2
41.00	24.6	0.7	25.	.14	.26	1157	560.7	325.0	-91.5
41.10	23.3	0.7	24.	.16	.28	1149	560.8	324.5	-91.7
41.20	16.3	0.7	17.	.31	.43	1084	560.9	324.0	-91.9
41.30	12.7	0.7	13.	.42	.54	1035	561.0	323.5	-92.2
39641.40	11.2	0.7	11.9	-15.46	-15.58	1021	561.1	323.0	-92.4
41.60	9.0	0.7	9.7	.55	.67	996	561.3	321.9	-92.9
41.80	8.6	0.7	9.3	.58	.70	995	561.5	320.8	-93.3
39642.00	7.14	0.67	7.8	-15.65	-15.77	967	561.6	319.7	-93.8
42.50	5.37	0.66	6.0	.77	.89	932	562.1	316.8	-95.0
43.00	4.98	0.65	5.6	.80	.92	924	562.5	313.5	-96.1
39643.20	5.4	0.7	6.1	-15.77	-15.88	937	562.7	312.1	-96.5
43.40	4.6	0.7	5.3	.83	.94	916	562.9	310.7	-97.0
43.60	5.3	0.6	6.0	.77	.88	933	563.1	309.2	-97.4
43.80	5.3	0.6	5.9	.78	.89	929	563.2	307.7	-97.8
44.00	5.1	0.6	5.7	.79	.90	923	563.4	306.0	-98.2
44.20	4.9	0.6	5.6	.80	.91	921	563.6	304.3	-98.6
44.40	4.3	0.6	5.0	.85	.96	905	563.7	302.6	-99.0
44.60	4.0	0.6	4.6	.89	-16.00	895	563.9	300.7	-99.4
44.80	3.9	0.6	4.5	.90	.01	892	564.0	298.8	-99.8
45.00	3.8	0.6	4.5	.90	.01	891	564.2	296.8	-100.2
45.20	3.7	0.6	4.3	.92	.02	885	564.3	294.7	-100.6
45.40	3.7	0.6	4.3	.93	.03	887	564.5	292.4	-100.9
45.60	4.7	0.6	5.3	.83	-15.93	918	564.6	290.1	-101.3
45.80	5.3	0.6	5.9	.78	.88	931	564.7	287.7	-101.6
46.00	5.4	0.6	6.0	.77	.87	932	564.9	285.1	-101.9
46.20	4.6	0.6	5.2	.84	.93	911	565.0	282.4	-102.2
46.40	3.6	0.6	4.2	.93	-16.03	884	565.1	279.7	-102.5
46.60	3.6	0.6	4.2	.93	.03	884	565.2	276.7	-102.7
39646.70	3.2	0.6	4.	-15.95	-16.05	875	565.3	275.2	-102.9
46.80	6.6	0.6	7.	.71	-15.80	959	565.4	273.7	-103.0
46.90	7.7	0.6	8.	.65	.74	982	565.4	272.1	-103.1
47.00	11.7	0.6	12.	.47	.56	1046	565.5	270.5	-103.2
47.10	15.1	0.6	16.	.34	.43	1089	565.5	268.9	-103.3
47.20	11.0	0.6	12.	.46	.55	1032	565.6	267.2	-103.4
47.30	7.5	0.6	8.	.63	.72	963	565.6	265.6	-103.5
47.40	3.4	0.6	4.	.94	-16.03	864	565.7	263.9	-103.6
47.50	3.3	0.6	4.	.94	.04	873	565.7	262.1	-103.7
47.60	2.7	0.6	3.	-16.08	.17	836	565.8	260.4	-103.7
47.70	3.8	0.6	4.	-15.95	.04	881	565.8	258.6	-103.8
47.80	3.8	0.6	4.	.95	.04	880	565.9	256.8	-103.9
47.90	4.9	0.6	5.	.85	-15.95	913	565.9	255.0	-103.9
48.00	6.0	0.6	7.	.71	.80	963	566.0	253.2	-103.9
48.10	9.4	0.6	10.	.55	.64	1017	566.0	251.4	-104.0
48.20	6.4	0.6	7.	.70	.79	957	566.1	249.5	-104.0
48.30	4.7	0.6	5.	.84	.93	903	566.1	247.7	-104.0
39648.40	4.0	0.6	4.6	-15.88	-15.97	893	566.2	245.8	-104.0
48.60	3.1	0.6	3.6	.99	-16.08	864	566.3	242.1	-104.1
48.80	3.1	0.6	3.7	.99	.08	873	566.3	238.5	-104.0
39649.00	2.93	0.55	3.5	-16.01	-16.10	866	566.4	234.8	-104.0
49.50	2.94	0.54	3.5	.01	.10	865	566.6	226.0	-103.7
50.00	2.64	0.53	3.2	.05	.13	848	566.7	217.9	-103.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39650.50	2.54	0.52	3.1	-16.06	-16.15	844	566.9	210.4	-102.8
51.00	2.44	0.50	2.9	.10	.18	836	567.0	203.7	-102.2
51.50	2.10	0.49	2.6	.15	.24	821	567.0	197.7	-101.4
52.00	1.87	0.48	2.3	.22	.30	805	567.1	192.4	-100.6
52.50	1.59	0.46	2.1	.26	.34	792	567.1	187.7	-99.7
53.00	1.42	0.45	1.9	.30	.38	775	567.1	183.5	-98.7
53.50	1.49	0.43	1.9	.30	.39	775	567.0	179.7	-97.8
54.00	1.60	0.42	2.0	.28	.36	783	566.9	176.2	-96.7
54.50	1.64	0.40	2.0	.28	.37	783	566.9	173.1	-95.7
55.00	1.80	0.39	2.2	.24	.32	798	566.7	170.2	-94.6
55.50	1.90	0.37	2.3	.22	.30	803	566.6	167.5	-93.5
56.00	2.00	0.36	2.4	.19	.28	808	566.4	164.9	-92.4
56.50	2.06	0.34	2.4	.20	.29	811	566.2	162.6	-91.3
57.00	2.08	0.33	2.4	.20	.29	814	566.0	160.4	-90.2
57.50	2.16	0.31	2.5	.18	.27	820	565.7	158.3	-89.0
58.00	2.25	0.29	2.5	.18	.28	821	565.4	156.3	-87.9
58.50	2.28	0.28	2.6	.16	.26	827	565.1	154.4	-86.7
59.00	2.25	0.26	2.5	.17	.27	820	564.8	152.5	-85.5
59.50	2.36	0.24	2.6	.16	.26	828	564.4	150.7	-84.4
60.00	2.51	0.23	2.7	.15	.25	837	564.1	149.0	-83.2
60.50	2.55	0.21	2.8	.13	.24	842	563.7	147.4	-82.0
61.00	2.47	0.18	2.7	.14	.25	836	563.3	145.8	-80.8
61.50	2.50	0.17	2.7	.14	.25	837	562.8	144.2	-79.6
62.00	2.55	0.15	2.7	.14	.25	838	562.4	142.7	-78.4
62.50	2.61	0.13	2.7	.13	.26	838	561.9	141.2	-77.2
63.00	2.60	0.11	2.7	.13	.26	838	561.4	139.7	-75.9
63.50	2.72	0.09	2.8	.11	.24	843	560.9	138.3	-74.7
64.00	2.74	0.07	2.8	.11	.24	844	560.3	136.9	-73.5
64.50	2.81	0.05	2.9	.09	.23	851	559.8	135.5	-72.3
65.00	2.85	0.03	2.9	.09	.23	851	559.2	134.2	-71.1
65.50	2.81	0.01	2.8	.10	.25	847	558.6	132.8	-69.8
66.00	2.88	-0.01	2.9	.08	.23	851	558.1	131.5	-68.6
66.50	3.74	-0.03	3.7	-15.97	.12	883	557.5	130.2	-67.3
39666.80	3.9	0.0	3.8	-15.95	-16.11	885	557.1	129.4	-66.6
67.00	4.9	0.0	4.9	.84	-15.99	917	556.8	128.9	-66.1
67.20	5.1	-0.1	5.1	.81	.97	919	556.6	128.4	-65.6
67.40	5.2	-0.1	5.1	.82	.98	922	556.4	127.9	-65.1
67.60	4.8	-0.1	4.7	.85	-16.02	915	556.1	127.4	-64.6
67.80	3.9	-0.1	3.9	.94	.10	889	555.9	126.9	-64.1
39668.00	4.27	-0.08	4.2	-15.90	-16.07	898	555.6	126.3	-63.6
68.50	4.33	-0.10	4.2	.90	.07	898	555.0	125.1	-62.4
69.00	4.30	-0.12	4.2	.90	.08	900	554.3	123.9	-61.1
69.50	4.36	-0.13	4.2	.90	.08	901	553.7	122.6	-59.9
70.00	4.39	-0.15	4.2	.89	.08	903	553.0	121.4	-58.6
70.50	4.46	-0.17	4.3	.88	.07	906	552.4	120.2	-57.4
71.00	4.59	-0.18	4.4	.87	.06	908	551.7	119.0	-56.1
71.50	4.86	-0.20	4.7	.83	.04	917	551.1	117.8	-54.9
72.00	4.95	-0.21	4.7	.83	.04	916	550.4	116.6	-53.6
72.50	5.25	-0.22	5.0	.80	.01	924	549.8	115.4	-52.3
73.00	5.40	-0.24	5.2	.78	.00	929	549.1	114.2	-51.1
73.50	5.20	-0.25	4.9	.81	.03	924	548.5	113.1	-49.8
74.00	4.68	-0.27	4.4	.85	.08	912	547.9	111.9	-48.5
74.50	4.39	-0.28	4.1	.88	.12	903	547.2	110.8	-47.3
75.00	5.86	-0.29	5.6	.74	-15.98	946	546.6	109.6	-46.0
75.50	3.98	-0.30	3.7	.92	-16.16	889	546.0	108.4	-44.7
76.00	4.51	-0.31	4.2	.86	.10	904	545.4	107.3	-43.5
76.50	5.23	-0.32	4.9	.79	.04	922	544.8	106.2	-42.2
77.00	5.27	-0.33	4.9	.79	.04	924	544.2	105.0	-40.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39677.50	4.86	-0.33	4.5	-15.82	-16.08	914	543.7	103.9	-39.6
78.00	4.62	-0.33	4.3	.84	.10	906	543.1	102.8	-38.4
78.50	4.50	-0.33	4.2	.85	.11	902	542.6	101.6	-37.1
79.00	4.53	-0.32	4.2	.85	.12	905	542.1	100.5	-35.8
79.50	4.44	-0.31	4.1	.86	.13	902	541.0	99.4	-34.5
80.00	4.36	-0.30	4.1	.85	.14	903	540.4	98.2	-33.2
80.50	4.13	-0.28	3.8	.88	.17	894	539.9	97.1	-31.9
81.00	4.19	-0.26	3.9	.87	.16	897	539.4	96.0	-30.7
81.50	4.31	-0.23	4.1	.85	.14	903	539.0	94.9	-29.4
82.00	5.57	-0.20	5.4	.73	.02	938	538.5	93.8	-28.1
82.50	6.21	-0.16	6.0	.68	-15.97	949	538.1	92.7	-26.8
83.00	6.21	-0.11	6.1	.67	.97	950	537.8	91.6	-25.5
83.50	6.32	0.05	6.4	.65	.95	960	537.4	90.4	-24.3
84.00	6.50	0.00	6.5	.64	.94	965	537.1	89.3	-23.0
84.50	6.79	0.00	6.8	.62	.93	973	536.8	88.2	-21.7
85.00	7.20	0.00	7.2	.59	.90	982	536.5	87.1	-20.4
85.50	7.58	0.00	7.6	.57	.87	988	536.3	86.0	-19.1
86.00	7.88	0.00	7.9	.55	.86	997	536.0	84.9	-17.8
86.50	8.25	0.00	8.3	.53	.84	1007	535.8	83.8	-16.5
87.00	8.53	0.00	8.5	.52	.82	1009	535.6	82.7	-15.3
87.50	8.65	0.00	8.7	.51	.81	1014	535.5	81.6	-14.0
88.00	8.77	0.00	8.8	.50	.81	1020	535.3	80.5	-12.7
88.50	9.07	0.00	9.1	.48	.79	1025	535.2	79.4	-11.4
89.00	10.02	0.00	10.0	.44	.75	1039	535.0	78.3	-10.1
89.50	10.14	0.00	10.1	.44	.74	1039	534.9	77.2	-8.8
90.00	10.98	0.00	11.0	.40	.71	1054	534.9	76.0	-7.5
90.50	11.53	0.00	11.5	.38	.69	1065	534.8	74.9	-6.2
91.00	11.74	0.00	11.7	.37	.68	1070	534.7	73.8	-5.0
91.50	12.13	0.00	12.1	.36	.67	1074	534.7	72.7	-3.7
92.00	12.77	0.00	12.8	.33	.64	1085	534.6	71.6	-2.4
92.50	13.52	0.00	13.5	.31	.62	1095	534.6	70.5	-1.1
93.00	14.11	0.00	14.1	.29	.60	1104	534.6	69.3	0.2
93.50	14.82	0.00	14.8	.27	.58	1115	534.6	68.2	1.5
94.00	15.32	0.00	15.3	.26	.56	1123	534.6	67.1	2.8
94.50	15.83	0.00	15.8	.25	.55	1127	534.6	66.0	4.1
39694.60	16.0	0.0	16.0	-15.24	-15.54	1130	534.6	65.7	4.4
94.80	16.5	0.0	16.5	.23	.53	1132	534.6	65.3	4.9
95.00	18.9	0.0	18.9	.18	.46	1152	534.6	64.8	5.4
95.20	21.3	0.0	21.3	.13	.41	1174	534.6	64.4	5.9
95.40	19.1	0.0	19.1	.17	.46	1157	534.6	63.9	6.4
95.60	19.0	0.0	19.0	.17	.46	1161	534.6	63.5	6.9
95.80	18.9	0.0	18.9	.17	.47	1163	534.7	63.0	7.5
96.00	18.5	0.0	18.5	.18	.47	1158	534.7	62.5	8.0
96.20	18.2	0.0	18.2	.19	.48	1154	534.7	62.1	8.5
96.40	18.1	0.0	18.1	.20	.48	1154	534.6	61.6	9.0
96.60	18.4	0.0	18.4	.19	.48	1155	534.6	61.2	9.5
96.80	19.0	0.0	19.0	.18	.46	1160	534.6	60.7	10.1
97.00	19.8	0.0	19.8	.16	.44	1166	534.6	60.3	10.6
97.20	19.9	0.0	19.9	.16	.44	1166	534.6	59.8	11.1
97.40	19.7	0.0	19.7	.16	.44	1169	534.6	59.3	11.6
97.60	19.5	0.0	19.5	.17	.45	1171	534.6	58.9	12.1
39698.00	19.37	-0.02	19.4	-15.17	-15.45	1172	534.7	57.9	13.2
98.50	18.83	-0.02	18.8	.19	.47	1166	534.7	56.8	14.5
99.00	19.61	-0.02	19.6	.17	.45	1172	534.8	55.6	15.8
99.50	21.14	-0.02	21.1	.14	.41	1184	534.8	54.4	17.1
39699.80	22.5	0.0	22.5	-15.12	-15.39	1194	534.9	53.7	17.8
39700.00	23.5	0.0	23.5	.10	.37	1200	534.9	53.2	18.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39700.20	24.0	0.0	24.0	-15.09	-15.36	1207	535.0	52.7	18.9
00.40	22.4	0.0	22.4	.12	.39	1191	535.0	52.3	19.4
00.60	20.4	0.0	20.4	.16	.43	1174	535.1	51.8	19.9
00.80	20.6	0.0	20.6	.15	.42	1183	535.1	51.3	20.4
01.00	22.2	0.0	22.2	.12	.39	1197	535.2	50.8	21.0
01.20	25.9	0.0	25.9	.06	.32	1222	535.3	50.3	21.5
01.40	25.0	0.0	25.1	.08	.34	1207	535.3	49.8	22.0
01.60	22.7	0.0	22.8	.12	.38	1192	535.4	49.3	22.5
01.80	20.2	0.0	20.2	.16	.43	1178	535.5	48.9	23.1
39702.00	19.36	0.03	19.4	-15.18	-15.45	1170	535.6	48.4	23.6
02.50	17.52	0.05	17.6	.22	.49	1155	535.8	47.1	24.9
03.00	16.37	0.08	16.5	.25	.52	1142	536.0	45.9	26.2
03.50	15.78	0.08	15.9	.27	.54	1132	536.3	44.6	27.5
04.00	15.10	0.10	15.2	.29	.56	1122	536.6	43.3	28.8
04.50	14.32	0.12	14.4	.31	.58	1114	536.9	42.0	30.1
05.00	13.88	0.13	14.0	.32	.59	1109	537.2	40.7	31.4
05.50	13.38	0.15	13.5	.34	.61	1101	537.6	39.4	32.7
06.00	12.94	0.17	13.1	.35	.62	1094	538.0	38.0	34.0
06.50	13.65	0.19	13.8	.33	.60	1101	538.4	36.6	35.3
07.00	14.80	0.21	15.0	.29	.56	1114	538.8	35.2	36.6
07.50	13.99	0.23	14.2	.32	.58	1104	539.3	33.8	37.9
08.00	12.93	0.25	13.2	.35	.61	1093	539.7	32.3	39.2
08.50	12.27	0.27	12.5	.38	.64	1085	540.2	30.8	40.5
09.00	12.91	0.29	13.2	.35	.61	1094	540.7	29.2	41.8
09.50	12.27	0.31	12.6	.38	.63	1085	541.3	27.6	43.1
10.00	11.67	0.33	12.0	.40	.65	1075	541.8	26.0	44.4
10.50	10.47	0.35	10.8	.45	.69	1056	542.3	24.3	45.7
11.00	9.78	0.37	10.1	.47	.72	1047	542.9	22.5	47.0
11.50	9.06	0.38	9.4	.51	.75	1036	543.4	20.7	48.3
12.00	9.24	0.40	9.6	.50	.74	1039	544.0	18.8	49.6
12.50	9.50	0.42	9.9	.49	.72	1043	544.6	16.8	50.9
13.00	9.89	0.43	10.3	.47	.70	1048	545.1	14.6	52.2
13.50	11.05	0.45	11.5	.42	.65	1064	545.7	12.4	53.4
14.00	11.09	0.47	11.6	.42	.65	1065	546.2	10.0	54.7
14.50	9.30	0.48	9.8	.50	.72	1041	546.8	7.4	55.9
15.00	8.55	0.49	9.0	.53	.76	1032	547.3	4.7	57.2
15.50	8.59	0.51	9.1	.53	.75	1034	547.8	1.7	58.4
16.00	8.66	0.52	9.2	.53	.74	1033	548.3	358.4	59.6
16.50	8.86	0.53	9.4	.52	.73	1035	548.7	354.8	60.8
17.00	7.95	0.55	8.5	.57	.78	1019	549.1	350.8	61.9
17.50	5.35	0.56	5.9	.73	.94	965	549.5	346.4	63.0
39756.50	6.31	-0.04	6.3	-15.69	-15.90	915	551.0	140.3	2.1
57.00	5.93	-0.06	5.9	.72	.93	906	550.8	139.3	1.1
57.50	5.23	-0.07	5.2	.78	.99	888	550.6	138.2	0.0
58.00	6.21	-0.09	6.1	.70	.91	907	550.4	137.1	-1.1
58.50	7.42	-0.11	7.3	.63	.84	931	550.3	136.1	-2.1
59.00	7.58	-0.12	7.5	.61	.82	935	550.2	135.0	-3.2
59.50	7.88	-0.14	7.7	.60	.81	938	550.1	133.9	-4.3
60.00	8.25	-0.15	8.1	.58	.79	944	550.1	132.9	-5.4
60.50	8.84	-0.16	8.7	.55	.76	953	550.1	131.8	-6.4
61.00	9.34	-0.18	9.2	.52	.73	960	550.2	130.7	-7.5
39761.20	10.5	-0.2	10.3	-15.47	-15.68	976	550.2	130.3	-7.9
61.40	10.7	-0.2	10.6	.46	.66	975	550.3	129.9	-8.4
61.60	13.0	-0.2	12.8	.38	.58	998	550.3	129.4	-8.8
61.80	12.9	-0.2	12.7	.38	.58	998	550.3	129.0	-9.2
62.00	13.6	-0.2	13.4	.36	.56	1006	550.4	128.6	-9.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39762.20	13.7	-0.2	13.5	-15.36	-15.55	1005	550.5	128.1	-10.1
62.40	14.6	-0.2	14.4	.33	.52	1014	550.5	127.7	-10.5
62.60	13.6	-0.2	13.4	.36	.56	1003	550.6	127.3	-10.9
62.80	12.5	-0.2	12.3	.40	.59	992	550.6	126.8	-11.4
63.00	12.2	-0.2	12.0	.41	.60	988	550.7	126.4	-11.8
63.20	10.9	-0.2	10.6	.46	.66	969	550.8	126.0	-12.2
63.40	10.3	-0.2	10.1	.48	.68	963	550.9	125.5	-12.6
63.60	11.8	-0.2	11.5	.43	.62	981	551.0	125.1	-13.1
63.80	12.8	-0.2	12.5	.39	.58	992	551.1	124.7	-13.5
64.00	12.5	-0.2	12.3	.40	.59	994	551.2	124.2	-13.9
64.20	10.2	-0.2	9.9	.49	.69	965	551.3	123.8	-14.4
64.40	8.4	-0.2	8.1	.58	.77	937	551.4	123.4	-14.8
64.60	8.0	-0.2	7.7	.60	.79	931	551.5	122.9	-15.2
39765.00	8.12	-0.26	7.9	-15.59	-15.78	938	551.7	122.1	-16.1
65.50	8.28	-0.27	8.0	.58	.78	942	552.0	121.0	-17.1
66.00	8.55	-0.27	8.3	.57	.76	946	552.3	119.9	-18.2
66.50	8.90	-0.28	8.6	.55	.74	950	552.7	118.8	-19.3
67.00	9.42	-0.28	9.1	.53	.71	957	553.0	117.7	-20.3
67.50	9.86	-0.28	9.6	.51	.69	966	553.4	116.6	-21.4
68.00	10.06	-0.28	9.8	.50	.68	970	553.8	115.4	-22.5
68.50	10.20	-0.27	9.9	.49	.67	970	554.2	114.3	-23.5
69.00	10.37	-0.26	10.1	.48	.66	973	554.7	113.2	-24.6
69.50	10.35	-0.24	10.1	.49	.65	974	555.1	112.0	-25.7
70.00	10.69	-0.21	10.5	.47	.63	980	555.5	110.9	-26.7
70.50	10.91	-0.17	10.7	.46	.62	983	556.0	109.8	-27.8
71.00	11.38	-0.12	11.3	.44	.60	992	556.5	108.6	-28.8
71.50	11.79	0.00	11.8	.42	.57	998	557.0	107.4	-29.9
72.00	12.51	0.00	12.5	.39	.54	1004	557.4	106.2	-31.0
39772.40	12.5	0.0	12.5	-15.39	-15.54	1005	557.8	105.3	-31.8
72.60	12.6	0.0	12.6	.39	.54	1007	558.0	104.8	-32.2
72.80	12.8	0.0	12.8	.38	.53	1010	558.2	104.3	-32.7
73.00	13.0	0.0	13.0	.38	.52	1010	558.4	103.9	-33.1
73.20	13.2	0.0	13.2	.37	.51	1006	558.6	103.4	-33.5
73.40	13.1	0.0	13.1	.38	.51	1005	558.8	102.9	-33.9
73.60	13.2	0.0	13.2	.37	.51	1009	559.0	102.4	-34.4
73.80	13.3	0.0	13.3	.37	.51	1010	559.2	101.9	-34.8
74.00	13.4	0.0	13.4	.37	.50	1011	559.4	101.4	-35.2
74.20	13.5	0.0	13.5	.36	.50	1016	559.6	100.9	-35.6
74.40	13.5	0.0	13.5	.36	.50	1020	559.8	100.4	-36.1
74.60	13.6	0.0	13.6	.36	.49	1023	560.0	99.9	-36.5
74.80	13.7	0.0	13.7	.36	.49	1020	560.2	99.4	-36.9
75.00	13.8	0.0	13.8	.36	.48	1021	560.4	98.9	-37.3
75.20	13.9	0.0	13.9	.35	.48	1024	560.6	98.4	-37.8
75.40	14.0	0.0	14.0	.35	.47	1023	560.8	97.9	-38.2
75.60	14.1	0.0	14.1	.35	.47	1025	561.0	97.4	-38.6
75.80	14.2	0.0	14.2	.34	.47	1030	561.2	96.9	-39.0
39776.00	14.20	0.00	14.2	-15.34	-15.47	1028	561.1	96.4	-39.4
76.50	14.12	0.00	14.1	.35	.47	1030	561.6	95.1	-40.5
77.00	13.95	0.00	14.0	.35	.47	1032	562.1	93.7	-41.6
77.50	14.16	0.00	14.2	.34	.46	1033	562.6	92.4	-42.6
78.00	15.58	0.00	15.6	.31	.41	1045	563.1	91.0	-43.7
78.50	14.83	0.00	14.8	.33	.43	1040	563.6	89.6	-44.7
79.00	14.63	0.00	14.6	.33	.44	1042	564.1	88.2	-45.8
79.50	14.56	0.00	14.6	.33	.43	1043	564.6	86.7	-46.8
80.00	14.55	0.00	14.5	.34	.43	1042	565.1	85.2	-47.9
80.50	15.23	0.00	15.2	.32	.41	1048	565.6	83.6	-48.9
81.00	15.75	0.00	15.7	.30	.39	1052	566.1	82.0	-49.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39781.50	15.72	0.00	15.7	-15.30	-15.39	1054	566.5	80.4	-51.0
82.00	14.69	0.00	14.7	.33	.42	1045	567.0	78.7	-52.0
82.50	14.20	0.00	14.2	.35	.43	1042	567.4	76.9	-53.0
83.00	14.19	0.00	14.2	.35	.43	1044	567.8	75.0	-54.0
83.50	14.54	0.00	14.5	.34	.42	1049	568.2	73.1	-55.1
84.00	14.93	0.00	14.9	.33	.40	1055	568.6	71.0	-56.1
84.50	15.34	0.00	15.3	.31	.39	1062	568.9	68.9	-57.1
85.00	15.73	0.00	15.7	.30	.37	1067	569.2	66.6	-58.1
85.50	16.32	0.00	16.3	.29	.36	1072	569.5	64.1	-59.0
86.00	17.26	0.00	17.3	.26	.33	1077	569.7	61.5	-60.0
86.50	18.01	0.00	18.0	.25	.31	1084	570.0	58.7	-60.9
87.00	18.95	0.00	19.0	.22	.28	1097	570.2	55.6	-61.9
87.50	18.46	0.00	18.5	.23	.29	1093	570.3	52.2	-62.8
88.00	18.09	0.00	18.1	.24	.30	1091	570.5	48.5	-63.6
88.50	17.57	0.00	17.6	.25	.31	1088	570.6	44.3	-64.5
89.00	16.82	0.00	16.8	.27	.33	1080	570.7	39.7	-65.3
89.50	16.63	0.00	16.6	.28	.34	1078	570.7	34.4	-66.0
90.00	17.93	0.00	17.9	.25	.31	1090	570.7	28.5	-66.6
90.50	21.65	0.00	21.7	.17	.23	1119	570.7	21.8	-67.2
39791.00	23.4	0.0	23.4	-15.14	-15.20	1128	570.7	14.3	-67.6
91.20	26.3	0.0	26.3	.09	.15	1151	570.7	11.1	-67.8
39791.30	24.0	0.0	24.	-15.13	-15.19	1134	570.5	9.5	-67.8
91.40	29.5	0.0	29.	.05	.11	1168	570.5	7.8	-67.9
91.50	32.7	0.0	33.	-14.99	.05	1191	570.4	6.1	-67.9
91.60	30.9	0.0	31.	-15.02	.08	1175	570.4	4.3	-68.0
91.70	21.8	0.0	22.	.17	.23	1109	570.4	2.6	-68.0
91.80	21.2	0.0	21.	.19	.25	1102	570.3	0.8	-68.1
91.90	21.6	0.0	22.	.17	.23	1112	570.3	359.0	-68.1
92.00	26.5	0.0	27.	.08	.14	1149	570.3	357.1	-68.1
92.10	35.3	0.0	35.	-14.97	.03	1198	570.2	355.3	-68.1
92.20	30.2	0.0	30.	-15.04	.10	1164	570.2	353.4	-68.1
92.30	26.7	0.0	27.	.09	.14	1146	570.2	351.5	-68.1
92.40	23.8	0.0	24.	.14	.20	1128	570.2	349.7	-68.1
92.50	24.8	0.0	25.	.12	.18	1136	570.1	347.8	-68.1
92.60	26.3	0.0	26.	.10	.16	1143	570.1	345.9	-68.0
92.70	31.2	0.0	31.	.03	.09	1172	570.1	344.0	-68.0
92.80	27.2	0.0	27.	.09	.15	1141	570.0	342.1	-67.9
92.90	23.2	0.0	23.	.16	.22	1110	570.0	340.2	-67.9
93.00	23.6	0.0	24.	.14	.20	1120	570.0	338.3	-67.8
93.10	22.9	0.0	23.	.16	.22	1117	569.9	336.5	-67.8
93.20	25.6	0.0	26.	.11	.17	1141	569.9	334.6	-67.7
93.30	23.2	0.0	23.	.16	.22	1117	569.9	332.8	-67.6
93.40	21.4	0.0	21.	.20	.26	1096	569.8	331.0	-67.5
93.50	19.6	0.0	20.	.22	.29	1085	569.8	329.2	-67.4
39793.75	18.2	0.0	18.2	-15.26	-15.33	1078	569.7	324.8	-67.2
94.00	17.8	0.0	17.8	.27	.34	1077	569.6	320.6	-66.9
94.25	17.5	0.0	17.5	.28	.35	1074	569.5	316.6	-66.5
94.50	17.6	0.0	17.6	.28	.35	1074	569.5	312.8	-66.1
94.75	17.6	0.0	17.6	.28	.35	1070	569.4	309.2	-65.7
95.00	18.0	0.0	18.0	.28	.34	1072	569.3	305.7	-65.3
95.25	17.7	0.0	17.7	.28	.35	1072	569.2	302.5	-64.8
95.50	17.9	0.0	17.9	.28	.35	1074	569.1	299.5	-64.3
95.75	17.6	0.0	17.6	.29	.36	1070	569.0	296.6	-63.8
96.00	17.3	0.0	17.3	.30	.37	1064	568.9	294.0	-63.3
96.25	17.3	0.0	17.3	.30	.37	1061	568.8	291.4	-62.8
96.50	17.1	0.0	17.1	.30	.38	1058	568.8	289.0	-62.2
96.75	16.9	0.0	16.9	.31	.38	1056	568.7	286.8	-61.6

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 P$	$10^6 P_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39797.00	16.2	0.0	16.2	-15.33	-15.40	1047	568.6	284.7	-61.1
97.25	16.2	0.0	16.2	.33	.40	1045	568.5	282.7	-60.5
97.50	16.1	0.0	16.1	.33	.41	1046	568.4	280.7	-59.9
97.75	18.7	0.0	18.7	.27	.34	1065	568.3	278.9	-59.2
98.00	17.4	0.1	17.4	.30	.37	1050	568.2	277.2	-58.6
98.25	13.8	0.1	13.9	.40	.47	1017	568.2	275.5	-58.0
98.50	13.1	0.2	13.2	.42	.50	1013	568.1	274.0	-57.4
98.75	12.1	0.2	12.3	.45	.53	1004	568.0	272.4	-56.7
99.00	12.5	0.2	12.7	.44	.52	1009	567.9	271.0	-56.1
99.25	11.6	0.2	11.9	.47	.55	999	567.8	269.6	-55.4
99.50	11.4	0.3	11.6	.48	.56	993	567.7	268.3	-54.8
99.75	10.7	0.3	11.0	.50	.58	985	567.6	267.0	-54.1
39800.00	11.1	0.3	11.4	.48	.57	990	567.5	265.7	-53.5
00.25	10.1	0.3	10.4	.52	.61	978	567.5	264.5	-52.8
00.50	9.4	0.3	9.8	.55	.64	970	567.4	263.3	-52.2
00.75	8.6	0.3	8.9	.59	.68	958	567.3	262.2	-51.5
01.00	7.8	0.4	8.2	.63	.72	947	567.2	261.1	-50.8
01.25	6.0	0.4	6.4	.74	.83	916	567.1	260.0	-50.1
01.50	6.0	0.4	6.3	.74	.83	914	567.0	259.0	-49.5
01.75	7.7	0.4	8.1	.63	.73	945	566.9	257.9	-48.8
02.00	9.2	0.4	9.6	.56	.65	968	566.9	257.0	-48.1
02.25	8.5	0.4	8.9	.59	.68	955	566.8	256.0	-47.4
02.50	7.4	0.4	7.8	.65	.74	935	566.7	255.0	-46.8
02.75	8.7	0.4	9.1	.58	.68	956	566.6	254.1	-46.1
03.00	11.2	0.4	11.6	.48	.57	986	566.5	253.2	-45.4
03.25	10.0	0.5	10.5	.52	.61	972	566.4	252.3	-44.7
03.50	7.7	0.5	8.1	.63	.73	940	566.3	251.4	-44.0
03.75	6.8	0.5	7.3	.68	.77	927	566.2	250.5	-43.3
04.00	6.8	0.5	7.3	.68	.77	927	566.1	249.7	-42.6
04.25	6.6	0.5	7.1	.69	.79	925	566.0	248.8	-41.9
04.50	6.2	0.5	6.7	.72	.82	919	565.9	248.0	-41.3
04.75	6.0	0.5	6.5	.73	.83	915	565.8	247.2	-40.6
05.00	5.8	0.5	6.3	.74	.84	911	565.8	246.4	-39.9
05.25	5.8	0.5	6.3	.74	.84	911	565.7	245.6	-39.2
05.50	5.6	0.5	6.1	.76	.86	907	565.6	244.8	-38.5
05.75	5.5	0.5	6.0	.76	.87	905	565.5	244.1	-37.8
06.00	6.7	0.5	7.2	.68	.78	925	565.3	243.3	-37.1
06.25	8.1	0.5	8.6	.60	.70	944	565.2	242.5	-36.4
06.50	6.9	0.5	7.4	.67	.77	926	565.1	241.8	-35.7
06.75	7.2	0.5	7.7	.65	.75	932	565.0	241.1	-35.0
07.00	9.5	0.5	10.0	.54	.64	967	564.9	240.3	-34.3
07.25	7.3	0.5	7.8	.64	.75	934	564.8	239.6	-33.6
07.50	5.5	0.5	6.0	.76	.86	902	564.7	238.9	-32.9
07.75	6.1	0.5	6.7	.71	.82	917	564.6	238.2	-32.2
08.00	6.1	0.5	6.6	.72	.82	914	564.4	237.5	-31.5
08.25	5.7	0.5	6.3	.74	.84	908	564.3	236.8	-30.8
08.50	5.5	0.5	6.1	.75	.86	905	564.2	236.1	-30.1
08.75	5.6	0.5	6.1	.75	.86	906	564.1	235.4	-29.4
09.00	5.5	0.5	6.1	.75	.86	907	563.9	234.7	-28.7
09.25	5.5	0.5	6.1	.75	.87	908	563.8	234.0	-28.0
09.50	5.9	0.5	6.5	.73	.84	916	563.6	233.3	-27.3
09.75	6.6	0.5	7.2	.68	.79	927	563.5	232.7	-26.6
10.00	6.9	0.5	7.4	.67	.78	929	563.3	232.0	-25.9
10.25	6.9	0.5	7.4	.67	.78	929	563.4	231.3	-25.2
10.50	6.4	0.5	6.9	.70	.81	921	563.3	230.7	-24.5
10.75	6.4	0.5	6.9	.70	.81	922	563.2	230.0	-23.8
11.00	6.5	0.5	7.0	.69	.81	925	563.1	229.4	-23.1
11.25	6.4	0.5	6.9	.70	.82	925	563.0	228.7	-22.4
11.50	6.3	0.5	6.8	.71	.82	924	562.8	228.1	-21.7
11.75	6.3	0.5	6.9	.70	.82	927	562.7	227.4	-21.0

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_\odot$ (deg.)	$\delta_\pi-\delta_\odot$ (deg.)
39812.00	6.2	0.5	6.8	-15.71	-15.83	925	562.6	226.8	-20.3
12.25	6.4	0.5	6.9	.70	.82	926	562.4	226.2	-19.6
12.50	6.4	0.5	6.9	.70	.82	926	562.3	225.5	-18.9
12.75	6.4	0.5	6.9	.70	.82	926	562.2	224.9	-18.2
13.00	6.4	0.5	6.9	.70	.82	926	562.0	224.3	-17.5
13.25	6.4	0.5	6.9	.70	.82	926	561.9	223.6	-16.8
13.50	6.3	0.5	6.8	.70	.83	924	561.7	223.0	-16.1
13.75	6.6	0.5	7.1	.69	.81	929	561.5	222.4	-15.4
14.00	6.6	0.5	7.1	.69	.81	929	561.4	221.8	-14.7
14.25	6.4	0.5	6.9	.70	.83	926	561.2	221.1	-14.0
14.50	6.4	0.5	6.9	.70	.83	926	561.0	220.5	-13.3
14.75	6.3	0.5	6.8	.70	.84	925	560.9	219.9	-12.6
15.00	6.3	0.5	6.8	.70	.84	925	560.7	219.3	-11.9
15.25	6.0	0.5	6.5	.72	.86	920	560.5	218.7	-11.2
15.50	5.9	0.5	6.3	.74	.87	915	560.3	218.1	-10.5
15.75	5.9	0.5	6.4	.73	.87	916	560.1	217.5	-9.8
16.00	7.6	0.5	8.1	.63	.76	944	559.9	216.9	-9.1
16.25	10.2	0.5	10.6	.51	.65	978	559.8	216.2	-8.4
16.50	10.3	0.5	10.8	.50	.64	979	559.6	215.6	-7.7
16.75	9.1	0.5	9.6	.55	.69	962	559.4	215.0	-7.0
17.00	8.4	0.5	8.9	.58	.73	953	559.2	214.4	-6.3
17.25	8.3	0.5	8.8	.59	.74	953	559.0	213.8	-5.6
17.50	8.3	0.4	8.8	.59	.74	952	558.8	213.2	-4.9
17.75	8.2	0.4	8.6	.60	.75	949	558.6	212.6	-4.2
18.00	9.0	0.4	9.5	.56	.71	961	558.4	212.0	-3.5
18.25	9.7	0.4	10.1	.53	.68	967	558.2	211.4	-2.8
18.50	9.8	0.4	10.2	.52	.67	966	558.0	210.8	-2.1
18.75	9.8	0.4	10.2	.52	.68	968	557.8	210.2	-1.4
19.00	10.0	0.4	10.4	.52	.67	971	557.6	209.7	-0.7
19.25	10.1	0.4	10.6	.51	.66	973	557.4	209.1	0.0
19.50	9.2	0.4	9.6	.55	.71	960	557.2	208.5	0.7
19.75	8.1	0.4	8.5	.61	.77	944	557.0	207.9	1.4
20.00	7.9	0.4	8.3	.62	.78	940	556.8	207.3	2.1
20.25	7.8	0.4	8.1	.63	.79	936	556.6	206.7	2.8
20.50	7.2	0.4	7.6	.65	.82	929	556.4	206.1	3.5
20.75	6.9	0.4	7.3	.67	.84	924	556.3	205.5	4.2
21.00	7.1	0.4	7.5	.66	.83	927	556.1	204.9	4.9
21.25	7.3	0.4	7.6	.65	.82	929	555.9	204.3	5.5
21.50	7.4	0.4	7.8	.64	.81	932	555.7	203.7	6.2
21.75	7.7	0.4	8.0	.63	.80	935	555.5	203.2	6.9
22.00	7.9	0.4	8.3	.62	.79	940	555.3	202.6	7.6
22.25	7.7	0.3	8.1	.63	.80	935	555.2	202.0	8.3
22.50	8.7	0.3	9.0	.58	.75	948	555.0	201.4	9.0
22.75	9.1	0.3	9.5	.56	.73	956	554.8	200.8	9.7
23.00	9.5	0.3	9.8	.54	.72	960	554.7	200.2	10.4
23.25	7.6	0.3	8.0	.63	.81	932	554.5	199.6	11.1
23.50	6.6	0.3	6.9	.69	.87	912	554.3	199.0	11.8
23.75	6.6	0.3	6.9	.69	.87	913	554.2	198.5	12.5
24.00	6.4	0.3	6.7	.71	.89	911	554.0	197.9	13.2
24.25	6.1	0.3	6.4	.73	.92	906	553.9	197.3	13.9
24.50	6.0	0.3	6.3	.74	.92	902	553.7	196.7	14.5
24.75	6.5	0.3	6.8	.70	.89	911	553.6	196.1	15.2
25.00	6.7	0.3	7.0	.69	.88	914	553.4	195.5	15.9
25.25	7.4	0.3	7.7	.65	.83	924	553.3	194.9	16.6
25.50	7.8	0.3	8.1	.63	.81	929	553.2	194.4	17.3
25.75	8.4	0.3	8.7	.59	.78	938	553.1	193.8	18.0
26.00	9.6	0.3	9.9	.54	.72	955	552.9	193.2	18.7
26.25	11.5	0.3	11.7	.46	.65	976	552.8	192.6	19.4
26.50	7.5	0.2	7.7	.65	.84	922	552.7	192.0	20.0
26.75	4.2	0.2	4.5	.89	-16.08	858	552.6	191.4	20.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39827.00	4.5	0.2	4.7	-15.87	-16.07	864	552.5	190.8	21.4
27.25	4.9	0.2	5.1	.84	.03	874	552.4	190.3	22.1
27.50	5.0	0.2	5.2	.83	.03	876	552.3	189.7	22.8
27.75	5.6	0.2	5.9	.77	-15.97	890	552.3	189.1	23.5
28.00	5.8	0.2	6.1	.76	.95	893	552.2	188.5	24.2
28.25	5.9	0.2	6.1	.76	.96	893	552.1	187.9	24.8
28.50	5.4	0.2	5.5	.80	-16.00	880	552.1	187.3	25.5
28.75	5.1	0.2	5.3	.82	.03	876	552.0	186.7	26.2
29.00	5.1	0.2	5.2	.83	.03	874	552.0	186.1	26.9
29.25	5.1	0.2	5.2	.83	.03	874	551.9	185.6	27.6
29.50	5.0	0.2	5.2	.83	.03	875	551.9	185.0	28.3
29.75	5.3	0.2	5.4	.82	.02	880	551.9	184.4	28.9
30.00	6.1	0.2	6.2	.75	-15.95	894	551.8	183.8	29.6
30.25	6.7	0.1	6.9	.70	.90	907	551.8	183.2	30.3
30.50	6.8	0.1	6.9	.70	.90	908	551.8	182.6	31.0
30.75	6.6	0.1	6.8	.71	.91	905	551.8	182.0	31.7
31.00	6.6	0.1	6.7	.71	.91	903	551.8	181.4	32.3
31.25	6.1	0.1	6.2	.75	.95	893	551.8	180.8	33.0
31.50	5.8	0.1	5.9	.77	.97	888	551.8	180.2	33.7
31.75	6.0	0.1	6.1	.76	.95	893	551.8	179.6	34.4
32.00	6.6	0.1	6.7	.72	.91	905	551.8	179.1	35.0
32.25	6.0	0.1	6.1	.76	.95	893	551.8	178.5	35.7
32.50	5.6	0.1	5.7	.79	.98	884	551.8	177.9	36.4
32.75	5.4	0.1	5.5	.80	-16.00	880	551.8	177.3	37.1
33.00	6.7	0.1	6.8	.71	-15.90	906	551.9	176.7	37.7
33.25	7.3	0.1	7.4	.67	.87	919	551.9	176.1	38.4
33.50	5.0	0.1	5.0	.85	-16.05	871	551.9	175.5	39.1
33.75	4.8	0.1	4.9	.86	.05	869	552.0	174.9	39.8
34.00	4.9	0.0	4.9	.86	.05	868	552.0	174.3	40.4
34.25	4.7	0.0	4.8	.87	.06	866	552.1	173.7	41.1
34.50	4.8	0.0	4.8	.87	.06	866	552.1	173.1	41.8
34.75	4.5	0.0	4.5	.90	.09	860	552.2	172.5	42.4
35.00	4.5	0.0	4.5	.90	.10	861	552.2	171.9	43.1
35.25	4.5	0.0	4.5	.90	.09	860	552.3	171.3	43.8
35.50	4.6	0.0	4.6	.89	.09	864	552.3	170.7	44.4
35.75	4.6	0.0	4.6	.90	.09	865	552.4	170.1	45.1
36.00	4.7	0.0	4.7	.89	.08	868	552.5	169.4	45.8
36.25	4.9	0.0	4.9	.86	.06	873	552.5	168.8	46.4
36.50	4.9	0.0	4.9	.86	.05	873	552.6	168.2	47.1
36.75	5.1	0.0	5.1	.85	.03	879	552.7	167.6	47.8
37.00	5.5	0.0	5.4	.82	.01	886	552.8	167.0	48.4
37.25	5.5	0.0	5.5	.81	.00	888	552.8	166.4	49.1
37.50	5.5	0.0	5.4	.82	.01	887	552.9	165.8	49.8
37.75	5.5	0.0	5.4	.82	.01	888	553.0	165.2	50.4
38.00	5.6	-0.1	5.6	.81	-15.99	893	553.1	164.5	51.1
38.25	5.6	-0.1	5.6	.80	.99	893	553.2	163.9	51.8
38.50	5.7	-0.1	5.6	.81	.99	894	553.2	163.3	52.4
38.75	5.9	-0.1	5.8	.79	.97	898	553.3	162.7	53.1
39.00	6.8	-0.1	6.7	.73	.91	919	553.4	162.0	53.7
39.25	7.4	-0.1	7.3	.69	.87	930	553.5	161.4	54.4
39.50	7.9	-0.1	7.8	.66	.84	938	553.6	160.8	55.0
39.75	8.3	-0.1	8.1	.64	.82	946	553.6	160.2	55.7
40.00	8.7	-0.1	8.6	.62	.79	954	553.7	159.5	56.4
40.25	8.9	-0.1	8.8	.60	.78	957	553.8	158.9	57.0
40.50	9.3	-0.1	9.2	.59	.76	965	553.9	158.3	57.7
40.75	10.2	-0.1	10.1	.55	.72	980	554.0	157.6	58.3
41.00	10.8	-0.1	10.7	.52	.69	990	554.0	157.0	59.0
41.25	11.2	-0.1	11.1	.50	.67	996	554.1	156.3	59.6
41.50	11.6	-0.1	11.4	.49	.66	999	554.2	155.7	60.3
41.75	12.0	-0.2	11.8	.48	.64	1005	554.2	155.0	60.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39842.00	12.4	-0.2	12.2	-15.46	-15.63	1014	554.3	154.4	61.6
42.25	12.9	-0.2	12.8	.44	.61	1022	554.4	153.7	62.2
42.50	13.4	-0.2	13.2	.43	.59	1024	554.4	153.1	62.9
42.75	14.0	-0.2	13.8	.41	.57	1031	554.5	152.4	63.5
39843.00	15.7	-0.2	15.5	-15.36	-15.51	1054	555.9	151.8	64.1
43.20	17.1	-0.2	16.9	.32	.47	1072	555.9	151.2	64.6
43.40	15.4	-0.2	15.2	.37	.52	1054	555.9	150.7	65.1
43.60	13.8	-0.2	13.6	.42	.57	1034	556.0	150.2	65.6
43.80	15.0	-0.2	14.8	.38	.53	1048	556.0	149.6	66.1
44.00	23.1	-0.2	22.9	.19	.34	1122	556.1	149.1	66.7
44.20	21.7	-0.2	21.5	.22	.37	1109	556.1	148.5	67.2
44.40	17.1	-0.2	16.9	.32	.47	1067	556.2	148.0	67.7
44.60	15.5	-0.2	15.2	.37	.52	1050	556.2	147.4	68.2
44.80	14.2	-0.2	14.0	.41	.55	1036	556.3	146.9	68.7
39845.00	13.5	-0.2	13.3	-15.43	-15.57	1029	556.4	146.3	69.2
45.25	13.3	-0.2	13.0	.44	.59	1029	556.4	145.6	69.9
45.50	12.8	-0.2	12.6	.45	.60	1025	556.5	144.9	70.5
45.75	12.3	-0.2	12.1	.47	.62	1018	556.6	144.2	71.1
46.00	11.8	-0.2	11.6	.49	.63	1011	556.7	143.5	71.8
46.25	11.4	-0.2	11.2	.50	.65	1006	556.8	142.8	72.4
46.50	11.2	-0.2	10.9	.52	.66	1004	556.9	142.1	73.0
46.75	11.4	-0.2	11.2	.51	.65	1009	557.0	141.3	73.7
47.00	11.9	-0.3	11.7	.49	.63	1014	557.1	140.6	74.3
47.25	12.8	-0.3	12.6	.45	.60	1024	557.3	139.9	74.9
47.50	12.4	-0.3	12.1	.47	.61	1018	557.4	139.1	75.5
47.75	11.6	-0.3	11.3	.50	.64	1009	557.5	138.4	76.2
48.00	9.8	-0.3	9.5	.58	.72	981	557.6	137.6	76.8
48.25	9.2	-0.3	8.9	.61	.75	974	557.7	136.8	77.4
48.50	8.8	-0.3	8.5	.63	.77	969	557.8	136.0	78.0
48.75	8.2	-0.3	7.9	.66	.80	958	557.9	135.2	78.7
49.00	7.9	-0.3	7.7	.67	.81	953	558.0	134.4	79.3
49.25	7.6	-0.3	7.3	.70	.84	946	558.1	133.6	79.9
49.50	7.4	-0.3	7.1	.71	.85	943	558.2	132.8	80.5
49.75	7.7	-0.3	7.4	.69	.83	950	558.4	132.0	81.1
50.00	8.6	-0.3	8.3	.64	.78	968	558.5	131.1	81.7
50.25	9.3	-0.3	9.0	.61	.74	980	558.6	130.3	82.3
50.50	9.5	-0.3	9.2	.60	.73	984	558.7	129.4	83.0
50.75	10.0	-0.3	9.7	.57	.71	991	558.8	128.5	83.6
51.00	10.0	-0.3	9.7	.57	.71	991	558.8	127.7	84.2
51.25	10.2	-0.3	9.9	.56	.70	996	558.9	126.7	84.8
51.50	10.3	-0.3	10.0	.56	.69	997	559.0	125.8	85.4
51.75	10.2	-0.3	9.9	.56	.69	994	559.1	124.9	86.0
52.00	10.1	-0.3	9.8	.57	.70	995	559.2	123.9	86.6
52.25	9.8	-0.3	9.5	.58	.71	994	559.3	122.9	87.2
52.50	9.5	-0.3	9.1	.60	.73	989	559.3	121.9	87.8
52.75	9.4	-0.3	9.1	.60	.73	990	559.4	120.9	88.4
53.00	9.5	-0.3	9.2	.59	.72	989	559.5	119.8	89.0
53.25	9.2	-0.4	8.9	.61	.73	981	559.5	118.8	89.5
53.50	8.4	-0.4	8.0	.65	.78	967	559.6	117.6	90.1
53.75	8.5	-0.4	8.2	.64	.77	975	559.6	116.5	90.7
54.00	8.8	-0.4	8.5	.63	.75	981	559.7	115.3	91.3
54.25	9.3	-0.4	9.0	.60	.73	989	559.7	114.1	91.9
54.50	9.5	-0.4	9.1	.59	.72	988	559.7	112.9	92.4
54.75	11.5	-0.4	11.2	.50	.63	1021	559.8	111.6	93.0
55.00	12.7	-0.4	12.3	.46	.59	1037	559.8	110.3	93.5
39855.20	14.4	-0.4	14.0	-15.41	-15.53	1058	559.8	109.2	94.0
55.40	19.6	-0.4	19.2	.27	.39	1110	559.8	108.0	94.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39855.60	20.8	-0.4	20.5	-15.24	-15.36	1118	559.8	106.9	94.9
55.80	22.2	-0.4	21.8	.21	.34	1128	559.8	105.7	95.3
56.00	21.6	-0.4	21.2	.22	.35	1122	559.8	104.4	95.7
56.20	15.8	-0.4	15.4	.36	.49	1064	559.8	103.1	96.2
56.40	13.0	-0.4	12.7	.45	.57	1034	559.8	101.8	96.6
39856.50	13.1	-0.4	12.7	-15.45	-15.57	1035	559.8	101.1	96.8
56.75	13.1	-0.4	12.8	.44	.57	1039	559.8	99.4	97.3
57.00	13.0	-0.4	12.6	.45	.57	1040	559.7	97.5	97.8
57.25	13.8	-0.4	13.4	.42	.55	1054	559.7	95.5	98.3
57.50	17.5	-0.4	17.1	.31	.44	1093	559.7	93.5	98.8
57.75	18.2	-0.4	17.8	.29	.42	1096	559.6	91.3	99.3
58.00	14.1	-0.4	13.7	.41	.53	1054	559.6	89.0	99.8
58.25	11.5	-0.4	11.1	.50	.62	1022	559.5	86.6	100.2
58.50	9.1	-0.4	8.8	.60	.72	986	559.4	84.0	100.7
58.75	8.9	-0.4	8.5	.61	.74	985	559.4	81.3	101.1
59.00	9.1	-0.4	8.7	.60	.73	990	559.3	78.4	101.5
59.25	9.3	-0.4	8.9	.59	.72	993	559.2	75.3	101.9
59.50	9.4	-0.3	9.1	.58	.71	998	559.1	72.0	102.2
59.75	9.9	-0.3	9.5	.56	.69	1007	559.1	68.6	102.6
60.00	12.2	-0.3	11.9	.46	.59	1043	559.0	64.9	102.9
60.25	13.3	-0.3	13.0	.42	.55	1056	558.9	61.0	103.1
60.50	13.8	-0.3	13.5	.40	.53	1065	558.9	57.0	103.4
60.75	13.6	-0.3	13.3	.41	.54	1062	558.8	52.7	103.6
61.00	14.2	-0.3	13.8	.39	.52	1068	558.7	48.3	103.7
61.25	15.1	-0.3	14.8	.36	.49	1079	558.6	43.7	103.8
61.50	15.5	-0.3	15.2	.35	.48	1085	558.5	39.0	103.9
61.75	15.9	-0.3	15.6	.34	.47	1090	558.4	34.3	103.9
62.00	15.0	-0.3	14.7	.36	.49	1078	558.3	29.5	103.9
62.25	13.3	-0.3	13.0	.42	.55	1058	558.2	24.7	103.8
62.50	12.9	-0.3	12.6	.43	.56	1054	558.1	20.1	103.7
62.75	12.9	-0.3	12.7	.43	.56	1058	558.0	15.5	103.5
63.00	12.9	-0.3	12.7	.43	.56	1060	557.9	11.1	103.3
63.25	12.6	-0.3	12.4	.44	.57	1055	557.7	6.8	103.0
63.50	11.9	-0.2	11.7	.46	.60	1046	557.6	2.7	102.7
63.75	11.4	-0.2	11.2	.48	.62	1037	557.5	358.9	102.4
64.00	11.2	-0.2	11.0	.49	.63	1034	557.3	355.2	102.1
64.25	11.1	-0.2	10.9	.50	.63	1035	557.1	351.7	101.7
64.50	11.0	-0.2	10.8	.50	.64	1035	557.0	348.5	101.2
64.75	11.3	-0.2	11.1	.49	.63	1037	556.8	345.4	100.8
65.00	11.6	-0.1	11.4	.48	.62	1040	556.7	342.5	100.3
65.25	12.3	-0.1	12.2	.45	.59	1049	556.5	339.8	99.9
65.50	13.1	-0.1	13.0	.42	.57	1059	556.3	337.2	99.4
65.75	13.3	-0.1	13.3	.41	.56	1062	556.1	334.8	98.9
66.00	12.4	0.0	12.4	.45	.59	1050	555.9	332.5	98.3
66.25	12.6	0.0	12.6	.44	.59	1052	555.7	330.3	97.8
66.50	12.7	0.0	12.7	.44	.59	1053	555.5	328.3	97.2
66.75	17.5	0.0	17.5	.30	.45	1107	555.3	326.3	96.7
67.00	20.5	0.0	20.5	.23	.38	1131	555.1	324.5	96.1
67.25	20.0	0.0	20.0	.24	.39	1126	554.9	322.7	95.5
67.50	19.7	0.0	19.7	.25	.40	1123	554.7	321.0	94.9
67.75	18.0	0.0	18.0	.29	.44	1105	554.4	319.4	94.4
68.00	17.0	0.0	17.0	.31	.47	1092	554.2	317.9	93.8
68.25	16.0	0.0	16.0	.34	.50	1079	554.0	316.4	93.2
68.50	15.8	0.0	15.8	.35	.51	1078	553.8	315.0	92.5
68.75	15.8	0.0	15.8	.35	.51	1079	553.5	313.6	91.9
69.00	15.6	0.0	15.6	.35	.52	1077	553.3	312.3	91.3
69.25	15.7	0.0	15.7	.35	.52	1075	553.1	311.0	90.7
69.50	15.5	0.0	15.5	.36	.53	1071	552.8	309.8	90.1
69.75	15.2	0.0	15.2	.37	.54	1069	552.6	308.6	89.4

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39870.00	13.3	0.0	13.3	-15.42	-15.60	1043	552.3	307.4	88.8
39870.20	12.1	0.0	12.1	-15.47	-15.64	1024	552.1	306.5	88.3
70.40	11.5	0.0	11.5	.49	.66	1017	551.9	305.6	87.8
70.60	11.5	0.0	11.5	.49	.67	1018	551.7	304.7	87.3
70.80	13.0	0.0	13.0	.44	.62	1038	551.5	303.9	86.7
71.00	14.9	0.0	14.9	.38	.56	1059	551.3	303.1	86.2
71.20	14.0	0.0	14.0	.40	.59	1045	551.1	302.2	85.7
71.40	11.3	0.0	11.3	.50	.68	1010	550.9	301.4	85.2
71.60	9.9	0.0	9.9	.56	.74	991	550.7	300.6	84.7
71.80	10.2	0.0	10.2	.54	.73	993	550.5	299.9	84.1
72.00	11.2	0.0	11.2	.50	.69	1004	550.4	299.1	83.6
72.20	12.5	0.0	12.5	.45	.64	1021	550.2	298.4	83.1
72.40	12.2	0.0	12.2	.46	.66	1017	550.0	297.6	82.6
72.60	11.8	0.0	11.8	.48	.67	1010	549.8	296.9	82.0
72.80	12.0	0.0	12.0	.47	.67	1014	549.6	296.2	81.5
73.00	12.1	0.0	12.1	.47	.67	1015	549.4	295.5	81.0
73.20	11.0	0.0	11.0	.51	.71	997	549.2	294.8	80.4
73.40	9.2	0.0	9.2	.59	.79	968	549.0	294.1	79.9
73.60	8.1	0.0	8.1	.64	.85	950	548.9	293.4	79.4
39873.75	8.6	0.0	8.6	-15.62	-15.82	960	548.7	292.9	79.0
74.00	8.2	0.0	8.2	.64	.85	954	548.5	292.1	78.3
74.25	7.9	0.0	7.9	.66	.87	949	548.3	291.2	77.6
74.50	8.0	0.0	8.0	.65	.86	948	548.1	290.4	77.0
74.75	9.6	0.0	9.6	.57	.78	973	547.9	289.6	76.3
75.00	11.1	0.0	11.1	.51	.72	994	547.8	288.8	75.6
75.25	10.9	0.0	10.9	.51	.73	989	547.6	288.1	74.9
75.50	9.6	0.0	9.6	.57	.79	969	547.4	287.3	74.3
75.75	9.0	0.0	9.0	.60	.82	960	547.3	286.5	73.6
76.00	7.9	0.0	7.9	.66	.88	942	547.1	285.8	72.9
76.25	7.3	0.0	7.3	.69	.91	932	546.9	285.0	72.2
76.50	7.1	0.0	7.1	.70	.93	926	546.7	284.3	71.5
76.75	7.0	0.0	7.0	.71	.93	923	546.5	283.6	70.8
77.00	6.8	0.0	6.8	.72	.95	919	546.4	282.8	70.2
77.25	6.8	0.0	6.8	.72	.95	919	546.2	282.1	69.5
77.50	6.8	0.0	6.8	.72	.95	919	546.0	281.4	68.8
77.75	6.8	0.0	6.8	.72	.95	918	545.9	280.7	68.1
78.00	6.9	0.0	6.9	.71	.95	919	545.7	280.0	67.4
78.25	7.0	0.0	7.0	.71	.94	921	545.5	279.3	66.7
78.50	7.0	0.0	7.0	.71	.94	922	545.4	278.6	66.0
78.75	6.9	0.0	6.9	.71	.95	920	545.2	277.9	65.3
79.00	6.8	0.0	6.8	.72	.96	916	545.0	277.2	64.7
79.25	6.8	0.0	6.8	.72	.96	916	544.9	276.6	64.0
79.50	6.9	0.0	6.9	.71	.95	919	544.7	275.9	63.3
79.75	7.0	0.0	7.0	.71	.95	920	544.5	275.2	62.6
80.00	7.1	0.0	7.1	.70	.94	921	544.4	274.6	61.9
80.25	7.2	0.0	7.2	.69	.94	925	544.2	273.9	61.2
80.50	7.1	0.0	7.1	.70	.95	925	544.0	273.2	60.5
80.75	7.0	0.0	7.0	.70	.95	923	543.9	272.6	59.8
81.00	6.8	0.0	6.8	.72	.97	919	543.7	271.9	59.1
81.25	6.6	0.0	6.6	.73	.98	914	543.5	271.3	58.4
81.50	9.4	0.0	9.4	.57	.82	964	543.4	270.6	57.7
81.75	12.3	0.0	12.3	.45	.70	1002	543.2	270.0	57.0
82.00	11.3	0.0	11.3	.49	.74	988	543.0	269.4	56.3
82.25	9.1	0.0	9.1	.58	.84	958	542.8	268.7	55.6
82.50	9.1	0.0	9.1	.58	.84	959	542.7	268.1	54.9
39882.60	8.4	0.0	8.4	-15.62	-15.87	948	542.6	267.8	54.6
82.80	8.8	0.0	8.8	.60	.85	955	542.5	267.3	54.0

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39883.00	9.0	0.0	9.0	-15.59	-15.84	957	542.3	266.8	53.5
83.20	9.9	0.0	9.9	.54	.80	968	542.2	266.3	52.9
83.40	9.5	0.0	9.5	.56	.82	963	542.0	265.8	52.3
83.60	8.7	0.0	8.7	.60	.86	954	541.9	265.3	51.8
83.80	9.6	0.0	9.6	.56	.82	969	541.7	264.9	51.2
84.00	10.5	0.0	10.5	.52	.77	978	541.6	264.4	50.6
84.20	12.3	0.0	12.3	.45	.70	1000	541.5	263.9	50.1
84.40	12.2	0.0	12.2	.45	.70	999	541.3	263.4	49.5
84.60	9.8	0.0	9.8	.55	.80	970	541.2	262.9	48.9
84.80	10.1	0.0	10.1	.53	.79	977	541.0	262.4	48.4
85.00	10.5	0.0	10.5	.52	.77	981	540.9	261.9	47.8
85.20	11.7	0.0	11.7	.47	.72	994	540.8	261.4	47.2
85.40	11.6	0.0	11.6	.47	.73	992	540.6	260.9	46.7
85.60	11.5	0.0	11.5	.48	.73	993	540.5	260.5	46.1
85.80	10.7	0.0	10.7	.51	.77	984	540.3	260.0	45.5
86.00	10.6	0.0	10.6	.51	.77	983	540.2	259.5	44.9
86.20	11.7	0.0	11.7	.47	.73	997	540.1	259.0	44.4
86.40	12.0	0.0	12.0	.46	.72	999	539.9	258.5	43.8
86.60	12.4	0.0	12.4	.44	.70	1005	539.8	258.0	43.2
86.80	10.4	0.0	10.4	.52	.78	980	539.6	257.6	42.7
87.00	9.5	0.0	9.5	.56	.82	968	539.5	257.1	42.1
39887.25	10.3	0.0	10.3	-15.52	-15.79	981	539.3	256.5	41.4
87.50	11.7	0.0	11.7	.47	.73	997	539.2	255.9	40.6
87.75	13.5	0.0	13.5	.40	.67	1018	539.0	255.3	39.9
88.00	14.3	0.0	14.3	.38	.64	1026	538.8	254.7	39.2
88.25	14.9	0.0	14.9	.36	.63	1032	538.7	254.1	38.5
88.50	15.6	0.0	15.6	.34	.61	1039	538.5	253.5	37.8
88.75	15.9	0.0	15.9	.33	.60	1041	538.4	252.9	37.0
89.00	16.4	0.0	16.4	.32	.58	1044	538.2	252.4	36.3
89.25	16.3	0.0	16.2	.33	.59	1041	538.1	251.8	35.6
89.50	15.3	0.0	15.3	.35	.62	1034	537.9	251.2	34.9
89.75	15.5	0.0	15.5	.34	.61	1037	538.0	250.6	34.1
90.00	15.9	0.0	15.9	.33	.60	1040	537.9	250.0	33.4
90.25	16.7	0.0	16.7	.31	.58	1048	537.8	249.4	32.7
90.50	17.7	0.0	17.7	.29	.55	1054	537.7	248.9	31.9
90.75	17.2	0.0	17.2	.30	.57	1050	537.6	248.3	31.2
91.00	13.2	0.0	13.2	.41	.69	1011	537.6	247.7	30.5
91.25	12.5	0.0	12.5	.43	.71	1006	537.5	247.1	29.7
91.50	12.3	0.0	12.3	.44	.72	1002	537.4	246.5	29.0
91.75	12.1	0.0	12.1	.45	.73	997	537.3	246.0	28.3
92.00	11.9	0.0	11.9	.45	.74	991	537.3	245.4	27.6
92.25	11.4	0.0	11.3	.47	.76	983	537.2	244.8	26.8
92.50	10.1	0.0	10.1	.52	.82	969	537.2	244.2	26.1
92.75	8.9	0.0	8.9	.58	.88	951	537.1	243.6	25.4
93.00	8.9	0.0	8.8	.58	.88	949	537.1	243.1	24.6
93.25	9.0	-0.1	9.0	.57	.87	952	537.0	242.5	23.9
93.50	9.0	-0.1	8.9	.58	.88	950	537.0	241.9	23.2
93.75	9.1	-0.1	9.1	.57	.87	951	537.0	241.4	22.4
94.00	9.7	-0.1	9.6	.54	.85	956	537.0	240.8	21.7
94.25	12.0	-0.1	11.9	.45	.75	983	537.0	240.2	21.0
94.50	10.7	-0.1	10.6	.50	.80	966	536.9	239.6	20.2
94.75	9.7	-0.1	9.6	.54	.84	952	537.0	239.1	19.5
95.00	10.9	-0.1	10.9	.49	.79	969	537.0	238.5	18.8
95.25	13.7	-0.1	13.6	.39	.69	999	537.0	237.9	18.0
95.50	14.1	-0.1	14.0	.38	.68	1003	537.0	237.4	17.3
95.75	11.6	-0.1	11.5	.46	.77	975	537.0	236.8	16.5
96.00	11.0	-0.1	10.9	.49	.79	968	537.1	236.2	15.8
96.25	10.2	-0.1	10.1	.52	.82	957	537.1	235.6	15.1
96.50	9.5	-0.1	9.4	.55	.85	946	537.2	235.1	14.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	$-10^6 \dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39896.70	9.5	-0.1	9.	-15.57	-15.87	940	537.2	234.6	13.7
96.80	11.1	-0.1	11.	.48	.78	968	537.2	234.4	13.5
96.90	16.5	-0.1	16.	.32	.62	1022	537.2	234.2	13.2
97.00	18.0	-0.1	18.	.27	.56	1038	537.3	233.9	12.9
97.10	21.8	-0.1	22.	.18	.47	1069	537.3	233.7	12.6
97.20	18.5	-0.1	18.	.27	.56	1035	537.3	233.5	12.3
97.30	14.6	-0.1	15.	.35	.64	1007	537.4	233.3	12.0
97.40	15.6	-0.1	16.	.32	.61	1017	537.4	233.0	11.7
97.50	20.5	-0.1	20.	.22	.51	1052	537.4	232.8	11.4
97.60	22.0	-0.1	22.	.18	.47	1068	537.5	232.6	11.1
97.70	22.0	-0.1	22.	.18	.47	1069	537.5	232.3	10.8
97.80	11.1	-0.1	11.	.48	.77	963	537.5	232.1	10.5
97.90	10.5	-0.1	10.	.52	.82	952	537.6	231.9	10.2
98.00	9.9	-0.1	10.	.52	.82	954	537.6	231.7	9.9
39898.25	9.5	-0.1	9.4	-15.55	-15.85	945	537.7	231.1	9.2
98.50	9.2	-0.1	9.1	.57	.86	941	537.8	230.5	8.4
98.75	7.5	-0.1	7.3	.66	.96	914	537.9	230.0	7.7
99.00	6.3	-0.1	6.1	.74	-16.04	893	538.0	229.4	6.9
99.25	6.5	-0.1	6.4	.72	.02	901	538.1	228.8	6.2
99.50	8.2	-0.1	8.1	.62	-15.91	929	538.3	228.2	5.5
99.75	9.1	-0.1	9.0	.57	.86	939	538.4	227.7	4.7
39900.00	7.6	-0.2	7.5	.65	.94	917	538.5	227.1	4.0
00.25	5.4	-0.2	5.3	.80	-16.10	877	538.7	226.5	3.2
00.50	6.1	-0.2	6.0	.75	.04	892	538.8	226.0	2.5
00.75	6.1	-0.2	5.9	.76	.05	891	539.0	225.4	1.7
01.00	6.1	-0.2	5.9	.76	.05	891	539.2	224.8	1.0
01.25	6.8	-0.2	6.6	.71	.00	904	539.3	224.2	0.3
01.50	8.1	-0.2	7.9	.63	-15.92	925	539.5	223.7	-0.5
01.75	9.1	-0.2	8.9	.58	.86	937	539.7	223.1	-1.2
02.00	9.3	-0.2	9.1	.57	.85	940	539.9	222.5	-2.0
02.25	8.4	-0.2	8.2	.61	.90	929	540.1	222.0	-2.7
02.50	7.6	-0.2	7.4	.66	.94	917	540.3	221.4	-3.5
02.75	6.4	-0.2	6.2	.74	-16.02	893	540.5	220.8	-4.2
03.00	6.6	-0.2	6.4	.72	.00	897	540.7	220.2	-5.0
03.25	7.1	-0.2	6.9	.69	-15.97	908	540.9	219.7	-5.7
03.50	8.0	-0.2	7.8	.64	.91	924	541.1	219.1	-6.5
03.75	8.5	-0.2	8.3	.61	.88	931	541.3	218.5	-7.2
04.00	8.7	-0.2	8.5	.60	.87	934	541.5	217.9	-7.9
04.25	9.2	-0.2	9.0	.58	.85	943	541.7	217.3	-8.7
04.50	9.3	-0.2	9.1	.57	.84	944	541.9	216.8	-9.4
04.75	9.5	-0.2	9.3	.56	.83	945	542.2	216.2	-10.2
05.00	10.1	-0.2	9.9	.54	.80	954	542.4	215.6	-10.9
05.25	8.9	-0.3	8.7	.59	.85	937	542.6	215.0	-11.7
05.50	7.9	-0.3	7.6	.65	.91	920	542.8	214.4	-12.4
05.75	7.2	-0.3	7.0	.69	.95	913	543.1	213.9	-13.2
06.00	7.4	-0.3	7.2	.68	.94	919	543.3	213.3	-13.9
39906.20	7.9	-0.3	7.6	-15.66	-15.92	926	543.3	212.8	-14.5
06.40	11.6	-0.3	11.3	.48	.74	978	543.5	212.3	-15.1
06.60	12.6	-0.3	12.4	.44	.69	986	543.7	211.9	-15.7
06.80	11.9	-0.3	11.7	.47	.71	975	543.9	211.4	-16.3
07.00	9.4	-0.3	9.1	.58	.83	943	544.1	210.9	-16.9
07.20	10.9	-0.3	10.6	.51	.76	964	544.3	210.4	-17.5
07.40	9.7	-0.3	9.4	.56	.81	948	544.5	210.0	-18.1
07.60	10.9	-0.3	10.6	.51	.76	966	544.7	209.5	-18.7
07.80	11.0	-0.3	10.7	.51	.75	969	544.9	209.0	-19.3
08.00	11.1	-0.3	10.8	.50	.75	971	545.1	208.5	-19.9

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39908.25	10.5	-0.3	10.2	-15.53	-15.77	963	545.4	207.9	-20.7
08.50	9.5	-0.3	9.2	.57	.81	950	545.6	207.3	-21.4
08.75	8.4	-0.3	8.0	.64	.87	933	545.9	206.7	-22.2
09.00	7.5	-0.3	7.2	.68	.92	922	546.1	206.1	-22.9
09.25	7.7	-0.3	7.4	.67	.91	927	546.4	205.5	-23.7
09.50	8.0	-0.3	7.7	.65	.89	932	546.6	204.9	-24.4
09.75	8.6	-0.3	8.2	.63	.86	940	546.8	204.3	-25.2
10.00	9.1	-0.3	8.7	.60	.83	948	547.1	203.7	-26.0
10.25	9.6	-0.3	9.3	.57	.80	957	547.3	203.1	-26.7
10.50	9.4	-0.4	9.1	.58	.81	954	547.5	202.4	-27.5
10.75	9.3	-0.4	8.9	.59	.82	951	547.8	201.8	-28.2
11.00	9.6	-0.4	9.3	.58	.80	960	548.0	201.2	-29.0
11.25	9.9	-0.4	9.5	.57	.79	964	548.2	200.6	-29.7
11.50	10.3	-0.4	9.9	.55	.77	970	548.4	199.9	-30.5
11.75	10.5	-0.4	10.1	.54	.76	972	548.6	199.3	-31.2
12.00	10.6	-0.4	10.2	.54	.75	974	548.8	198.7	-32.0
12.25	10.8	-0.4	10.4	.53	.74	977	549.0	198.0	-32.7
12.50	11.1	-0.4	10.7	.52	.73	983	549.2	197.4	-33.5
12.75	11.5	-0.4	11.1	.50	.71	989	549.4	196.7	-34.2
13.00	11.8	-0.4	11.4	.49	.70	991	549.6	196.1	-35.0
13.25	12.1	-0.4	11.7	.48	.68	994	549.7	195.4	-35.7
13.50	12.5	-0.4	12.1	.47	.67	1001	549.9	194.8	-36.5
13.75	13.8	-0.4	13.3	.43	.63	1015	550.0	194.1	-37.2
14.00	15.0	-0.4	14.5	.39	.59	1025	550.2	193.4	-38.0
39914.20	18.7	-0.4	18.3	-15.29	-15.48	1058	550.3	192.9	-38.6
14.40	19.6	-0.4	19.2	.27	.46	1066	550.4	192.4	-39.2
14.60	21.4	-0.4	21.0	.23	.42	1083	550.5	191.8	-39.8
14.80	20.8	-0.4	20.4	.24	.43	1075	550.6	191.3	-40.4
15.00	26.5	-0.4	26.0	.14	.33	1113	550.7	190.7	-41.0
15.20	29.8	-0.4	29.4	.09	.27	1134	550.8	190.2	-41.6
15.40	22.1	-0.4	21.7	.22	.41	1082	550.9	189.6	-42.2
15.60	17.3	-0.4	16.9	.33	.52	1044	551.0	189.0	-42.8
39915.75	15.8	-0.4	15.3	-15.37	-15.56	1029	551.0	188.6	-43.2
16.00	15.8	-0.4	15.3	.37	.56	1030	551.1	187.9	-44.0
16.25	16.0	-0.5	15.5	.36	.55	1032	551.2	187.3	-44.7
16.50	16.3	-0.5	15.9	.35	.54	1036	551.3	186.4	-45.5
16.75	16.3	-0.5	15.9	.35	.54	1036	551.3	185.7	-46.2
17.00	16.1	-0.5	15.6	.36	.55	1034	551.4	184.9	-47.0
17.25	15.6	-0.5	15.2	.37	.56	1031	551.5	184.2	-47.7
17.50	15.9	-0.5	15.4	.37	.56	1031	551.5	183.4	-48.5
17.75	15.9	-0.5	15.4	.37	.56	1030	551.6	182.6	-49.2
18.00	16.9	-0.5	16.4	.34	.53	1041	551.6	181.8	-50.0
18.25	17.8	-0.5	17.3	.32	.51	1049	551.7	181.0	-50.7
18.50	18.7	-0.5	18.2	.30	.48	1057	551.7	180.2	-51.5
18.75	20.2	-0.5	19.7	.26	.45	1068	551.7	179.4	-52.2
19.00	20.8	-0.5	20.4	.25	.43	1071	551.8	178.5	-52.9
19.25	21.6	-0.5	21.1	.23	.42	1076	551.8	177.7	-53.7
19.50	20.7	-0.5	20.2	.25	.44	1070	551.8	176.8	-54.4
19.75	20.3	-0.5	19.8	.26	.45	1066	551.8	175.9	-55.2
20.00	19.7	-0.5	19.3	.27	.46	1060	551.8	175.0	-55.9
20.25	20.6	-0.5	20.1	.25	.44	1065	551.9	174.1	-56.6
20.50	19.2	-0.5	18.7	.29	.47	1054	551.9	173.1	-57.4
20.75	18.0	-0.5	17.5	.32	.50	1042	551.9	172.2	-58.1
21.00	17.3	-0.5	16.8	.33	.52	1036	551.9	171.2	-58.8
21.25	16.4	-0.5	15.9	.36	.54	1029	551.9	170.2	-59.6
21.50	15.2	-0.5	14.7	.39	.58	1019	551.9	169.1	-60.3
21.75	14.1	-0.5	13.6	.43	.61	1008	552.1	168.0	-61.0
22.00	13.8	-0.5	13.3	.44	.62	1003	552.1	166.9	-61.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	$-10^6 \dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39922.25	14.2	-0.5	13.7	-15.42	-15.61	1007	552.2	165.8	-62.4
22.50	13.9	-0.5	13.4	.43	.62	1004	552.2	164.6	-63.2
22.75	13.8	-0.5	13.3	.44	.62	1004	552.2	163.4	-63.9
23.00	13.4	-0.5	12.9	.45	.64	1000	552.3	162.1	-64.6
23.25	12.8	-0.5	12.3	.47	.66	992	552.3	160.8	-65.3
23.50	12.2	-0.5	11.7	.49	.68	985	552.3	159.5	-66.0
23.75	11.8	-0.5	11.3	.51	.70	981	552.3	158.0	-66.7
24.00	11.5	-0.5	11.0	.52	.71	976	552.4	156.6	-67.4
24.25	11.2	-0.5	10.7	.53	.72	971	552.4	155.0	-68.1
24.50	10.9	-0.5	10.4	.54	.73	967	552.4	153.4	-68.7
24.75	11.1	-0.5	10.6	.53	.72	970	552.4	151.7	-69.4
25.00	12.1	-0.5	11.5	.50	.69	981	552.4	149.9	-70.1
25.25	13.2	-0.5	12.7	.46	.64	991	552.4	148.0	-70.7
25.50	14.9	-0.5	14.4	.40	.58	1008	552.4	146.0	-71.4
25.75	14.1	-0.5	13.6	.43	.61	1000	552.3	144.0	-72.0
26.00	13.9	-0.5	13.4	.43	.62	997	552.3	141.7	-72.6
26.25	13.3	-0.5	12.7	.45	.64	990	552.3	139.4	-73.2
26.50	13.3	-0.5	12.8	.45	.63	991	552.2	136.9	-73.8
26.75	13.4	-0.5	12.9	.45	.63	994	552.2	134.2	-74.4
27.00	13.6	-0.5	13.1	.44	.63	998	552.1	131.3	-75.0
27.25	13.5	-0.5	13.0	.44	.63	997	552.1	128.3	-75.5
27.50	13.7	-0.5	13.2	.44	.62	999	552.0	125.1	-76.0
27.75	14.3	-0.5	13.7	.42	.60	1002	551.9	121.6	-76.5
28.00	14.2	-0.5	13.7	.42	.60	1001	551.8	117.9	-77.0
28.25	14.2	-0.5	13.7	.42	.60	1001	551.7	114.1	-77.4
28.50	14.1	-0.5	13.6	.42	.61	1001	551.6	109.9	-77.8
28.75	14.2	-0.5	13.6	.42	.61	1004	551.5	105.6	-78.1
29.00	14.9	-0.5	14.4	.39	.58	1013	551.4	101.1	-78.4
29.25	15.3	-0.5	14.7	.38	.57	1012	551.2	96.4	-78.7
29.50	16.0	-0.5	15.5	.36	.55	1017	551.1	91.6	-78.9
29.75	17.7	-0.5	17.2	.31	.50	1031	550.9	86.7	-79.0
30.00	18.9	-0.5	18.4	.28	.47	1040	550.8	81.8	-79.1
30.25	21.0	-0.5	20.5	.24	.42	1058	550.6	76.9	-79.2
30.50	19.6	-0.5	19.1	.26	.45	1046	550.4	72.1	-79.2
30.75	17.9	-0.5	17.4	.30	.49	1030	550.2	67.4	-79.2
31.00	17.8	-0.5	17.2	.31	.50	1029	550.0	62.8	-79.1
31.25	17.2	-0.5	16.6	.32	.51	1023	549.8	58.4	-78.9
31.50	16.6	-0.5	16.1	.33	.53	1019	549.6	54.3	-78.7
31.75	16.6	-0.5	16.0	.34	.53	1017	549.4	50.3	-78.5
32.00	15.4	-0.5	14.9	.37	.56	1007	549.1	46.6	-78.3
32.25	16.2	-0.5	15.7	.34	.54	1015	548.9	43.1	-78.0
32.50	15.0	-0.5	14.5	.37	.57	1003	548.7	39.8	-77.7
32.75	12.6	-0.5	12.0	.45	.66	978	548.4	36.8	-77.4
33.00	14.5	-0.5	14.0	.39	.59	1002	548.1	33.9	-77.0
33.25	16.7	-0.5	16.2	.32	.53	1021	547.8	31.2	-76.6
33.50	16.3	-0.5	15.8	.33	.54	1015	547.6	28.6	-76.3
33.75	15.0	-0.5	14.5	.37	.58	1003	547.3	26.2	-75.9
34.00	14.6	-0.5	14.1	.38	.59	1000	547.0	24.0	-75.4
34.25	16.7	-0.5	16.2	.32	.53	1021	546.7	21.8	-75.0
34.50	17.6	-0.5	17.1	.30	.51	1027	546.3	19.8	-74.6
34.75	17.7	-0.5	17.1	.30	.51	1024	546.0	17.9	-74.1
35.00	18.2	-0.5	17.6	.28	.50	1030	545.7	16.1	-73.7
35.25	20.1	-0.5	19.6	.24	.46	1045	545.4	14.4	-73.2
35.50	18.6	-0.5	18.1	.27	.49	1029	545.0	12.8	-72.7
35.75	16.8	-0.5	16.3	.32	.54	1013	544.7	11.2	-72.2
36.00	16.6	-0.5	16.1	.32	.55	1011	544.3	9.7	-71.8
36.25	18.6	-0.5	18.1	.27	.50	1029	544.0	8.3	-71.3
36.50	18.3	-0.5	17.8	.28	.51	1027	543.6	6.9	-70.8
36.75	18.2	-0.5	17.7	.28	.51	1027	543.2	5.6	-70.3
37.00	18.6	-0.5	18.1	.27	.51	1030	542.9	4.3	-69.8

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_\odot$ (deg.)	$\delta_\pi-\delta_\odot$ (deg.)
39937.25	19.1	-0.5	18.6	-15.26	-15.50	1035	542.5	3.1	-69.3
37.50	19.2	-0.5	18.7	.25	.49	1034	542.1	1.9	-68.8
37.75	19.4	-0.5	19.0	.25	.49	1035	541.7	0.8	-68.2
38.00	19.6	-0.5	19.1	.24	.49	1037	541.3	359.7	-67.7
38.25	19.8	-0.5	19.3	.24	.49	1040	541.0	358.6	-67.2
38.50	20.3	-0.5	19.9	.23	.46	1047	542.6	357.5	-66.7
38.75	21.6	-0.5	21.2	.20	.44	1055	542.3	356.5	-66.2
39.00	24.7	-0.5	24.2	.14	.38	1073	542.0	355.5	-65.6
39.25	26.6	-0.5	26.1	.11	.35	1083	541.7	354.5	-65.1
39.50	28.6	-0.5	28.2	.08	.32	1094	541.4	353.6	-64.6
39.75	29.3	-0.5	28.8	.07	.31	1096	541.1	352.7	-64.0
40.00	28.9	-0.5	28.4	.08	.32	1092	540.7	351.7	-63.5
40.25	28.6	-0.5	28.2	.08	.32	1091	540.4	350.8	-63.0
40.50	28.6	-0.4	28.2	.08	.32	1090	540.0	350.0	-62.4
40.75	27.7	-0.4	27.3	.09	.34	1084	539.6	349.1	-61.9
41.00	25.8	-0.4	25.4	.12	.37	1071	539.2	348.3	-61.4
41.25	26.0	-0.4	25.6	.12	.37	1075	538.8	347.4	-60.8
41.50	26.3	-0.4	25.9	.11	.37	1076	538.4	346.6	-60.3
41.75	27.5	-0.4	27.1	.10	.35	1080	538.0	345.8	-59.7
42.00	29.1	-0.4	28.6	.07	.33	1088	537.5	345.0	-59.2
42.25	30.4	-0.4	30.0	.05	.31	1094	537.1	344.2	-58.6
42.50	30.7	-0.4	30.2	.05	.31	1094	536.6	343.5	-58.1
42.75	30.8	-0.4	30.4	.04	.31	1096	536.1	342.7	-57.6
43.00	31.1	-0.4	30.7	.04	.31	1097	535.7	342.0	-57.0
43.25	30.6	-0.4	30.2	.05	.32	1092	535.2	341.2	-56.5
43.50	29.0	-0.4	28.6	.07	.35	1081	534.7	340.5	-55.9
43.75	28.2	-0.4	27.8	.08	.37	1076	534.2	339.8	-55.4
44.00	29.0	-0.4	28.6	.07	.36	1080	533.7	339.0	-54.8
44.25	29.9	-0.4	29.5	.06	.35	1082	533.2	338.3	-54.3
44.50	31.2	-0.4	30.8	.04	.33	1088	532.6	337.6	-53.7
44.75	32.0	-0.4	31.6	.02	.32	1092	532.1	336.9	-53.2
45.00	34.2	-0.4	33.8	-14.99	.30	1104	531.6	336.2	-52.6
45.25	34.2	-0.4	33.9	.99	.30	1099	531.1	335.5	-52.0
45.50	35.8	-0.4	35.5	.98	.28	1104	530.5	334.9	-51.5
45.75	35.9	-0.4	35.5	.97	.28	1104	530.0	334.2	-50.9
46.00	36.2	-0.3	35.8	.97	.28	1105	529.5	333.5	-50.4
46.25	35.7	-0.3	35.3	.97	.29	1104	528.9	332.9	-49.8
46.50	33.4	-0.3	33.0	-15.00	.33	1092	528.4	332.2	-49.3
46.75	32.7	-0.3	32.4	.01	.34	1086	527.8	331.5	-48.7
47.00	33.0	-0.3	32.7	.01	.34	1083	527.3	330.9	-48.2
47.25	36.9	-0.3	36.6	-14.96	.29	1098	526.7	330.3	-47.6
47.50	35.0	-0.3	34.7	.98	.32	1086	526.2	329.6	-47.0
47.75	33.0	-0.3	32.7	-15.01	.35	1076	525.7	329.0	-46.5
48.00	29.9	-0.3	29.6	.05	.39	1058	525.1	328.3	-45.9
48.25	26.6	-0.3	26.3	.10	.45	1036	524.6	327.7	-45.4
48.50	25.9	-0.3	25.6	.11	.47	1033	524.1	327.1	-44.8
48.75	25.7	-0.3	25.4	.11	.47	1032	523.5	326.5	-44.2
49.00	25.4	-0.3	25.2	.11	.48	1028	523.0	325.8	-43.7
49.25	26.0	-0.3	25.7	.11	.47	1028	522.5	325.2	-43.1
49.50	25.3	-0.3	25.1	.12	.49	1024	522.0	324.6	-42.5
49.75	25.0	-0.3	24.7	.12	.50	1021	521.5	324.0	-42.0
50.00	24.5	-0.3	24.3	.13	.51	1018	521.0	323.4	-41.4
50.25	23.8	-0.2	23.5	.14	.53	1010	520.5	322.8	-40.9
50.50	23.1	-0.2	22.8	.15	.55	1004	520.0	322.2	-40.3
50.75	22.7	-0.2	22.5	.16	.56	1003	519.5	321.6	-39.7
51.00	22.4	-0.2	22.2	.16	.57	1000	519.0	321.0	-39.2
51.25	22.2	-0.2	22.0	.17	.58	997	518.6	320.4	-38.6
51.50	21.9	-0.2	21.6	.17	.59	994	518.1	319.8	-38.0
51.75	23.1	-0.2	22.9	.15	.56	1000	517.7	319.2	-37.5

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 P$	$10^6 P_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39952.00	31.4	-0.2	31.	-15.02	-15.10	1039	517.3	318.6	-36.9
52.10	41.6	-0.2	41.	-14.90	-14.99	1083	517.1	318.3	-36.7
52.20	39.8	-0.2	40.	.91	-15.00	1076	516.9	318.1	-36.5
52.30	32.1	-0.2	32.	-15.01	.09	1042	516.8	317.9	-36.2
52.40	26.0	-0.2	26.	.10	.18	1010	516.6	317.6	-36.0
52.50	25.7	-0.2	26.	.10	.19	1006	516.4	317.4	-35.8
52.60	26.4	-0.2	26.	.10	.19	1003	516.3	317.1	-35.6
52.70	23.5	-0.2	23.	.15	.24	984	516.1	316.9	-35.3
52.80	22.7	-0.2	22.	.17	.26	979	516.0	316.7	-35.1
52.90	21.8	-0.2	22.	.17	.26	981	516.1	316.4	-34.9
39953.00	21.1	-0.2	20.9	-15.19	-15.28	974	516.0	316.2	-34.6
53.25	18.3	-0.2	18.2	.25	.35	955	515.6	315.6	-34.1
53.50	17.8	-0.1	17.6	.26	.36	950	515.3	315.0	-33.5
53.75	16.3	-0.1	16.1	.30	.40	936	514.9	314.5	-32.9
54.00	15.8	-0.1	15.7	.31	.42	936	514.6	313.9	-32.4
54.25	15.2	-0.1	15.1	.32	.44	931	514.3	313.3	-31.8
54.50	14.5	-0.1	14.3	.35	.46	922	514.0	312.7	-31.2
54.75	13.9	-0.1	13.8	.36	.48	918	513.6	312.1	-30.7
55.00	13.5	-0.1	13.4	.38	.49	915	513.3	311.6	-30.1
55.25	12.9	-0.1	12.8	.39	.52	909	513.0	311.0	-29.5
55.50	12.9	-0.1	12.8	.39	.52	908	512.7	310.4	-29.0
55.75	13.1	-0.1	13.1	.38	.51	911	512.4	309.8	-28.4
56.00	13.8	0.0	13.8	.36	.49	916	512.1	309.3	-27.8
56.25	14.3	0.0	14.3	.35	.47	917	511.8	308.7	-27.3
56.50	14.7	0.0	14.7	.34	.46	921	511.6	308.1	-26.7
56.75	15.1	0.0	15.1	.32	.45	926	511.3	307.5	-26.1
57.00	15.3	0.0	15.3	.32	.45	926	511.0	307.0	-25.6
57.25	15.7	0.0	15.7	.31	.44	927	510.8	306.4	-25.0
57.50	15.6	0.0	15.6	.31	.45	925	510.5	305.8	-24.4
57.75	15.7	0.0	15.7	.31	.44	925	510.2	305.3	-23.8
58.00	15.8	0.0	15.8	.30	.44	926	510.0	304.7	-23.3
58.25	15.5	0.0	15.5	.31	.45	924	509.7	304.1	-22.7
58.50	15.5	0.0	15.5	.31	.46	924	509.5	303.6	-22.1
58.75	15.8	0.0	15.8	.30	.45	926	509.3	303.0	-21.6
59.00	16.0	0.0	16.0	.30	.44	924	509.0	302.4	-21.0
59.25	16.9	0.0	16.9	.28	.42	928	508.8	301.9	-20.4
59.50	19.5	0.0	19.5	.21	.36	950	508.6	301.3	-19.8
59.75	19.4	0.0	19.4	.22	.37	949	508.4	300.7	-19.3
60.00	17.6	0.0	17.6	.26	.41	933	508.1	300.2	-18.7
60.25	16.5	0.0	16.5	.29	.44	922	507.9	299.6	-18.1
60.50	16.4	0.0	16.4	.29	.44	922	507.7	299.0	-17.6
60.75	16.3	0.0	16.3	.29	.45	920	507.5	298.5	-17.0
61.00	16.1	0.0	16.1	.30	.45	917	507.3	297.9	-16.4
61.25	15.9	0.0	15.9	.30	.46	919	507.1	297.3	-15.8
61.50	16.2	0.0	16.2	.29	.46	922	507.0	296.8	-15.3
61.75	16.2	0.0	16.2	.29	.46	920	506.8	296.2	-14.7
62.00	16.2	0.0	16.2	.29	.46	919	506.6	295.7	-14.1
62.25	16.1	0.0	16.1	.30	.46	918	506.4	295.1	-13.5
62.50	15.6	0.0	15.6	.31	.48	914	506.3	294.5	-13.0
62.75	15.4	0.0	15.4	.32	.49	913	506.1	294.0	-12.4
63.00	15.3	0.0	15.3	.32	.49	912	506.0	293.4	-11.8
63.25	15.2	0.0	15.2	.32	.49	910	505.8	292.8	-11.2
63.50	15.1	0.0	15.1	.32	.50	910	505.7	292.3	-10.7
63.75	14.9	0.0	14.9	.33	.51	907	505.5	291.7	-10.1
64.00	14.8	0.0	14.8	.33	.51	906	505.4	291.2	-9.5
64.25	14.4	0.0	14.4	.35	.52	902	505.3	290.6	-8.9
64.50	14.2	0.0	14.2	.35	.53	899	505.2	290.0	-8.4
64.75	13.8	0.0	13.8	.36	.55	897	505.0	289.5	-7.8
65.00	13.5	0.0	13.5	.37	.56	894	504.9	288.9	-7.2

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39965.25	13.1	0.0	13.1	-15.39	-15.57	890	504.8	288.3	-6.6
65.50	12.5	0.0	12.5	.41	.59	885	504.8	287.8	-6.0
65.75	12.1	0.0	12.1	.42	.61	882	504.7	287.2	-5.5
66.00	11.6	0.0	11.6	.44	.63	876	504.6	286.6	-4.9
66.25	11.2	0.0	11.2	.46	.65	872	504.5	286.1	-4.3
66.50	10.9	0.0	10.9	.47	.66	868	504.5	285.5	-3.7
66.75	10.8	0.0	10.8	.47	.67	867	504.4	284.9	-3.2
67.00	10.7	0.0	10.7	.48	.67	866	504.3	284.4	-2.6
67.25	10.8	0.0	10.8	.47	.67	867	504.3	283.8	-2.0
67.50	11.3	0.0	11.3	.45	.65	872	504.3	283.2	-1.4
67.75	11.4	0.0	11.4	.45	.64	872	504.2	282.7	-0.8
68.00	11.5	0.0	11.5	.45	.64	872	504.2	282.1	-0.3
68.25	11.9	0.0	11.9	.43	.63	876	504.2	281.5	0.3
68.50	13.1	0.0	13.1	.39	.58	887	504.2	280.9	0.9
68.75	14.3	0.0	14.2	.36	.55	898	504.2	280.4	1.5
69.00	14.7	0.0	14.7	.34	.53	902	504.3	279.8	2.0
69.25	15.3	0.0	15.3	.32	.52	906	504.3	279.2	2.6
69.50	14.9	0.0	14.9	.34	.53	902	504.3	278.6	3.2
69.75	13.8	0.0	13.8	.37	.56	893	504.4	278.1	3.8
70.00	13.8	0.0	13.8	.37	.56	893	504.4	277.5	4.4
70.25	13.9	0.0	13.9	.37	.56	893	504.5	276.9	4.9
70.50	13.5	0.0	13.5	.38	.57	890	504.6	276.3	5.5
70.75	12.7	0.0	12.7	.41	.60	884	504.6	275.8	6.1
71.00	12.2	0.0	12.2	.42	.62	880	504.6	275.2	6.7
71.25	11.1	0.0	11.1	.47	.66	870	504.6	274.6	7.3
71.50	10.4	0.0	10.4	.49	.69	862	504.6	274.0	7.9
71.75	11.1	0.0	11.1	.47	.66	870	504.7	273.4	8.4
72.00	14.6	0.0	14.6	.35	.54	904	504.7	272.8	9.0
72.25	15.8	0.0	15.8	.31	.50	913	504.8	272.3	9.6
72.50	15.6	0.0	15.6	.32	.51	910	504.8	271.7	10.2
72.75	15.4	0.0	15.4	.33	.51	908	504.9	271.1	10.8
73.00	15.8	0.0	15.8	.32	.50	910	504.9	270.5	11.3
73.25	17.0	0.0	17.0	.28	.47	919	505.0	269.9	11.9
73.50	14.5	0.0	14.5	.35	.54	899	505.1	269.3	12.5
73.75	13.8	0.0	13.8	.37	.56	894	505.1	268.7	13.1
74.00	13.6	0.0	13.6	.38	.57	894	505.2	268.1	13.7
74.25	13.3	0.0	13.3	.39	.58	890	505.3	267.5	14.3
74.50	13.0	0.0	13.0	.40	.59	888	505.4	266.9	14.8
74.75	12.7	0.0	12.7	.41	.60	886	505.4	266.3	15.4
75.00	12.8	0.0	12.8	.41	.59	889	505.5	265.7	16.0
75.25	13.1	0.0	13.1	.40	.58	892	505.6	265.1	16.6
75.50	13.5	0.0	13.5	.39	.57	896	505.7	264.5	17.2
75.75	13.6	0.0	13.6	.38	.56	898	505.8	263.9	17.8
76.00	13.8	0.0	13.8	.38	.56	900	505.9	263.3	18.3
76.25	13.7	0.0	13.7	.38	.56	900	506.0	262.7	18.9
76.50	13.3	0.0	13.3	.40	.57	898	506.1	262.0	19.5
76.75	12.7	0.0	12.7	.42	.59	893	506.2	261.4	20.1
77.00	11.8	0.0	11.8	.45	.63	884	506.3	260.8	20.7
77.25	11.8	0.0	11.8	.45	.62	884	506.4	260.2	21.3
77.50	12.6	0.0	12.6	.42	.60	894	506.5	259.5	21.8
77.75	13.6	0.0	13.6	.39	.56	904	506.6	258.9	22.4
78.00	17.6	0.0	17.6	.28	.45	937	506.7	258.3	23.0
78.25	17.3	0.0	17.3	.29	.45	933	506.8	257.6	23.6
78.50	15.8	0.0	15.8	.33	.49	922	506.9	257.0	24.2
78.75	15.8	0.0	15.8	.32	.49	926	507.1	256.3	24.8
79.00	15.9	0.0	15.9	.32	.49	930	507.2	255.7	25.4
79.25	16.4	0.0	16.4	.31	.47	932	507.3	255.0	25.9
79.50	16.5	0.0	16.5	.31	.47	932	507.4	254.4	26.5
79.75	15.3	0.0	15.3	.34	.50	924	507.5	253.7	27.1
80.00	14.0	0.0	14.0	.38	.54	916	507.6	253.1	27.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39980.25	13.7	0.0	13.7	-15.39	-15.55	919	507.7	252.4	28.3
80.50	13.5	0.0	13.5	.39	.55	918	507.9	251.7	28.9
80.75	13.3	0.0	13.3	.40	.56	916	508.0	251.0	29.5
81.00	13.2	0.0	13.2	.40	.56	915	508.1	250.4	30.1
81.25	13.5	0.0	13.5	.39	.55	918	508.2	249.7	30.6
81.50	13.5	0.0	13.5	.39	.55	919	508.3	249.0	31.2
81.75	13.7	0.0	13.7	.39	.55	922	508.4	248.3	31.8
82.00	14.0	0.0	14.0	.38	.54	925	508.5	247.6	32.4
82.25	14.2	0.0	14.2	.37	.53	927	508.5	246.9	33.0
82.50	14.3	0.0	14.3	.37	.53	928	508.6	246.1	33.6
82.75	14.2	0.0	14.2	.37	.53	928	508.7	245.4	34.1
83.00	14.2	0.0	14.2	.37	.53	929	508.8	244.7	34.7
39986.25	19.7	0.0	19.7	-15.24	-15.39	983	508.3	234.3	42.3
86.50	19.1	0.0	19.1	.25	.40	977	508.2	233.4	42.9
86.75	18.4	0.0	18.4	.26	.42	971	508.2	232.5	43.5
87.00	19.1	0.0	19.1	.25	.40	979	508.2	231.5	44.0
87.25	20.6	0.0	20.5	.22	.37	991	508.1	230.6	44.6
87.50	21.1	0.0	21.1	.21	.36	996	508.1	229.6	45.2
87.75	19.9	0.0	19.9	.23	.38	987	508.1	228.7	45.8
88.00	19.7	0.0	19.7	.24	.39	985	508.1	227.6	46.3
88.25	19.6	0.0	19.6	.24	.39	986	508.1	226.6	46.9
88.50	19.6	0.0	19.6	.24	.39	987	508.2	225.6	47.4
88.75	19.3	0.0	19.3	.25	.40	983	508.2	224.5	48.0
89.00	19.1	0.0	19.1	.25	.40	981	508.2	223.3	48.6
89.25	18.8	0.0	18.8	.26	.41	980	508.2	222.2	49.1
89.50	17.9	0.0	17.8	.28	.43	971	508.3	221.0	49.7
89.75	17.5	-0.1	17.4	.29	.44	968	508.3	219.8	50.2
90.00	17.3	-0.1	17.2	.30	.45	967	508.3	218.5	50.8
90.25	17.1	-0.1	17.0	.30	.45	966	508.4	217.2	51.3
90.50	16.7	-0.1	16.6	.31	.46	962	508.4	215.8	51.8
90.75	16.7	-0.1	16.5	.31	.47	961	508.4	214.4	52.4
91.00	17.4	-0.2	17.2	.30	.45	968	508.4	212.9	52.9
91.25	18.9	-0.2	18.7	.26	.41	981	508.5	211.4	53.4
91.50	19.6	-0.2	19.4	.25	.39	988	508.5	209.8	53.9
91.75	19.2	-0.2	19.0	.25	.40	985	508.5	208.1	54.5
92.00	19.1	-0.2	18.8	.26	.41	983	508.6	206.3	55.0
92.25	20.0	-0.3	19.7	.24	.39	992	508.6	204.5	55.5
92.50	20.7	-0.3	20.4	.23	.37	998	508.6	202.5	55.9
92.75	21.4	-0.3	21.1	.21	.36	1004	508.6	200.5	56.4
93.00	22.3	-0.3	22.0	.19	.34	1011	508.6	198.3	56.9
93.25	22.9	-0.3	22.6	.18	.33	1015	508.6	196.0	57.3
93.50	23.6	-0.3	23.3	.17	.32	1021	508.6	193.5	57.8
93.75	24.5	-0.3	24.2	.16	.30	1029	508.6	190.9	58.2
94.00	24.9	-0.3	24.5	.15	.29	1033	508.6	188.2	58.6
94.25	24.2	-0.3	23.9	.16	.31	1029	508.6	185.2	59.0
94.50	24.4	-0.3	24.1	.16	.30	1030	508.6	182.1	59.4
94.75	24.9	-0.3	24.6	.15	.29	1035	508.5	178.7	59.7
95.00	26.2	-0.3	25.8	.14	.27	1044	508.5	175.2	60.0
95.25	26.3	-0.3	26.0	.13	.27	1045	508.4	171.4	60.3
95.50	26.5	-0.3	26.2	.13	.27	1046	508.4	167.5	60.5
95.75	27.7	-0.3	27.4	.11	.25	1055	508.3	163.3	60.8
96.00	29.7	-0.4	29.3	.08	.22	1068	508.3	158.9	60.9
96.25	32.0	-0.4	31.7	.05	.19	1084	508.2	154.3	61.1
96.50	32.6	-0.4	32.2	.05	.18	1087	508.1	149.6	61.1
96.75	32.2	-0.4	31.9	.05	.19	1085	508.0	144.8	61.2
97.00	32.6	-0.4	32.2	.04	.18	1087	507.9	140.0	61.2
97.25	33.0	-0.4	32.6	.04	.18	1089	507.8	135.1	61.1
97.50	33.1	-0.4	32.7	.04	.18	1090	507.7	130.2	61.0

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39997.75	35.0	-0.4	34.6	-15.02	-15.15	1102	507.6	125.5	60.8
98.00	36.9	-0.4	36.5	.00	.13	1113	507.5	120.9	60.6
98.25	36.5	-0.4	36.1	.00	.14	1110	507.3	116.4	60.4
98.50	34.4	-0.4	34.0	.03	.17	1098	507.2	112.1	60.1
98.75	31.9	-0.4	31.5	.06	.20	1083	507.1	108.0	59.7
99.00	32.0	-0.4	31.6	.05	.20	1083	506.9	104.2	59.4
99.25	32.4	-0.4	32.0	.05	.19	1085	506.7	100.5	59.0
99.50	33.9	-0.4	33.5	.03	.17	1094	506.6	97.1	58.5
99.75	35.5	-0.4	35.1	.01	.15	1103	506.4	93.9	58.1
40000.00	37.5	-0.4	37.1	-14.99	.13	1115	506.2	90.8	57.6
00.25	39.8	-0.4	39.4	.96	.11	1128	506.0	88.0	57.1
00.50	39.5	-0.4	39.1	.97	.11	1126	505.8	85.3	56.6
00.75	36.8	-0.4	36.4	.99	.14	1111	505.6	82.8	56.1
01.00	35.4	-0.4	35.0	-15.01	.16	1102	505.4	80.4	55.5
01.25	36.1	-0.4	35.7	.00	.15	1106	505.2	78.1	55.0
01.50	36.9	-0.4	36.5	-14.99	.15	1110	505.0	76.0	54.4
01.75	37.5	-0.4	37.1	.98	.14	1113	504.8	74.0	53.8
02.00	38.1	-0.4	37.7	.97	.13	1116	504.5	72.1	53.2
02.25	38.5	-0.4	38.2	.97	.13	1119	504.3	70.3	52.6
02.50	38.7	-0.4	38.3	.96	.13	1119	504.1	68.5	52.0
02.75	38.8	-0.4	38.5	.96	.13	1120	503.8	66.9	51.4
03.00	38.9	-0.4	38.6	.96	.13	1120	503.6	65.3	50.8
03.25	39.2	-0.4	38.8	.95	.13	1121	503.3	63.8	50.2
40003.50	39.48	-0.36	39.1	-14.95	-15.12	1124	503.4	62.3	49.5
04.00	40.99	-0.35	40.6	.93	.11	1132	502.8	59.6	48.3
04.50	42.83	-0.35	42.5	.91	.09	1141	502.2	57.0	47.0
05.00	43.80	-0.34	43.5	.90	.08	1146	501.6	54.6	45.7
05.50	45.16	-0.33	44.8	.89	.07	1152	501.0	52.4	44.4
06.00	46.22	-0.33	45.9	.88	.07	1157	500.4	50.2	43.1
40006.25	46.1	-0.3	45.8	-14.88	-15.07	1156	500.1	49.2	42.4
06.50	45.1	-0.3	44.7	.89	.08	1151	499.8	48.2	41.7
06.75	44.5	-0.3	44.1	.89	.09	1147	499.5	47.2	41.1
07.00	43.9	-0.3	43.6	.90	.09	1145	499.2	46.2	40.4
07.25	43.7	-0.3	43.4	.90	.10	1144	498.9	45.3	39.8
07.50	43.2	-0.3	42.8	.90	.10	1140	498.6	44.3	39.1
07.75	42.1	-0.3	41.8	.91	.12	1135	498.3	43.4	38.4
08.00	40.5	-0.3	40.2	.93	.13	1126	498.0	42.5	37.7
08.25	39.6	-0.3	39.3	.94	.14	1121	497.7	41.6	37.1
08.50	43.9	-0.3	43.6	.89	.10	1144	497.4	40.8	36.4
08.75	49.7	-0.3	49.4	.84	.05	1172	497.1	39.9	35.7
09.00	45.7	-0.3	45.4	.88	.09	1153	496.9	39.1	35.1
09.25	44.6	-0.3	44.3	.89	.10	1147	496.6	38.2	34.4
09.50	48.4	-0.3	48.1	.85	.06	1166	496.3	37.4	33.7
09.75	47.0	-0.3	46.8	.86	.08	1159	496.0	36.6	33.0
10.00	46.4	-0.3	46.1	.87	.08	1156	495.7	35.8	32.4
10.25	47.4	-0.3	47.1	.86	.07	1160	495.4	35.0	31.7
10.50	46.3	-0.3	46.1	.86	.09	1155	495.2	34.2	31.0
10.75	45.8	-0.3	45.5	.87	.09	1152	494.9	33.5	30.3
11.00	45.5	-0.2	45.3	.87	.09	1151	494.6	32.7	29.7
11.25	44.6	-0.2	44.4	.88	.10	1147	494.4	31.9	29.0
11.50	43.1	-0.2	42.9	.89	.12	1139	494.1	31.2	28.3
11.75	43.2	-0.2	43.0	.89	.12	1139	493.8	30.4	27.6
12.00	43.1	-0.2	42.8	.89	.12	1138	493.6	29.7	26.9
12.25	42.1	-0.2	41.9	.90	.13	1133	493.3	29.0	26.3
12.50	42.0	-0.2	41.8	.90	.14	1133	493.0	28.2	25.6
12.75	41.4	-0.2	41.2	.90	.14	1129	492.8	27.5	24.9
13.00	40.6	-0.2	40.4	.91	.15	1125	492.5	26.8	24.2
13.25	40.4	-0.2	40.2	.91	.16	1124	492.2	26.1	23.5

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40013.50	41.0	-0.2	40.7	-14.90	-15.15	1126	492.0	25.4	22.8
13.75	41.6	-0.2	41.4	.89	.15	1130	491.7	24.7	22.2
14.00	42.2	-0.2	42.0	.89	.14	1133	491.4	24.0	21.5
14.25	43.4	-0.2	43.2	.88	.13	1139	491.2	23.3	20.8
40014.40	45.0	-0.2	44.8	-14.86	-15.11	1147	491.0	22.9	20.4
14.60	45.5	-0.2	45.3	.86	.11	1149	490.8	22.3	19.8
14.80	48.1	-0.2	47.9	.84	.09	1162	490.5	21.8	19.3
15.00	45.7	-0.2	45.5	.86	.11	1150	490.3	21.2	18.8
15.20	45.1	-0.2	44.9	.86	.12	1147	490.1	20.7	18.2
15.40	44.8	-0.2	44.6	.86	.12	1145	489.8	20.1	17.7
15.60	46.7	-0.2	46.6	.84	.10	1155	489.6	19.6	17.1
15.80	49.6	-0.2	49.4	.82	.08	1168	489.4	19.1	16.6
16.00	51.0	-0.1	50.9	.81	.07	1175	489.1	18.5	16.0
16.20	49.1	-0.1	49.0	.83	.08	1165	488.9	18.0	15.5
16.40	47.8	-0.1	47.6	.84	.10	1158	488.6	17.5	14.9
16.60	47.7	-0.1	47.6	.83	.10	1158	488.3	16.9	14.4
16.80	47.8	-0.1	47.7	.83	.10	1158	488.1	16.4	13.8
17.00	47.6	-0.1	47.5	.84	.11	1155	487.4	15.9	13.3
17.20	50.1	-0.1	50.0	.82	.09	1166	487.1	15.3	12.7
17.40	53.2	-0.1	53.1	.79	.06	1180	486.8	14.8	12.2
17.60	56.6	-0.1	56.5	.77	.03	1195	486.5	14.3	11.6
17.80	54.4	-0.1	54.3	.79	.05	1184	486.2	13.8	11.1
18.00	52.5	-0.1	52.4	.80	.07	1175	485.9	13.3	10.5
18.20	58.8	-0.1	58.7	.76	.02	1202	485.6	12.7	10.0
18.40	71.7	-0.1	71.6	.68	-14.94	1253	485.3	12.2	9.4
18.60	62.7	-0.1	62.6	.74	-15.00	1217	485.1	11.7	8.9
18.80	55.4	-0.1	55.3	.79	.05	1185	484.8	11.2	8.3
19.00	54.8	-0.1	54.7	.79	.06	1183	484.6	10.7	7.8
19.20	54.3	-0.1	54.2	.79	.06	1180	484.3	10.2	7.2
19.40	51.9	-0.1	51.8	.81	.09	1169	484.1	9.7	6.7
19.60	50.5	-0.1	50.4	.82	.10	1162	483.8	9.1	6.1
19.80	47.4	-0.1	47.3	.84	.13	1147	483.6	8.6	5.6
20.00	45.6	-0.1	45.5	.86	.15	1137	483.4	8.1	5.0
20.20	44.5	-0.1	44.4	.87	.16	1131	483.2	7.6	4.5
20.40	47.7	-0.1	47.7	.84	.13	1147	483.0	7.1	3.9
20.60	51.6	0.0	51.6	.81	.10	1165	482.8	6.6	3.4
20.80	53.8	0.0	53.7	.79	.08	1174	482.6	6.1	2.8
21.00	46.1	0.0	46.1	.85	.15	1138	482.4	5.6	2.3
21.20	40.7	0.0	40.7	.90	.20	1111	482.2	5.1	1.7
21.40	42.9	0.0	42.9	.88	.18	1122	482.0	4.6	1.2
21.60	44.3	0.0	44.3	.87	.17	1129	481.9	4.1	0.6
21.80	42.3	0.0	42.3	.89	.19	1118	481.7	3.6	0.1
22.00	41.7	0.0	41.7	.89	.20	1115	481.6	3.1	-0.5
22.20	39.8	0.0	39.8	.91	.22	1104	481.4	2.6	-1.0
22.40	37.3	0.0	37.3	.93	.25	1090	481.3	2.1	-1.6
22.60	34.2	0.0	34.2	.97	.29	1072	481.1	1.6	-2.1
22.80	34.7	0.0	34.7	.96	.29	1075	481.0	1.1	-2.7
23.00	36.0	0.0	36.0	.95	.27	1082	480.9	0.6	-3.2
23.20	38.4	0.0	38.4	.92	.24	1095	480.8	0.1	-3.8
23.40	38.4	0.0	38.4	.91	.25	1095	480.7	359.6	-4.3
23.60	38.6	0.0	38.6	.91	.24	1096	480.6	359.1	-4.9
23.80	39.4	0.0	39.4	.91	.24	1100	480.5	358.6	-5.4
24.00	41.3	0.0	41.3	.89	.21	1110	480.4	358.1	-6.0
24.20	46.7	0.0	46.7	.84	.16	1137	480.3	357.6	-6.5
24.40	48.1	0.0	48.1	.83	.15	1144	480.2	357.1	-7.1
24.60	44.1	0.0	44.1	.87	.19	1124	480.2	356.6	-7.6
24.80	41.0	0.1	41.1	.89	.22	1108	480.1	356.1	-8.2
25.00	38.0	0.1	38.1	.92	.26	1092	480.1	355.7	-8.7
25.20	37.3	0.1	37.4	.93	.27	1088	480.0	355.2	-9.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40025.40	36.4	0.1	36.4	-14.94	-15.28	1082	480.0	354.7	-9.9
25.60	35.5	0.1	35.6	.95	.29	1078	479.9	354.2	-10.4
25.80	36.1	0.1	36.1	.95	.28	1080	479.9	353.7	-11.0
26.00	37.5	0.1	37.6	.94	.26	1089	479.9	353.2	-11.5
26.20	38.7	0.1	38.7	.92	.25	1095	479.9	352.7	-12.1
26.40	38.0	0.1	38.0	.93	.26	1091	479.9	352.2	-12.6
26.60	37.6	0.1	37.7	.93	.26	1089	479.9	351.7	-13.2
26.80	37.2	0.1	37.3	.94	.27	1087	479.9	351.2	-13.7
27.00	36.6	0.1	36.7	.95	.28	1083	479.9	350.7	-14.3
27.20	36.1	0.1	36.2	.95	.28	1081	479.9	350.3	-14.8
27.40	34.7	0.1	34.8	.97	.30	1072	479.9	349.8	-15.4
27.60	33.4	0.1	33.5	.98	.32	1064	479.9	349.3	-16.0
27.80	32.1	0.1	32.2	-15.00	.34	1056	480.0	348.8	-16.5
28.00	31.4	0.1	31.6	.01	.35	1053	480.0	348.3	-17.1
28.20	30.6	0.1	30.8	.02	.36	1048	480.1	347.8	-17.6
28.40	29.8	0.1	30.0	.03	.37	1043	480.1	347.3	-18.2
28.60	29.6	0.1	29.8	.03	.38	1041	480.2	346.8	-18.7
28.80	30.2	0.1	30.4	.02	.37	1045	480.2	346.3	-19.3
29.00	30.3	0.1	30.4	.03	.37	1045	480.3	345.8	-19.8
29.20	31.5	0.1	31.6	.01	.35	1053	480.4	345.4	-20.4
29.40	31.6	0.1	31.7	.01	.35	1054	480.5	344.9	-21.0
29.60	32.7	0.2	32.8	.00	.33	1061	480.6	344.4	-21.5
29.80	33.4	0.2	33.5	.00	.32	1066	480.7	343.9	-22.1
30.00	33.8	0.2	34.0	-14.99	.32	1069	480.8	343.4	-22.6
30.20	33.9	0.2	34.1	.99	.32	1069	480.9	342.9	-23.2
30.40	33.0	0.2	33.2	-15.00	.33	1064	481.0	342.4	-23.7
30.60	32.1	0.2	32.3	.01	.34	1058	481.1	341.9	-24.3
30.80	30.6	0.2	30.8	.03	.36	1049	481.2	341.4	-24.8
31.00	29.9	0.2	30.1	.04	.37	1044	481.4	340.9	-25.4
31.20	29.0	0.2	29.2	.05	.39	1039	481.5	340.5	-26.0
31.40	28.4	0.2	28.6	.06	.40	1034	481.6	340.0	-26.5
31.60	28.0	0.2	28.2	.07	.41	1032	481.8	339.5	-27.1
31.80	27.5	0.2	27.7	.08	.41	1028	481.9	339.0	-27.6
32.00	27.0	0.2	27.2	.09	.42	1026	482.1	338.5	-28.2
32.20	26.4	0.2	26.6	.10	.43	1022	482.2	338.0	-28.8
32.40	25.9	0.2	26.1	.10	.44	1018	482.4	337.5	-29.3
32.60	25.7	0.2	26.0	.11	.44	1018	482.6	337.0	-29.9
32.80	25.6	0.2	25.8	.11	.44	1017	482.7	336.5	-30.4
33.00	26.5	0.2	26.7	.10	.43	1023	482.9	336.0	-31.0
33.20	26.4	0.2	26.6	.11	.43	1024	483.1	335.5	-31.5
33.40	26.3	0.2	26.5	.11	.43	1024	483.3	335.0	-32.1
33.60	27.0	0.2	27.3	.10	.42	1029	483.5	334.5	-32.7
33.80	28.5	0.2	28.8	.07	.39	1039	483.7	334.1	-33.2
34.00	29.2	0.2	29.4	.07	.38	1044	483.9	333.6	-33.8
34.20	27.3	0.2	27.6	.09	.41	1032	484.1	333.1	-34.3
34.40	25.5	0.2	25.7	.12	.44	1019	484.3	332.6	-34.9
34.60	25.3	0.2	25.5	.13	.45	1017	484.5	332.1	-35.5
34.80	27.0	0.3	27.3	.10	.41	1031	484.7	331.6	-36.0
35.00	27.2	0.3	27.4	.10	.41	1032	484.9	331.1	-36.6
35.20	24.4	0.3	24.6	.15	.46	1012	485.1	330.6	-37.1
35.40	22.4	0.3	22.7	.18	.50	997	485.4	330.1	-37.7
35.60	21.9	0.3	22.1	.19	.51	991	485.6	329.6	-38.3
35.80	21.7	0.3	21.9	.20	.51	991	485.8	329.1	-38.8
36.00	21.6	0.3	21.9	.20	.51	992	486.0	328.6	-39.4
36.20	21.5	0.3	21.8	.20	.51	991	486.3	328.1	-40.0
36.40	21.2	0.3	21.5	.21	.52	989	486.5	327.6	-40.5
36.60	20.9	0.3	21.2	.21	.53	986	486.8	327.1	-41.1
36.80	21.8	0.3	22.1	.20	.51	994	487.0	326.6	-41.6
37.00	25.1	0.3	25.4	.14	.44	1021	487.2	326.1	-42.2
37.20	24.1	0.3	24.4	.16	.45	1015	487.5	325.6	-42.8

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40037.40	22.8	0.3	23.1	-15.18	-15.48	1004	487.7	325.1	-43.3
37.60	22.5	0.3	22.8	.19	.49	1001	488.0	324.6	-43.9
37.80	22.2	0.3	22.5	.19	.50	999	488.3	324.1	-44.5
38.00	21.9	0.3	22.2	.20	.50	997	488.5	323.5	-45.0
40038.25	21.1	0.3	21.4	-15.22	-15.52	991	488.3	322.9	-45.8
38.50	20.1	0.3	20.4	.24	.54	983	488.6	322.3	-46.5
38.75	19.0	0.3	19.3	.26	.56	973	489.0	321.6	-47.2
39.00	17.8	0.3	18.1	.29	.59	962	489.3	321.0	-47.9
39.25	16.7	0.3	17.0	.32	.62	954	489.7	320.4	-48.6
39.50	15.8	0.3	16.1	.35	.64	945	490.0	319.7	-49.3
39.75	15.1	0.3	15.4	.37	.66	938	490.4	319.1	-50.0
40.00	14.5	0.3	14.9	.38	.67	934	490.8	318.4	-50.7
40.25	14.2	0.3	14.5	.40	.68	931	491.2	317.8	-51.4
40.50	15.2	0.3	15.5	.37	.65	943	491.5	317.1	-52.1
40.75	14.4	0.3	14.7	.39	.67	935	491.9	316.5	-52.8
41.00	12.9	0.3	13.2	.44	.72	917	492.4	315.8	-53.5
41.25	12.3	0.3	12.7	.46	.74	911	492.8	315.2	-54.2
41.50	13.7	0.3	14.0	.42	.69	927	493.2	314.5	-54.9
41.75	12.9	0.3	13.2	.44	.71	919	493.6	313.8	-55.6
42.00	11.5	0.3	11.8	.49	.76	903	494.0	313.2	-56.3
42.25	11.0	0.3	11.3	.51	.78	897	494.5	312.5	-57.0
42.50	10.6	0.3	10.9	.53	.79	893	494.9	311.9	-57.7
42.75	10.4	0.3	10.7	.54	.80	891	495.3	311.2	-58.4
43.00	10.2	0.3	10.5	.55	.81	888	495.8	310.5	-59.1
43.25	9.8	0.3	10.2	.56	.82	885	496.2	309.8	-59.8
43.50	9.7	0.3	10.0	.57	.82	883	496.7	309.1	-60.5
43.75	9.5	0.3	9.8	.58	.83	881	497.1	308.5	-61.2
44.00	9.4	0.3	9.7	.59	.84	879	497.6	307.8	-61.9
44.25	9.0	0.3	9.3	.61	.85	873	498.1	307.1	-62.6
44.50	8.6	0.3	8.9	.63	.87	870	498.5	306.4	-63.2
44.75	8.2	0.3	8.6	.65	.88	866	499.0	305.7	-63.9
45.00	7.9	0.3	8.3	.66	.89	861	499.5	305.0	-64.6
45.25	7.8	0.3	8.1	.67	.90	859	499.9	304.3	-65.3
45.50	7.6	0.3	7.9	.69	.91	857	500.4	303.6	-66.0
45.75	7.7	0.3	8.1	.68	.89	861	500.8	302.8	-66.7
46.00	7.8	0.3	8.1	.68	.89	862	501.3	302.1	-67.4
46.25	7.7	0.3	8.1	.68	.89	862	501.8	301.4	-68.1
46.50	7.8	0.3	8.1	.68	.89	863	502.2	300.6	-68.8
46.75	8.0	0.3	8.3	.67	.87	867	502.7	299.9	-69.5
47.00	8.5	0.3	8.8	.65	.85	876	503.1	299.1	-70.2
47.25	8.7	0.3	9.0	.64	.83	883	503.5	298.4	-70.9
47.50	10.0	0.3	10.3	.58	.76	905	504.0	297.6	-71.6
47.75	13.7	0.3	14.0	.45	.63	952	504.4	296.9	-72.3
48.00	11.8	0.3	12.1	.51	.69	931	504.8	296.1	-73.0
48.25	10.9	0.3	11.2	.55	.72	920	505.2	295.3	-73.7
48.50	9.5	0.3	9.8	.61	.78	899	505.6	294.5	-74.4
48.75	9.0	0.3	9.3	.63	.80	890	506.0	293.7	-75.0
49.00	9.1	0.3	9.4	.62	.80	893	506.4	292.9	-75.7
49.25	8.7	0.3	9.0	.64	.81	889	506.8	292.0	-76.4
49.50	8.3	0.3	8.6	.66	.83	882	507.1	291.2	-77.1
49.75	7.1	0.3	7.4	.73	.89	861	507.5	290.3	-77.8
40050.00	7.4	0.3	7.7	-15.71	-15.88	868	507.7	289.5	-78.5
50.20	7.5	0.3	7.8	.71	.87	870	508.0	288.8	-79.0
50.40	8.3	0.3	8.5	.67	.83	883	508.3	288.0	-79.6
50.60	9.0	0.3	9.3	.63	.79	896	508.6	287.3	-80.1
50.80	10.1	0.3	10.4	.59	.74	913	508.8	286.6	-80.7
51.00	11.5	0.3	11.8	.53	.68	935	509.1	285.8	-81.2
51.20	13.4	0.3	13.7	.47	.61	960	509.4	285.1	-81.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
40051.40	12.1	0.3	12.4	-15.51	-15.65	944	509.6	284.3	-82.3
51.60	10.5	0.3	10.7	.58	.72	921	509.9	283.5	-82.8
51.80	9.1	0.3	9.3	.64	.78	900	510.2	282.7	-83.4
40052.00	8.6	0.3	8.8	-15.66	-15.80	892	510.4	281.9	-83.9
52.25	8.3	0.3	8.5	.68	.81	888	510.7	280.9	-84.6
52.50	7.9	0.3	8.2	.69	.83	882	511.0	279.8	-85.2
52.75	7.8	0.3	8.0	.70	.84	879	511.3	278.7	-85.9
53.00	7.5	0.3	7.8	.71	.85	876	511.6	277.6	-86.6
53.25	7.2	0.2	7.5	.73	.86	871	511.9	276.4	-87.2
53.50	7.1	0.2	7.3	.74	.87	868	512.2	275.2	-87.9
53.75	7.2	0.2	7.4	.74	.87	871	512.4	274.0	-88.5
54.00	7.6	0.2	7.8	.72	.84	879	512.7	272.7	-89.2
54.25	7.2	0.2	7.4	.74	.86	871	512.9	271.3	-89.8
54.50	7.3	0.2	7.5	.73	.86	872	513.2	270.0	-90.5
54.75	7.6	0.2	7.8	.72	.84	879	513.4	268.5	-91.1
55.00	7.8	0.2	8.0	.71	.82	884	513.6	267.0	-91.7
55.25	8.1	0.2	8.3	.69	.81	890	513.8	265.4	-92.4
55.50	8.4	0.2	8.6	.67	.79	895	514.1	263.8	-93.0
55.75	8.9	0.2	9.1	.65	.76	904	514.3	262.0	-93.6
56.00	9.6	0.2	9.7	.62	.74	914	514.4	260.2	-94.2
56.25	9.0	0.2	9.2	.65	.76	905	514.6	258.3	-94.8
56.50	8.7	0.2	8.9	.66	.77	901	514.8	256.2	-95.4
56.75	8.5	0.2	8.7	.67	.78	898	515.0	254.0	-95.9
57.00	8.2	0.2	8.4	.69	.79	894	515.1	251.7	-96.5
57.25	7.9	0.2	8.1	.70	.81	889	515.2	249.2	-97.0
57.50	7.8	0.2	7.9	.71	.82	885	515.4	246.6	-97.6
57.75	7.7	0.1	7.8	.72	.83	882	515.5	243.7	-98.1
58.00	7.5	0.1	7.7	.72	.83	881	515.6	240.7	-98.6
58.25	7.1	0.1	7.3	.75	.85	874	515.7	237.4	-99.0
58.50	6.8	0.1	6.9	.77	.88	867	515.8	233.8	-99.4
58.75	7.4	0.1	7.5	.73	.84	880	515.9	230.1	-99.8
59.00	8.7	0.1	8.8	.66	.77	904	516.0	226.0	-100.2
59.25	10.2	0.1	10.3	.60	.70	928	516.0	221.6	-100.5
59.50	11.5	0.1	11.6	.54	.64	947	516.1	217.0	-100.8
59.75	11.2	0.1	11.3	.56	.65	944	516.1	212.1	-101.0
60.00	10.9	0.1	11.0	.57	.67	939	516.1	207.0	-101.2
60.25	9.8	0.1	9.9	.61	.71	922	516.2	201.7	-101.3
60.50	10.5	0.1	10.6	.58	.68	933	516.2	196.2	-101.3
60.75	9.3	0.1	9.4	.64	.73	916	516.2	190.7	-101.3
61.00	8.4	0.1	8.5	.68	.78	900	516.2	185.2	-101.2
61.25	8.2	0.1	8.3	.69	.79	895	516.1	179.8	-101.0
61.50	8.2	0.1	8.2	.70	.80	893	516.1	174.5	-100.8
61.75	7.8	0.0	7.8	.72	.82	886	516.1	169.4	-100.5
62.00	7.6	0.0	7.6	.73	.83	882	516.0	164.6	-100.2
62.25	7.6	0.0	7.6	.73	.83	882	516.0	160.1	-99.8
62.50	8.6	0.0	8.6	.68	.78	900	515.9	155.8	-99.4
62.75	9.4	0.0	9.5	.63	.74	916	515.8	151.8	-98.9
63.00	9.4	0.0	9.5	.63	.74	916	515.7	148.1	-98.4
63.25	10.1	0.0	10.1	.61	.71	924	515.6	144.6	-97.8
63.50	10.5	0.0	10.5	.59	.69	930	515.5	141.4	-97.3
63.75	11.1	0.0	11.1	.57	.67	940	515.4	138.4	-96.7
64.00	12.2	0.0	12.2	.53	.63	954	515.2	135.6	-96.0
64.25	12.0	0.0	12.0	.54	.64	952	515.1	133.0	-95.4
64.50	11.6	0.0	11.6	.55	.66	946	514.9	130.5	-94.8
64.75	10.5	0.0	10.5	.59	.70	929	514.8	128.3	-94.1
65.00	10.4	0.0	10.3	.60	.71	925	514.6	126.1	-93.4
65.25	10.4	0.0	10.3	.60	.71	924	514.4	124.1	-92.7
65.50	10.1	0.0	10.1	.61	.72	920	514.2	122.2	-92.0
65.75	10.1	0.0	10.1	.61	.72	920	514.1	120.4	-91.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	-10^6 P	10^6 $\dot{P}_r$	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40066.00	10.1	-0.1	10.1	-15.61	-15.72	921	513.9	118.7	-90.6
66.25	10.2	-0.1	10.1	.61	.73	920	513.7	117.0	-89.9
66.50	10.2	-0.1	10.1	.61	.73	919	513.5	115.5	-89.1
66.75	10.3	-0.1	10.2	.61	.73	919	513.3	114.0	-88.4
67.00	10.2	-0.1	10.2	.61	.73	919	513.1	112.6	-87.6
67.25	10.1	-0.1	10.0	.61	.74	915	512.8	111.2	-86.9
67.50	9.9	-0.1	9.8	.62	.75	912	512.6	109.9	-86.1
67.75	10.1	-0.1	10.0	.61	.74	915	512.4	108.6	-85.4
68.00	10.2	-0.1	10.1	.61	.74	917	512.1	107.4	-84.6
68.25	10.4	-0.1	10.3	.60	.73	919	511.9	106.2	-83.8
68.50	10.3	-0.1	10.2	.60	.74	917	511.6	105.1	-83.1
68.75	10.1	-0.1	10.0	.61	.75	913	511.3	104.0	-82.3
69.00	10.1	-0.1	10.0	.61	.75	912	511.0	102.9	-81.5
69.25	9.9	-0.1	9.8	.62	.76	908	510.7	101.8	-80.8
69.50	10.0	-0.1	9.9	.61	.76	909	510.4	100.8	-80.0
69.75	10.1	-0.1	10.0	.61	.75	910	510.1	99.8	-79.2
70.00	10.2	-0.1	10.1	.60	.75	911	509.8	98.8	-78.4
70.25	10.3	-0.1	10.2	.60	.75	912	509.5	97.9	-77.6
70.50	11.0	-0.1	10.9	.57	.72	921	509.2	96.9	-76.8
70.75	11.6	-0.1	11.5	.55	.70	929	508.8	96.0	-76.1
71.00	12.2	-0.1	12.0	.53	.68	934	508.5	95.1	-75.3
71.25	13.7	-0.1	13.5	.48	.63	953	508.1	94.2	-74.5
71.50	16.2	-0.1	16.1	.40	.56	983	507.7	93.4	-73.7
71.75	18.0	-0.1	17.8	.35	.51	999	507.4	92.5	-72.9
72.00	16.5	-0.1	16.3	.39	.55	983	507.0	91.7	-72.1
72.25	16.0	-0.2	15.8	.40	.57	977	506.6	90.9	-71.3
72.50	16.0	-0.2	15.9	.40	.57	977	506.2	90.0	-70.5
72.75	16.3	-0.2	16.1	.39	.57	977	505.8	89.2	-69.7
73.00	15.8	-0.2	15.7	.40	.58	972	505.3	88.4	-68.9
73.25	15.6	-0.2	15.4	.41	.59	969	504.9	87.7	-68.1
73.50	16.0	-0.2	15.8	.40	.58	973	504.5	86.9	-67.3
73.75	16.7	-0.2	16.5	.38	.56	980	504.0	86.1	-66.5
74.00	18.8	-0.2	18.6	.33	.51	1001	503.6	85.4	-65.7
74.25	20.0	-0.2	19.9	.30	.48	1012	503.1	84.6	-64.9
74.50	20.0	-0.2	19.8	.30	.49	1010	502.7	83.9	-64.1
74.75	20.3	-0.2	20.1	.29	.48	1011	502.2	83.1	-63.3
75.00	21.6	-0.2	21.4	.26	.46	1022	501.7	82.4	-62.5
75.25	21.8	-0.2	21.6	.26	.45	1023	501.2	81.7	-61.7
75.50	21.7	-0.2	21.5	.26	.46	1021	500.7	81.0	-60.9
75.75	22.0	-0.2	21.8	.25	.45	1023	500.2	80.3	-60.1
76.00	22.1	-0.2	21.9	.25	.46	1022	499.7	79.6	-59.3
76.25	22.7	-0.2	22.5	.24	.44	1026	499.2	78.9	-58.5
76.50	23.1	-0.2	22.9	.23	.44	1029	498.6	78.2	-57.7
76.75	23.4	-0.2	23.2	.22	.44	1029	498.1	77.5	-56.9
77.00	23.7	-0.2	23.5	.21	.43	1030	497.6	76.8	-56.1
77.25	24.2	-0.2	24.0	.20	.43	1033	497.0	76.1	-55.3
77.50	24.9	-0.2	24.6	.19	.42	1037	496.4	75.4	-54.5
40078.00	25.84	-0.21	25.6	-15.17	-15.39	1047	497.1	74.2	-53.3
78.50	26.72	-0.22	26.5	.15	.38	1052	496.3	72.9	-51.7
79.00	28.07	-0.22	27.9	.13	.36	1060	495.4	71.6	-50.1
79.50	30.04	-0.22	29.8	.10	.34	1071	494.5	70.3	-48.5
80.00	30.45	-0.23	30.2	.09	.34	1071	493.6	69.0	-46.9
80.50	31.21	-0.23	31.0	.07	.33	1075	492.7	67.7	-45.3
81.00	33.13	-0.23	32.9	.05	.31	1085	491.7	66.4	-43.7
81.50	36.21	-0.23	36.0	.01	.27	1101	490.6	65.2	-42.1
82.00	41.36	-0.23	41.1	-14.95	.21	1128	489.6	63.9	-40.5
82.50	48.69	-0.23	48.5	.89	.14	1164	488.5	62.7	-38.9
83.00	53.91	-0.23	53.7	.84	.10	1186	487.4	61.4	-37.3
83.50	55.83	-0.23	55.6	.82	.09	1191	486.3	60.2	-35.7

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^5 P$	$10^5 \dot{P}_r$	$-10^5 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
40084.00	5.69	-0.02	5.66	-14.82	-15.09	1192	485.2	59.0	-34.1
84.50	5.70	-0.02	5.68	.81	.09	1189	484.0	57.7	-32.5
85.00	5.92	-0.02	5.90	.80	.08	1195	482.9	56.5	-30.8
85.50	6.15	-0.02	6.13	.78	.07	1201	481.8	55.3	-29.2
86.00	5.76	-0.02	5.74	.80	.10	1181	480.7	54.1	-27.6
86.50	5.41	-0.02	5.39	.83	.14	1162	479.6	52.9	-26.0
87.00	5.26	-0.02	5.24	.83	.15	1152	478.6	51.7	-24.4
87.50	5.14	-0.02	5.12	.84	.17	1143	477.6	50.5	-22.8
88.00	5.04	-0.02	5.02	.84	.18	1135	476.6	49.3	-21.2
88.50	5.00	-0.02	4.99	.84	.19	1130	475.7	48.1	-19.6
89.00	4.96	-0.02	4.95	.84	.20	1125	474.8	46.9	-17.9
89.50	4.93	-0.01	4.92	.85	.21	1121	474.0	45.7	-16.3
90.00	4.83	-0.01	4.82	.85	.22	1113	473.3	44.5	-14.7
90.50	5.00	-0.01	4.99	.84	.21	1118	472.7	43.3	-13.1
91.00	5.15	-0.01	5.14	.83	.20	1122	472.1	42.1	-11.5
91.50	5.41	-0.01	5.40	.81	.18	1131	471.7	40.9	-9.9
40091.75	5.59	-0.01	5.58	-14.79	-15.17	1138	471.5	40.3	-9.1
92.00	5.69	-0.01	5.68	.79	.16	1141	471.4	39.7	-8.3
92.25	5.98	-0.01	5.97	.77	.14	1151	471.3	39.1	-7.4
92.50	6.67	-0.01	6.66	.72	.09	1177	471.2	38.5	-6.6
92.75	5.67	-0.01	5.67	.79	.16	1137	471.1	37.9	-5.8
93.00	5.29	-0.01	5.29	.81	.20	1120	470.8	37.3	-5.0
93.25	5.10	-0.01	5.09	.83	.22	1111	470.8	36.7	-4.2
93.50	4.87	-0.01	4.86	.84	.24	1100	470.7	36.1	-3.4
93.75	4.70	-0.01	4.69	.86	.26	1091	470.7	35.5	-2.6
40094.00	4.60	-0.01	4.60	-14.87	-15.27	1086	470.6	34.9	-1.8
94.50	4.55	0.00	4.55	.87	.27	1082	470.6	33.7	-0.2
95.00	4.48	0.00	4.48	.88	.28	1077	470.7	32.5	1.5
95.50	4.41	0.00	4.41	.89	.29	1072	470.7	31.3	3.1
96.00	4.34	0.00	4.34	.90	.30	1068	470.9	30.1	4.7
96.50	4.34	0.00	4.34	.90	.30	1066	471.0	28.9	6.3
97.00	4.41	0.00	4.41	.89	.29	1068	471.2	27.7	8.0
97.50	4.48	0.00	4.48	.89	.29	1070	471.3	26.5	9.6
98.00	4.58	0.00	4.58	.88	.28	1073	471.5	25.3	11.2
98.50	4.75	0.00	4.76	.86	.26	1079	471.7	24.0	12.8
99.00	5.10	0.00	5.10	.84	.24	1092	471.9	22.8	14.5
40099.50	6.31	0.00	6.32	-14.76	-15.14	1138	472.1	21.5	16.1
99.75	6.95	0.01	6.96	.72	.10	1160	472.2	20.9	16.9
40100.00	6.60	0.01	6.61	.75	.12	1146	472.3	20.3	17.7
00.25	6.02	0.01	6.03	.79	.16	1123	472.4	19.7	18.5
00.50	5.94	0.01	5.95	.79	.17	1119	472.5	19.0	19.4
00.75	5.98	0.01	5.99	.79	.17	1120	472.5	18.4	20.2
40101.00	6.04	0.01	6.05	-14.78	-15.17	1121	472.6	17.8	21.0
01.50	6.28	0.01	6.29	.77	.15	1127	472.7	16.5	22.6
02.00	6.47	0.01	6.48	.77	.14	1130	472.8	15.2	24.3
02.50	6.62	0.01	6.63	.76	.13	1132	472.8	13.9	25.9
03.00	6.80	0.01	6.81	.76	.12	1135	472.8	12.6	27.6
03.50	6.82	0.01	6.83	.76	.13	1132	472.8	11.3	29.2
04.00	6.71	0.01	6.72	.77	.14	1124	472.7	10.0	30.9
04.50	6.62	0.01	6.63	.78	.15	1117	472.6	8.6	32.5
05.00	6.56	0.01	6.58	.79	.16	1111	472.4	7.3	34.2
05.50	6.86	0.01	6.87	.77	.15	1116	472.2	5.9	35.8
06.00	7.30	0.01	7.31	.75	.13	1126	471.9	4.5	37.5
40106.25	7.43	0.02	7.44	-14.75	-15.12	1130	472.4	3.8	38.3
06.50	7.62	0.02	7.64	.74	.11	1133	472.3	3.1	39.1

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^5 P$	$10^5 \dot{P}_r$	$-10^5 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40106.75	8.17	0.02	8.19	-14.71	-15.09	1147	472.2	2.3	40.0
07.00	8.80	0.02	8.82	.68	.06	1163	472.1	1.6	40.8
07.25	9.63	0.02	9.65	.65	.01	1183	472.0	0.9	41.6
07.50	12.23	0.02	12.25	.55	-14.91	1245	472.0	0.1	42.5
07.75	9.24	0.02	9.26	.68	-15.04	1168	471.9	359.4	43.3
08.00	8.42	0.02	8.44	.71	.08	1143	471.8	358.6	44.1
08.25	7.75	0.02	7.77	.75	.12	1121	471.7	357.8	45.0
08.50	6.95	0.02	6.96	.80	.18	1094	471.6	357.1	45.8
08.75	6.69	0.02	6.71	.82	.20	1084	471.5	356.3	46.7
40109.00	6.86	0.02	6.87	-14.81	-15.19	1087	471.4	355.5	47.5
09.50	7.17	0.02	7.19	.79	.18	1092	471.2	353.8	49.2
10.00	7.34	0.02	7.36	.78	.18	1092	470.9	352.2	50.9
10.50	7.45	0.02	7.46	.78	.18	1090	470.7	350.4	52.5
11.00	7.57	0.02	7.59	.78	.18	1089	470.5	348.6	54.2
11.50	7.65	0.02	7.67	.78	.18	1088	470.4	346.7	55.9
40111.75	7.49	0.02	7.51	-14.80	-15.19	1082	470.3	345.7	56.7
12.00	7.92	0.02	7.94	.78	.16	1091	470.2	344.7	57.6
12.25	9.33	0.02	9.35	.71	.09	1126	470.1	343.7	58.4
12.50	9.32	0.02	9.34	.72	.09	1124	470.0	342.7	59.3
12.75	8.98	0.02	9.00	.74	.11	1113	470.0	341.6	60.1
13.00	8.59	0.02	8.61	.76	.14	1101	469.9	340.4	61.0
13.25	8.48	0.02	8.50	.76	.15	1096	469.9	339.3	61.8
13.50	8.27	0.02	8.29	.78	.16	1088	469.8	338.1	62.6
13.75	7.90	0.02	7.92	.80	.19	1076	469.8	336.8	63.5
14.00	7.76	0.02	7.78	.81	.20	1070	469.8	335.6	64.3
14.25	7.93	0.02	7.96	.80	.19	1073	469.8	334.2	65.1
14.50	7.44	0.02	7.46	.83	.22	1058	469.8	332.8	66.0
14.75	7.25	0.02	7.28	.84	.24	1051	469.8	331.3	66.8
15.00	7.93	0.02	7.95	.81	.20	1067	469.8	329.8	67.6
15.25	6.99	0.02	7.01	.86	.26	1040	469.9	328.2	68.4
15.50	6.33	0.02	6.35	.90	.31	1018	469.9	326.5	69.2
15.75	6.13	0.02	6.16	.91	.33	1010	470.0	324.7	70.0
16.00	6.02	0.02	6.04	.92	.34	1005	470.1	322.8	70.8
16.25	5.93	0.02	5.95	.94	.34	1005	471.7	320.6	71.7
16.50	5.79	0.02	5.81	.95	.36	999	471.6	318.4	72.5
16.75	5.60	0.02	5.63	.96	.38	991	471.6	316.1	73.2
17.00	5.45	0.02	5.47	.97	.40	983	471.5	313.6	74.0
17.25	5.37	0.02	5.40	.98	.41	979	471.5	311.0	74.7
17.50	5.29	0.02	5.31	.99	.42	975	471.4	308.1	75.4
17.75	5.25	0.02	5.28	.99	.42	972	471.4	305.0	76.1
18.00	5.73	0.02	5.75	.96	.39	986	471.3	301.7	76.7
18.25	6.42	0.02	6.44	.91	.33	1006	471.3	298.0	77.3
18.50	5.89	0.02	5.91	.96	.36	991	471.2	294.1	77.9
18.75	5.46	0.02	5.48	.99	.40	976	471.2	289.9	78.5
19.00	5.25	0.02	5.27	-15.00	.43	966	471.1	285.4	79.0
19.25	5.13	0.02	5.15	.02	.44	961	471.1	280.5	79.4
19.50	4.88	0.02	4.90	.04	.46	952	471.0	275.3	79.8
19.75	4.67	0.02	4.69	.06	.49	942	471.0	269.9	80.2
20.00	4.67	0.02	4.69	.06	.49	942	470.9	264.2	80.4
20.25	4.89	0.02	4.91	.04	.47	949	470.9	258.4	80.6
20.50	5.19	0.02	5.22	.02	.44	959	470.8	252.5	80.7
20.75	5.20	0.02	5.22	.02	.44	959	470.8	246.7	80.7
21.00	5.23	0.02	5.25	.02	.44	958	470.7	240.9	80.7
21.25	5.15	0.02	5.18	.02	.45	954	470.6	235.4	80.6
21.50	5.05	0.02	5.07	.03	.46	950	470.5	230.1	80.4
21.75	5.21	0.02	5.23	.02	.44	954	470.4	225.1	80.2
22.00	5.32	0.02	5.34	.01	.43	957	470.3	220.5	79.9
22.25	5.71	0.02	5.73	-14.99	.40	969	470.2	216.1	79.5

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^5 P$	$10^5 P_r$	$-10^5 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
40122.50	6.51	0.02	6.53	-14.93	-15.34	990	470.1	212.1	79.2
22.75	5.59	0.02	5.61	-15.00	.41	963	470.0	208.3	78.7
23.00	5.21	0.02	5.23	.02	.45	949	469.9	204.9	78.3
23.25	4.84	0.02	4.86	.05	.50	934	469.7	201.7	77.8
23.50	4.32	0.02	4.34	.10	.55	915	469.6	198.8	77.3
23.75	4.32	0.02	4.34	.10	.55	914	469.4	196.0	76.8
24.00	4.33	0.02	4.35	.10	.55	914	469.2	193.5	76.2
24.25	4.27	0.02	4.29	.11	.56	911	469.1	191.1	75.7
24.50	4.23	0.02	4.25	.11	.57	908	468.9	188.9	75.1
24.75	4.25	0.02	4.27	.11	.56	907	468.7	186.8	74.5
25.00	4.57	0.02	4.59	.08	.53	918	468.4	184.8	73.9
25.25	4.93	0.02	4.95	.05	.50	928	468.2	183.0	73.3
25.50	5.32	0.02	5.34	.02	.47	939	467.9	181.2	72.6
25.75	5.49	0.02	5.50	.01	.46	942	467.7	179.5	72.0
26.00	5.43	0.02	5.44	.02	.46	939	467.4	178.0	71.4
26.25	5.38	0.02	5.39	.02	.47	935	467.1	176.4	70.7
26.50	5.32	0.02	5.34	.03	.48	933	466.8	175.0	70.1
26.75	5.24	0.02	5.26	.03	.49	928	466.5	173.6	69.4
27.00	5.28	0.02	5.29	.03	.49	927	466.1	172.3	68.8
27.25	5.47	0.02	5.48	.02	.48	932	465.7	171.0	68.1
27.50	5.92	0.02	5.93	-14.99	.44	943	465.4	169.8	67.4
27.75	6.38	0.02	6.40	.96	.41	954	465.0	168.6	66.8
40128.00	6.59	0.02	6.61	-14.95	-15.39	960	465.4	167.4	66.1
28.20	6.67	0.02	6.68	.94	.39	960	464.8	166.5	65.6
28.40	6.66	0.02	6.67	.94	.40	957	464.2	165.6	65.0
28.60	6.59	0.02	6.60	.95	.41	953	463.7	164.8	64.5
28.80	6.69	0.01	6.70	.94	.41	952	463.0	163.9	63.9
29.00	6.69	0.01	6.71	.94	.41	951	462.4	163.1	63.4
29.20	6.51	0.01	6.52	.95	.43	944	461.8	162.3	62.8
29.40	6.09	0.01	6.11	.98	.47	930	461.1	161.5	62.3
29.60	6.18	0.01	6.20	.97	.48	929	460.4	160.7	61.8
29.80	7.38	0.01	7.39	.90	.40	956	459.7	160.0	61.2
30.00	8.18	0.01	8.19	.86	.35	972	459.0	159.2	60.7
30.20	8.28	0.01	8.30	.86	.35	973	458.3	158.5	60.1
30.40	8.43	0.01	8.44	.85	.34	973	457.6	157.7	59.6
30.60	8.51	0.01	8.53	.84	.35	972	456.9	157.0	59.0
30.80	7.41	0.01	7.42	.90	.42	945	456.2	156.3	58.4
31.00	10.21	0.01	10.23	.76	.29	998	455.5	155.6	57.9
31.20	11.12	0.01	11.14	.73	.25	1013	454.8	154.9	57.3
31.40	12.01	0.01	12.02	.70	.21	1026	454.1	154.2	56.8
31.60	10.85	0.01	10.86	.75	.26	1004	453.4	153.6	56.2
31.80	10.25	0.01	10.26	.77	.29	991	452.7	152.9	55.7
32.00	11.07	0.01	11.08	.74	.27	1001	452.0	152.2	55.1
32.20	11.14	0.01	11.15	.73	.27	1000	451.3	151.6	54.6
32.40	10.33	0.01	10.34	.77	.30	984	450.6	150.9	54.0
32.60	10.28	0.01	10.29	.77	.31	981	449.9	150.3	53.5
32.80	9.30	0.01	9.31	.81	.38	959	449.2	149.7	52.9
33.00	8.47	0.01	8.48	.84	.44	938	448.5	149.0	52.4
33.20	7.69	0.01	7.70	.88	.50	919	447.9	148.4	51.8
33.40	7.51	0.01	7.52	.89	.51	913	447.2	147.8	51.3
33.60	6.75	0.01	6.76	.94	.56	895	446.5	147.2	50.7
33.80	6.94	0.01	6.94	.93	.55	897	445.9	146.6	50.2
34.00	6.97	0.01	6.98	.93	.55	896	445.2	146.0	49.6
34.20	7.61	0.01	7.61	.89	.52	907	444.6	145.4	49.1
34.40	7.77	0.01	7.78	.88	.52	908	444.0	144.8	48.5
34.60	7.73	0.01	7.73	.89	.52	905	443.3	144.2	48.0
34.80	7.54	0.01	7.55	.90	.53	900	442.7	143.6	47.4
35.00	7.59	0.01	7.60	.89	.54	898	442.1	143.0	46.9
35.20	8.06	0.01	8.07	.86	.53	905	441.5	142.4	46.3

Table 4 (Cont.)

1964 76A (Explorer 24)

MJD	$-10^5\dot{P}$	$10^5\dot{P}_r$	$-10^5\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40135.40	8.17	0.01	8.18	-14.86	-15.52	905	440.8	141.8	45.8
35.60	8.25	0.01	8.26	.86	.51	906	440.2	141.3	45.2
35.80	8.35	0.01	8.36	.86	.51	906	439.6	140.7	44.7
36.00	8.99	0.01	9.00	.83	.48	915	438.9	140.1	44.1
36.20	10.15	0.01	10.15	.78	.43	933	438.3	139.6	43.6
36.40	10.28	0.00	10.28	.77	.42	933	437.7	139.0	43.0
36.60	10.43	0.00	10.43	.77	.43	933	437.0	138.4	42.5
36.80	10.74	0.00	10.74	.75	.42	935	436.3	137.9	41.9
37.00	11.37	0.00	11.38	.74	.39	944	435.6	137.3	41.4
37.20	11.56	0.00	11.57	.73	.38	945	435.0	136.8	40.9
37.40	12.20	0.00	12.20	.70	.38	950	434.2	136.2	40.3
37.60	12.91	0.00	12.91	.67	.37	956	433.5	135.7	39.8
37.80	10.84	0.00	10.85	.75	.45	924	432.8	135.1	39.3
38.00	9.52	0.00	9.53	.81	.51	900	432.0	134.6	38.7
38.20	11.76	0.00	11.76	.72	.42	933	431.2	134.0	38.2
38.40	12.83	0.00	12.83	.68	.39	945	430.3	133.5	37.7
38.60	11.59	0.00	11.59	.72	.45	924	429.5	133.0	37.1
38.80	10.81	0.00	10.81	.75	.49	909	428.6	132.4	36.6
39.00	11.84	0.00	11.84	.72	.45	922	427.6	131.9	36.1
39.20	13.44	0.00	13.44	.66	.40	940	426.6	131.4	35.6
39.40	12.96	0.00	12.96	.68	.42	930	425.6	130.8	35.0
39.60	11.98	0.00	11.99	.71	.48	912	424.5	130.3	34.5
39.80	11.65	0.00	11.65	.72	.50	904	423.4	129.8	34.0
40.00	11.94	0.00	11.94	.71	.51	903	422.2	129.2	33.5
40.20	11.64	0.00	11.64	.72	.53	895	421.0	128.7	33.0
40.40	11.99	0.00	11.99	.70	.53	895	419.7	128.2	32.5
40.60	12.51	0.00	12.51	.69	.52	898	418.3	127.7	32.0
40.80	13.07	0.00	13.07	.67	.51	901	416.8	127.1	31.5
41.00	13.60	0.00	13.59	.65	.50	902	415.3	126.6	31.0
41.20	19.91	0.00	19.91	.50	.33	967	413.7	126.1	30.5
41.40	24.31	0.00	24.31	.42	.22	1003	412.0	125.6	30.0
41.60	27.28	0.00	27.28	.38	.17	1022	410.3	125.1	29.5
41.80	23.28	0.00	23.28	.45	.26	981	408.4	124.5	29.0
42.00	24.12	0.00	24.12	.44	.25	981	406.5	124.0	28.5
42.20	25.73	0.00	25.73	.41	.24	987	404.4	123.5	28.0
42.40	25.33	0.00	25.33	.41	.27	975	402.2	123.0	27.5
42.60	26.01	0.00	26.01	.40	.28	972	400.0	122.5	27.1
42.80	24.96	0.00	24.96	.42	.32	955	397.6	122.0	26.6
43.00	23.55	0.00	23.55	.44	.37	934	395.0	121.5	26.1
43.20	24.18	0.00	24.17	.43	.38	929	392.4	120.9	25.7
43.40	25.24	0.00	25.24	.41	.39	927	389.6	120.4	25.2
43.60	26.79	0.00	26.79	.38	.39	928	386.7	119.9	24.8
43.80	28.09	0.00	28.09	.36	.40	925	383.7	119.4	24.3
44.00	27.18	0.00	27.18	.38	.44	907	380.5	118.9	23.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39279.00	0.83		0.83	-13.76	-13.89	800	287.3	300.7	20.5
80.00	0.81		0.81	.77	.90	795	287.2	297.4	20.2
81.00	0.82		0.82	.76	.90	798	287.2	294.1	19.9
82.00	0.79		0.79	.78	.91	790	287.1	290.7	19.6
83.00	0.75		0.75	.80	.94	777	287.0	287.4	19.4
84.00	0.71		0.71	.82	.96	764	286.9	284.1	19.1
85.00	0.64		0.64	.86	-14.01	747	286.8	280.7	18.8
86.00	0.62		0.62	.87	.02	743	286.7	277.4	18.6
87.00	0.60		0.60	.89	.04	736	286.6	274.1	18.3
88.00	0.60		0.60	.89	.04	733	286.5	270.7	18.1
89.00	0.60		0.60	.89	.04	729	286.4	267.4	17.8
90.00	0.60		0.60	.89	.04	731	286.3	264.1	17.6
91.00	0.60		0.60	.89	.04	732	286.3	260.7	17.3
92.00	0.62		0.62	.87	.02	736	286.2	257.4	17.1
93.00	0.58		0.58	.90	.05	723	286.1	254.1	16.9
94.00	0.54		0.54	.93	.09	713	286.0	250.7	16.7
95.00	0.55		0.55	.92	.08	716	285.9	247.4	16.5
96.00	0.54		0.54	.93	.09	710	285.8	244.1	16.3
97.00	0.53		0.53	.94	.10	705	285.8	240.7	16.1
98.00	0.54		0.54	.93	.09	711	285.7	237.4	15.9
99.00	0.55		0.55	.92	.08	713	285.6	234.1	15.8
39299.50	0.55		0.6	-13.88	-14.04	726	285.6	232.4	15.7
39300.00	0.58		0.6	.89	.04	721	285.5	230.8	15.6
00.50	0.71		0.7	.82	-13.98	754	285.5	229.1	15.5
01.00	0.76		0.8	.76	.92	775	285.4	227.4	15.4
01.50	0.69		0.7	.82	.98	745	285.4	225.8	15.3
02.00	0.66		0.7	.82	.98	753	285.4	224.1	15.3
02.50	0.64		0.6	.88	-14.05	726	285.3	222.4	15.2
03.00	0.66		0.7	.82	-13.98	759	285.3	220.8	15.1
03.50	0.61		0.6	.88	-14.05	731	285.2	219.1	15.0
39304.00	0.63		0.63	-13.86	-14.03	741	285.2	217.5	15.0
05.00	0.60		0.60	.88	.05	729	285.1	214.1	14.8
06.00	0.56		0.56	.91	.08	714	285.0	210.8	14.7
07.00	0.57		0.57	.90	.07	716	285.0	207.5	14.6
08.00	0.59		0.59	.89	.06	725	284.9	204.2	14.5
09.00	0.57		0.57	.90	.07	719	284.8	200.9	14.4
10.00	0.57		0.57	.90	.07	716	284.7	197.6	14.3
11.00	0.55		0.55	.92	.09	707	284.7	194.2	14.2
39319.00	0.61		0.61	-13.88	-14.05	724	284.0	167.8	13.6
20.00	0.61		0.61	.87	.05	731	284.0	164.5	13.6
21.00	0.63		0.63	.86	.04	737	283.9	161.3	13.6
22.00	0.72		0.72	.80	-13.98	762	283.8	158.0	13.5
23.00	0.70		0.70	.82	-14.00	749	283.7	154.7	13.5
24.00	0.71		0.71	.81	-13.99	753	283.6	151.4	13.5
25.00	0.72		0.72	.81	.99	761	283.6	148.1	13.5
26.00	0.66		0.66	.84	-14.03	743	283.5	144.9	13.5
27.00	0.72		0.72	.81	-13.99	756	283.4	141.6	13.5
28.00	0.78		0.78	.78	.96	770	283.3	138.3	13.5
29.00	0.84		0.84	.74	.92	789	283.2	135.0	13.5
30.00	0.88		0.88	.73	.91	801	283.1	131.8	13.5
31.00	0.91		0.91	.71	.89	813	283.1	128.5	13.5
32.00	0.97		0.97	.69	.87	830	283.0	125.3	13.6
33.00	1.04		1.04	.66	.84	840	282.9	122.0	13.6
34.00	1.10		1.10	.64	.81	851	282.8	118.8	13.6
35.00	1.14		1.14	.62	.80	865	282.7	115.5	13.7
36.00	1.08		1.08	.65	.82	854	282.6	112.3	13.7

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	$-10^6 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39337.00	1.05		1.05	-13.66	-13.84	847	282.5	109.0	13.8
38.00	1.05		1.05	.66	.84	845	282.4	105.8	13.9
39.00	1.04		1.04	.66	.84	845	282.3	102.6	13.9
40.00	1.05		1.05	.66	.84	848	282.2	99.3	14.0
41.00	1.06		1.06	.66	.84	845	282.1	96.1	14.1
42.00	1.09		1.09	.64	.82	848	282.0	92.9	14.1
43.00	1.08		1.08	.65	.83	844	281.9	89.6	14.2
44.00	1.13		1.13	.63	.81	861	281.8	86.4	14.3
45.00	1.10		1.10	.64	.82	856	281.7	83.2	14.4
46.00	1.08		1.08	.65	.83	848	281.6	80.0	14.5
47.00	1.07		1.07	.65	.84	837	281.5	76.8	14.6
48.00	1.19		1.19	.61	.79	862	281.4	73.6	14.7
49.00	1.17		1.17	.61	.80	856	281.4	70.4	14.8
50.00	1.08		1.08	.65	.83	837	281.3	67.2	14.9
51.00	1.04		1.04	.66	.85	832	281.2	64.0	15.0
52.00	1.02		1.02	.67	.86	828	281.1	60.8	15.2
53.00	1.07		1.07	.65	.84	844	281.0	57.6	15.3
54.00	1.17		1.17	.61	.80	871	280.9	54.4	15.4
55.00	1.23		1.23	.59	.78	882	280.8	51.2	15.6
56.00	1.26		1.26	.58	.77	876	280.7	48.0	15.7
57.00	1.29		1.29	.58	.76	879	280.6	44.8	15.8
58.00	1.32		1.32	.56	.75	894	280.5	41.6	16.0
59.00	1.37		1.37	.55	.74	911	280.4	38.4	16.1
60.00	1.44		1.44	.53	.72	916	280.3	35.3	16.3
61.00	1.55		1.55	.50	.69	925	280.2	32.1	16.4
62.00	1.61		1.61	.49	.67	940	280.1	28.9	16.6
63.00	1.60		1.60	.49	.68	945	280.0	25.7	16.7
64.00	1.62		1.62	.48	.67	952	279.9	22.6	16.9
65.00	1.62		1.62	.48	.67	957	279.7	19.4	17.0
66.00	1.62		1.62	.48	.67	955	279.6	16.2	17.2
39366.20	1.6		1.6	-13.49	-13.68	947	279.6	15.6	17.2
66.40	1.6		1.6	.49	.68	955	279.6	15.0	17.3
66.60	1.6		1.6	.49	.68	955	279.5	14.3	17.3
66.80	1.6		1.6	.49	.68	939	279.5	13.7	17.3
67.00	1.6		1.6	.49	.68	928	279.5	13.1	17.4
67.20	1.6		1.6	.50	.68	912	279.5	12.4	17.4
67.40	2.1		2.1	.38	.56	996	279.4	11.8	17.4
67.60	1.9		1.9	.42	.61	969	279.4	11.2	17.5
67.80	2.3		2.3	.34	.53	1032	279.4	10.5	17.5
68.00	2.7		2.7	.27	.46	1075	279.4	9.9	17.5
68.20	2.7		2.7	.27	.46	1070	279.3	9.3	17.6
68.40	2.3		2.3	.34	.53	1039	279.3	8.6	17.6
68.60	1.6		1.6	.49	.68	928	279.3	8.0	17.6
68.80	1.4		1.4	.55	.74	882	279.3	7.4	17.7
69.00	1.6		1.6	.49	.68	918	279.2	6.7	17.7
69.20	1.4		1.4	.55	.74	886	279.2	6.1	17.7
69.40	1.4		1.4	.55	.74	890	279.2	5.5	17.8
69.60	1.4		1.4	.55	.74	880	279.2	4.8	17.8
69.80	1.4		1.4	.55	.74	877	279.2	4.2	17.9
70.00	1.4		1.4	.55	.74	876	279.1	3.6	17.9
70.20	1.4		1.4	.55	.74	875	279.1	3.0	17.9
70.40	1.7		1.7	.46	.66	946	279.1	2.3	18.0
70.60	1.9		1.9	.41	.61	994	279.1	1.7	18.0
70.80	1.7		1.7	.46	.66	948	279.0	1.1	18.0
71.00	1.9		1.9	.41	.61	973	279.0	0.4	18.1
71.20	1.7		1.7	.46	.66	936	279.0	359.8	18.1
71.40	1.9		1.9	.41	.61	978	279.0	359.2	18.1
71.60	2.0		2.0	.39	.59	982	278.9	358.5	18.2
71.80	2.3		2.3	.33	.53	1016	278.9	357.9	18.2

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39372.00	2.3		2.3	-13.34	-13.53	994	278.9	357.3	18.2
72.20	2.5		2.5	.31	.50	978	278.9	356.6	18.3
72.40	2.1		2.1	.39	.57	906	278.8	356.0	18.3
72.60	1.8		1.8	.44	.64	900	278.8	355.4	18.4
72.80	1.1		1.1	.65	.85	793	278.8	354.7	18.4
73.00	1.1		1.1	.65	.85	805	278.8	354.1	18.4
73.20	1.4		1.4	.54	.74	880	278.8	353.5	18.5
73.40	1.6		1.6	.48	.69	932	278.7	352.9	18.5
39373.50	1.30		1.3	-13.57	-13.78	860	278.7	352.5	18.5
74.00	1.29		1.3	.57	.78	857	278.7	351.0	18.6
74.50	1.32		1.3	.57	.78	850	278.6	349.4	18.7
75.00	1.50		1.5	.51	.72	892	278.6	347.8	18.8
75.50	1.37		1.4	.54	.75	879	278.5	346.2	18.9
76.00	1.41		1.4	.54	.75	872	278.5	344.7	19.0
76.50	1.42		1.4	.54	.75	860	278.4	343.1	19.1
77.00	1.30		1.3	.57	.78	839	278.4	341.5	19.2
77.50	1.29		1.3	.57	.78	846	278.4	339.9	19.3
39378.00	1.25		1.25	-13.58	-13.80	836	278.3	338.4	19.4
79.00	1.20		1.20	.60	.82	829	278.2	335.2	19.5
80.00	1.12		1.12	.63	.85	820	278.1	332.1	19.7
81.00	1.10		1.10	.63	.86	819	278.1	328.9	19.9
82.00	1.12		1.12	.63	.85	823	278.0	325.8	20.1
83.00	1.15		1.15	.62	.84	819	277.9	322.6	20.3
84.00	1.22		1.22	.59	.82	826	277.8	319.5	20.5
85.00	1.22		1.22	.59	.82	829	277.7	316.3	20.7
86.00	1.21		1.21	.60	.82	833	277.6	313.2	20.9
87.00	1.22		1.22	.59	.82	834	277.6	310.0	21.1
88.00	1.22		1.22	.60	.82	820	277.5	306.9	21.3
89.00	1.23		1.23	.60	.82	820	277.4	303.7	21.5
90.00	1.24		1.24	.59	.82	831	277.3	300.6	21.7
91.00	1.21		1.21	.60	.83	823	277.3	297.4	21.9
92.00	1.19		1.19	.61	.83	810	277.2	294.3	22.1
93.00	1.18		1.18	.61	.84	808	277.1	291.2	22.3
94.00	1.15		1.15	.62	.85	801	277.0	288.0	22.5
95.00	1.12		1.12	.63	.86	788	277.0	284.9	22.7
96.00	1.07		1.07	.64	.88	776	276.9	281.7	22.9
97.00	1.02		1.02	.66	.91	766	276.8	278.6	23.1
98.00	1.00		1.00	.67	.92	762	276.7	275.4	23.3
99.00	0.96		0.96	.69	.93	756	276.7	272.3	23.5
39400.00	0.87		0.87	.72	.98	742	276.6	269.1	23.7
01.00	0.83		0.83	.74	-14.00	736	276.5	266.0	23.9
39401.50	0.79		0.8	-13.76	-14.02	728	276.5	264.4	24.0
02.00	0.95		1.0	.66	-13.92	771	276.5	262.8	24.1
02.50	0.98		1.0	.67	.92	763	276.5	261.2	24.2
03.00	1.20		1.2	.59	.84	792	276.4	259.7	24.3
03.50	1.46		1.5	.50	.74	840	276.4	258.1	24.4
39404.00	1.25		1.25	-13.58	-13.82	798	276.4	256.5	24.5
05.00	1.03		1.03	.66	.91	764	276.3	253.4	24.7
06.00	0.99		0.99	.67	.92	762	276.3	250.2	24.9
07.00	1.00		1.00	.67	.92	763	276.2	247.0	25.1
08.00	1.00		1.00	.66	.92	766	276.1	243.9	25.3
09.00	1.02		1.02	.65	.91	776	276.1	240.7	25.4
10.00	1.05		1.05	.64	.90	779	276.0	237.5	25.6
11.00	1.07		1.07	.64	.89	776	275.9	234.4	25.8
12.00	1.09		1.09	.63	.89	780	275.9	231.2	26.0

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39413.00	1.3		1.3	-13.55	-13.81	833	275.8	228.0	26.2
13.20	1.2		1.2	.59	.84	811	275.8	227.4	26.2
13.40	1.4		1.4	.52	.78	847	275.8	226.8	26.3
13.60	1.2		1.2	.59	.84	801	275.8	226.1	26.3
13.80	1.5		1.5	.50	.75	853	275.8	225.5	26.3
14.00	1.7		1.7	.44	.69	881	275.8	224.9	26.4
14.20	1.7		1.7	.45	.69	878	275.7	224.2	26.4
14.40	1.8		1.8	.42	.67	892	275.7	223.6	26.4
14.60	1.7		1.7	.45	.69	867	275.7	223.0	26.5
14.80	1.5		1.5	.50	.75	833	275.7	222.3	26.5
15.00	1.5		1.5	.50	.75	842	275.7	221.7	26.5
15.20	1.4		1.4	.53	.78	832	275.7	221.1	26.6
15.40	1.4		1.4	.53	.78	838	275.7	220.4	26.6
15.60	1.2		1.2	.59	.85	807	275.7	219.8	26.6
15.80	1.0		1.0	.67	.93	764	275.6	219.2	26.7
16.00	1.2		1.2	.59	.85	803	275.6	218.5	26.7
39417.00	1.20		1.20	-13.59	-13.85	807	275.6	215.3	26.9
18.00	1.14		1.14	.61	.87	794	275.5	212.2	27.1
19.00	1.13		1.13	.62	.87	792	275.4	209.0	27.2
20.00	1.12		1.12	.62	.88	794	275.4	205.8	27.4
21.00	1.17		1.17	.60	.86	804	275.3	202.6	27.6
22.00	1.18		1.18	.60	.86	798	275.3	199.4	27.7
39422.50	1.21		1.2	-13.59	-13.85	797	275.2	197.8	27.8
23.00	1.31		1.3	.56	.82	808	275.2	196.2	27.9
23.50	1.42		1.4	.53	.78	822	275.2	194.6	27.9
24.00	1.36		1.4	.53	.78	820	275.1	193.0	28.0
24.50	1.31		1.3	.56	.82	804	275.1	191.4	28.1
25.00	1.29		1.3	.56	.82	811	275.1	189.8	28.2
39426.00	1.16		1.16	-13.60	-13.87	790	275.0	186.6	28.3
27.00	1.15		1.15	.60	.87	790	275.0	183.4	28.5
28.00	1.00		1.00	.67	.93	757	274.9	180.2	28.6
39428.50	0.93		0.9	-13.71	-13.98	733	274.9	178.6	28.7
29.00	1.21		1.2	.59	.85	785	274.8	177.0	28.7
29.50	1.60		1.6	.47	.73	848	274.8	175.4	28.8
30.00	1.70		1.7	.44	.70	865	274.8	173.7	28.9
30.50	1.50		1.5	.50	.76	829	274.8	172.1	28.9
31.00	1.39		1.4	.53	.79	815	274.7	170.5	29.0
31.50	1.26		1.3	.56	.82	805	274.7	168.9	29.1
32.00	1.21		1.2	.59	.86	786	274.7	167.3	29.1
32.50	1.21		1.2	.59	.86	783	274.7	165.7	29.2
33.00	1.19		1.2	.59	.86	783	274.6	164.1	29.2
33.50	1.15		1.1	.63	.89	771	274.6	162.5	29.3
34.00	1.11		1.1	.63	.89	774	274.6	160.8	29.4
34.50	1.12		1.1	.63	.89	769	274.6	159.2	29.4
35.00	1.10		1.1	.63	.90	771	274.5	157.6	29.5
35.50	1.16		1.2	.59	.86	793	274.5	156.0	29.5
36.00	1.20		1.2	.59	.86	794	274.5	154.4	29.6
36.50	1.23		1.2	.59	.86	798	274.5	152.8	29.6
37.00	1.21		1.2	.60	.86	794	274.4	151.1	29.7
37.50	1.27		1.3	.56	.82	813	274.4	149.5	29.7
38.00	1.31		1.3	.56	.82	819	274.4	147.9	29.8
38.50	1.34		1.3	.56	.82	823	274.3	146.3	29.8
39.00	1.35		1.4	.53	.79	844	274.3	144.6	29.9
39.50	1.31		1.3	.57	.82	815	274.3	143.0	29.9
40.00	1.27		1.3	.57	.82	809	274.3	141.4	30.0

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39441.00	1.28		1.28	-13.57	-13.83	811	274.2	138.1	30.0
42.00	1.29		1.29	.57	.83	814	274.2	134.9	30.1
43.00	1.32		1.32	.56	.82	822	274.1	131.6	30.2
44.00	1.39		1.39	.54	.80	840	274.1	128.4	30.3
45.00	1.43		1.43	.53	.78	846	274.0	125.1	30.3
46.00	1.48		1.48	.52	.77	851	273.9	121.8	30.4
47.00	1.52		1.52	.50	.76	857	273.9	118.5	30.4
48.00	1.55		1.55	.50	.75	857	273.8	115.3	30.5
49.00	1.57		1.57	.49	.74	860	273.8	112.0	30.5
50.00	1.56		1.56	.49	.75	864	273.7	108.7	30.6
51.00	1.54		1.54	.50	.75	865	273.7	105.4	30.6
52.00	1.51		1.51	.51	.76	866	273.6	102.1	30.6
53.00	1.50		1.50	.51	.76	863	273.6	98.8	30.6
54.00	1.52		1.52	.51	.76	865	273.5	95.5	30.6
55.00	1.56		1.56	.50	.75	868	273.4	92.2	30.6
56.00	1.59		1.59	.49	.74	872	273.4	88.9	30.6
57.00	1.64		1.64	.48	.73	881	273.3	85.6	30.6
58.00	1.74		1.74	.45	.70	888	273.3	82.3	30.6
59.00	1.75		1.75	.45	.70	886	273.2	79.0	30.6
60.00	1.72		1.72	.46	.71	882	273.2	75.7	30.5
61.00	1.70		1.70	.46	.71	885	273.1	72.3	30.5
62.00	1.72		1.72	.45	.71	900	273.0	69.0	30.5
63.00	1.74		1.74	.45	.70	901	273.0	65.7	30.4
64.00	1.84		1.84	.43	.68	908	272.9	62.4	30.4
65.00	1.93		1.93	.41	.66	925	272.8	59.0	30.3
66.00	1.98		1.98	.40	.65	947	272.8	55.7	30.2
67.00	2.03		2.03	.39	.64	966	272.7	52.4	30.1
68.00	2.01		2.01	.39	.64	963	272.6	49.0	30.0
69.00	2.03		2.03	.39	.64	967	272.5	45.7	29.9
70.00	2.12		2.12	.38	.62	983	272.5	42.4	29.8
71.00	2.22		2.22	.36	.60	1003	272.4	39.0	29.7
72.00	2.23		2.23	.36	.60	992	272.3	35.7	29.6
39472.50	2.28		2.3	-13.35	-13.59	989	272.3	34.0	29.5
73.00	2.54		2.5	.31	.55	1016	272.2	32.3	29.5
73.50	2.76		2.8	.26	.50	1058	272.2	30.7	29.4
74.00	2.65		2.6	.30	.53	1010	272.1	29.0	29.3
74.50	2.53		2.5	.31	.55	1006	272.1	27.3	29.3
75.00	2.24		2.2	.37	.61	973	272.1	25.6	29.2
39476.00	2.18		2.18	-13.37	-13.61	978	272.0	22.3	29.1
77.00	2.12		2.12	.37	.62	971	271.9	18.9	28.9
78.00	2.02		2.02	.39	.64	960	271.9	15.6	28.7
79.00	1.93		1.93	.41	.67	949	271.8	12.2	28.6
80.00	1.90		1.90	.42	.67	932	271.7	8.9	28.4
81.00	1.92		1.92	.41	.67	926	271.7	5.5	28.2
82.00	1.92		1.92	.41	.67	929	271.6	2.2	28.0
83.00	1.97		1.97	.40	.66	938	271.6	358.8	27.8
84.00	1.98		1.98	.40	.66	937	271.5	355.5	27.6
39484.50	1.93		1.9	-13.41	-13.68	925	271.5	353.8	27.5
85.00	2.00		2.0	.39	.65	935	271.5	352.1	27.4
85.50	1.99		2.0	.39	.65	930	271.4	350.5	27.3
86.00	2.16		2.2	.35	.61	956	271.4	348.8	27.2
86.50	2.03		2.0	.39	.65	920	271.4	347.1	27.0
87.00	2.00		2.0	.39	.66	925	271.4	345.4	26.9
87.50	1.84		1.8	.44	.70	900	271.3	343.8	26.8
88.00	1.76		1.8	.43	.70	905	271.3	342.1	26.7
88.50	1.76		1.8	.43	.70	909	271.3	340.4	26.6
89.00	1.64		1.6	.48	.75	878	271.3	338.7	26.4

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39489.50	1.65		1.6	-13.48	-13.75	880	271.3	337.1	26.3
90.00	1.68		1.7	.45	.73	902	271.2	335.4	26.2
90.50	1.80		1.8	.43	.70	924	271.2	333.7	26.1
91.00	1.87		1.9	.41	.68	939	271.2	332.0	25.9
91.50	1.91		1.9	.41	.68	925	271.2	330.4	25.8
92.00	2.01		2.0	.39	.66	934	271.1	328.7	25.6
92.50	2.11		2.1	.37	.64	962	271.1	327.0	25.5
93.00	2.12		2.1	.37	.64	968	271.1	325.3	25.4
93.50	2.09		2.1	.37	.64	959	271.0	323.7	25.2
94.00	1.99		2.0	.39	.66	947	271.0	322.0	25.1
94.50	2.07		2.1	.37	.64	979	271.0	320.3	24.9
95.00	2.03		2.0	.39	.66	961	270.9	318.7	24.8
95.50	1.94		1.9	.41	.69	941	270.9	317.0	24.6
96.00	1.93		1.9	.41	.69	942	270.9	315.3	24.5
96.50	1.91		1.9	.41	.69	934	270.9	313.7	24.3
97.00	2.06		2.1	.37	.64	968	270.8	312.0	24.2
39497.20	1.8		1.8	-13.44	-13.71	917	270.8	311.3	24.1
97.40	2.3		2.3	.33	.60	1007	270.8	310.7	24.1
97.60	2.6		2.6	.28	.55	1035	270.8	310.0	24.0
97.80	2.6		2.6	.28	.55	1013	270.8	309.3	23.9
98.00	2.7		2.7	.27	.53	1020	270.8	308.6	23.9
98.20	2.9		2.9	.24	.50	1039	270.8	308.0	23.8
98.40	2.8		2.8	.25	.52	1010	270.8	307.3	23.7
98.60	2.7		2.7	.27	.53	996	270.8	306.6	23.7
98.80	2.3		2.3	.33	.60	952	270.8	306.0	23.6
99.00	2.2		2.2	.35	.62	952	270.7	305.3	23.5
99.20	2.2		2.2	.35	.63	962	270.7	304.6	23.5
39499.50	2.04		2.0	-13.39	-13.67	930	270.7	303.6	23.4
39500.00	1.91		1.9	.41	.69	922	270.7	302.0	23.2
00.50	1.72		1.7	.45	.74	898	270.7	300.3	23.0
01.00	1.80		1.8	.43	.71	911	270.7	298.7	22.9
01.50	1.59		1.6	.48	.77	862	270.7	297.0	22.7
02.00	1.44		1.4	.54	.82	827	270.6	295.3	22.5
02.50	1.44		1.4	.53	.83	840	270.6	293.7	22.3
03.00	1.41		1.4	.53	.83	845	270.6	292.0	22.2
39503.20	1.6		1.6	-13.47	-13.77	883	270.6	291.3	22.1
03.40	1.6		1.6	.48	.77	873	270.6	290.7	22.0
03.60	1.9		1.9	.40	.69	916	270.6	290.0	22.0
03.80	1.7		1.7	.45	.74	872	270.6	289.3	21.9
04.00	2.1		2.1	.36	.65	930	270.6	288.7	21.8
04.20	2.5		2.5	.29	.57	974	270.6	288.0	21.7
04.40	2.5		2.5	.30	.57	949	270.6	287.3	21.7
04.60	2.4		2.4	.31	.59	953	270.6	286.7	21.6
04.80	1.9		1.9	.40	.69	908	270.6	286.0	21.5
39505.00	1.51		1.5	-13.51	-13.80	842	270.6	285.4	21.4
05.50	1.33		1.3	.56	.86	814	270.6	283.7	21.3
06.00	1.19		1.2	.60	.89	789	270.6	282.0	21.1
06.50	1.07		1.1	.64	.93	767	270.6	280.4	20.9
07.00	1.03		1.0	.67	.97	749	270.6	278.7	20.7
07.50	0.93		0.9	.72	-14.02	731	270.5	277.1	20.5
08.00	0.95		0.9	.72	.02	732	270.5	275.4	20.3
08.50	1.04		1.0	.67	-13.98	755	270.5	273.8	20.1
09.00	1.00		1.0	.67	.98	753	270.5	272.1	19.9
09.50	0.99		1.0	.67	.98	754	270.5	270.4	19.7

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	$\dot{P}_r$	-10^6 $\dot{P}_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39510.00	1.24		1.24	-13.58	-13.88	800	270.5	268.8	19.5
11.00	1.51		1.51	.49	.80	845	270.5	265.5	19.1
12.00	1.47		1.47	.51	.81	844	270.5	262.2	18.7
13.00	1.42		1.42	.52	.82	840	270.5	258.9	18.3
14.00	1.40		1.40	.53	.83	838	270.5	255.6	17.9
15.00	1.37		1.37	.54	.84	833	270.5	252.3	17.4
16.00	1.35		1.35	.55	.85	826	270.5	249.0	17.0
17.00	1.38		1.38	.54	.84	834	270.5	245.7	16.6
18.00	1.53		1.53	.49	.79	859	270.5	242.4	16.1
19.00	1.58		1.58	.48	.78	864	270.5	239.2	15.7
20.00	1.67		1.67	.46	.75	888	270.5	235.9	15.2
21.00	1.72		1.72	.44	.74	903	270.5	232.6	14.7
22.00	1.72		1.72	.44	.74	899	270.5	229.5	14.3
23.00	1.76		1.76	.43	.73	907	270.5	226.2	13.8
24.00	1.72		1.72	.44	.74	904	270.5	222.9	13.3
25.00	1.80		1.80	.42	.72	910	270.5	219.7	12.8
26.00	2.47		2.47	.29	.58	1007	270.4	216.4	12.3
27.00	1.93		1.93	.39	.69	918	270.4	213.1	11.8
28.00	1.51		1.51	.50	.80	849	270.4	209.9	11.3
29.00	2.26		2.26	.33	.62	957	270.4	206.6	10.8
30.00	2.28		2.28	.33	.62	957	270.4	203.4	10.3
31.00	1.89		1.89	.40	.70	919	270.4	200.2	9.8
32.00	1.78		1.78	.43	.73	903	270.4	196.9	9.3
33.00	1.73		1.73	.44	.74	892	270.5	193.7	8.8
34.00	1.73		1.73	.44	.74	898	270.5	190.4	8.2
39540.00	1.65		1.65	-13.46	-13.76	877	270.6	171.1	5.0
41.00	1.60		1.60	.47	.77	870	270.6	167.9	4.4
42.00	1.58		1.58	.48	.77	864	270.6	164.7	3.9
43.00	1.69		1.69	.46	.74	881	270.7	161.5	3.3
44.00	1.76		1.76	.44	.73	889	270.7	158.3	2.8
45.00	1.92		1.92	.41	.69	918	270.7	155.1	2.2
46.00	2.05		2.05	.38	.66	939	270.7	151.9	1.7
47.00	2.09		2.09	.38	.65	939	270.8	148.7	1.1
39556.00	2.48		2.48	-13.31	-13.57	1012	270.9	120.0	-4.1
57.00	2.40		2.40	.33	.58	1010	270.9	116.8	-4.7
58.00	2.42		2.42	.32	.58	1011	270.9	113.6	-5.2
59.00	2.46		2.46	.32	.57	1005	270.9	110.4	-5.8
60.00	2.50		2.50	.31	.57	1019	270.9	107.3	-6.4
61.00	2.50		2.50	.30	.57	1033	270.9	104.1	-7.0
62.00	2.52		2.52	.30	.56	1031	270.9	100.9	-7.6
63.00	2.52		2.52	.30	.56	1025	270.9	97.8	-8.2
64.00	2.53		2.53	.30	.56	1030	270.9	94.6	-8.8
65.00	2.52		2.52	.30	.56	1033	270.9	91.4	-9.4
66.00	2.53		2.53	.30	.56	1031	270.9	88.2	-9.9
67.00	2.59		2.59	.29	.55	1025	270.8	85.1	-10.5
68.00	3.02		3.02	.23	.48	1075	270.8	81.9	-11.1
69.00	2.86		2.86	.26	.51	1048	270.8	78.7	-11.7
70.00	2.96		2.96	.24	.49	1069	270.8	75.6	-12.3
71.00	3.03		3.03	.23	.48	1092	270.8	72.4	-12.9
72.00	3.16		3.16	.21	.46	1127	270.7	69.2	-13.5
73.00	3.22		3.22	.21	.45	1137	270.7	66.1	-14.1
74.00	3.31		3.31	.20	.44	1148	270.7	62.9	-14.6
75.00	3.40		3.40	.19	.43	1165	270.6	59.7	-15.2
76.00	3.50		3.50	.18	.42	1161	270.6	56.6	-15.8
77.00	3.65		3.65	.16	.40	1169	270.6	53.4	-16.4
78.00	3.79		3.79	.14	.38	1202	270.6	50.2	-17.0

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 P$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39579.00	3.82		3.82	-13.14	-13.38	1211	270.5	47.1	-17.6
80.00	3.83		3.83	.14	.38	1213	270.5	43.9	-18.1
81.00	3.83		3.83	.14	.38	1212	270.5	40.7	-18.7
82.00	3.82		3.82	.14	.38	1196	270.4	37.6	-19.3
83.00	3.76		3.76	.15	.39	1191	270.4	34.4	-19.9
84.00	3.57		3.57	.16	.41	1167	270.3	31.2	-20.5
85.00	3.46		3.46	.18	.43	1142	270.3	28.0	-21.0
86.00	3.42		3.42	.18	.43	1133	270.3	24.9	-21.6
87.00	3.35		3.35	.19	.44	1128	270.3	21.7	-22.2
88.00	3.25		3.25	.20	.45	1122	270.2	18.5	-22.7
89.00	3.17		3.17	.21	.47	1114	270.2	15.3	-23.3
90.00	3.10		3.10	.22	.48	1105	270.2	12.2	-23.9
91.00	3.03		3.03	.23	.49	1096	270.1	9.0	-24.4
92.00	2.94		2.94	.24	.50	1082	270.1	5.8	-25.0
93.00	2.77		2.77	.27	.53	1060	270.1	2.6	-25.6
94.00	2.64		2.64	.29	.55	1042	270.1	359.4	-26.1
95.00	2.64		2.64	.29	.55	1039	270.1	356.3	-26.7
96.00	2.76		2.76	.27	.53	1049	270.1	353.1	-27.2
97.00	2.75		2.75	.27	.53	1035	270.1	349.9	-27.8
98.00	2.80		2.80	.26	.52	1047	270.1	346.7	-28.3
39598.50	2.81		2.8	-13.26	-13.52	1055	270.2	345.1	-28.6
99.00	2.83		2.8	.26	.52	1043	270.2	343.5	-28.9
99.50	2.76		2.8	.26	.52	1029	270.2	341.9	-29.1
39600.00	2.75		2.8	.26	.52	1033	270.2	340.3	-29.4
00.50	2.80		2.8	.26	.52	1046	270.2	338.7	-29.7
01.00	2.79		2.8	.26	.52	1050	270.2	337.1	-29.9
01.50	2.73		2.7	.27	.54	1032	270.2	335.5	-30.2
02.00	2.64		2.6	.29	.56	1013	270.2	333.9	-30.5
02.50	2.58		2.6	.29	.56	1002	270.2	332.3	-30.7
03.00	2.54		2.5	.31	.57	989	270.2	330.7	-31.0
03.50	2.65		2.7	.27	.54	1025	270.3	329.1	-31.3
04.00	2.71		2.7	.27	.54	1010	270.3	327.5	-31.5
04.50	2.72		2.7	.27	.54	1002	270.3	325.9	-31.8
05.00	2.44		2.4	.32	.59	965	270.3	324.3	-32.0
05.50	2.26		2.3	.34	.61	964	270.3	322.7	-32.3
06.00	2.29		2.3	.33	.61	980	270.3	321.1	-32.6
06.50	2.26		2.3	.33	.61	985	270.3	319.5	-32.8
07.00	2.24		2.2	.35	.63	970	270.3	317.9	-33.1
07.50	2.21		2.2	.35	.63	972	270.3	316.3	-33.3
08.00	2.21		2.2	.35	.63	971	270.3	314.6	-33.6
08.50	2.23		2.2	.35	.63	971	270.3	313.0	-33.8
09.00	2.20		2.2	.35	.63	971	270.4	311.4	-34.1
09.50	2.17		2.2	.35	.63	965	270.4	309.8	-34.3
10.00	2.16		2.2	.35	.63	960	270.4	308.2	-34.6
10.50	2.18		2.2	.35	.63	964	270.4	306.6	-34.8
11.00	2.12		2.1	.37	.65	949	270.4	305.0	-35.1
11.50	2.14		2.1	.37	.65	944	270.4	303.4	-35.3
12.00	2.16		2.2	.35	.63	948	270.4	301.8	-35.6
12.50	2.18		2.2	.35	.63	937	270.5	300.2	-35.8
13.00	2.35		2.4	.32	.60	957	270.5	298.5	-36.1
13.50	2.93		2.9	.24	.51	1009	270.5	296.9	-36.3
14.00	2.59		2.6	.28	.56	975	270.5	295.3	-36.6
14.50	2.07		2.1	.37	.65	926	270.5	293.7	-36.8
15.00	1.86		1.9	.41	.70	904	270.5	292.1	-37.0
15.50	1.70		1.7	.46	.75	870	270.6	290.5	-37.3
16.00	1.72		1.7	.45	.75	870	270.6	288.8	-37.5
16.50	1.74		1.7	.45	.75	876	270.6	287.2	-37.8
17.00	1.73		1.7	.45	.75	875	270.6	285.6	-38.0
17.50	1.81		1.8	.43	.72	885	270.7	284.0	-38.2

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi-\alpha_O$ (deg.)	$\delta_\pi-\delta_O$ (deg.)
39618.00	1.70		1.7	-13.45	-13.75	876	270.7	282.4	-38.5
18.50	1.59		1.6	.47	.77	864	270.7	280.7	-38.7
19.00	1.46		1.5	.50	.80	844	270.7	279.1	-38.9
19.50	1.43		1.4	.53	.83	825	270.7	277.5	-39.2
20.00	1.38		1.4	.53	.83	827	270.8	275.9	-39.4
20.50	1.38		1.4	.53	.83	825	270.8	274.2	-39.6
21.00	1.39		1.4	.53	.83	819	270.8	272.6	-39.8
21.50	1.36		1.4	.53	.83	821	270.9	271.0	-40.1
22.00	1.34		1.3	.56	.86	801	270.9	269.4	-40.3
22.50	1.35		1.3	.56	.86	800	270.9	267.7	-40.5
23.00	1.43		1.4	.53	.83	817	270.9	266.1	-40.7
23.50	1.65		1.6	.47	.77	852	271.0	264.5	-40.9
24.00	1.56		1.6	.47	.77	858	271.0	262.9	-41.2
24.50	1.49		1.5	.50	.80	842	271.0	261.2	-41.4
25.00	1.40		1.4	.53	.83	821	271.0	259.6	-41.6
25.50	1.40		1.4	.52	.83	826	271.1	258.0	-41.8
26.00	1.34		1.3	.56	.86	810	271.1	256.3	-42.0
26.50	1.33		1.3	.56	.86	809	271.1	254.7	-42.2
27.00	1.38		1.4	.52	.83	826	271.2	253.1	-42.4
27.50	1.46		1.5	.50	.80	842	271.2	251.4	-42.7
28.00	1.49		1.5	.50	.80	842	271.2	249.8	-42.9
28.50	1.49		1.5	.49	.80	844	271.2	248.2	-43.1
29.00	1.50		1.5	.49	.80	848	271.3	246.5	-43.3
29.50	1.61		1.6	.47	.77	865	271.3	244.9	-43.5
30.00	1.60		1.6	.47	.77	868	271.3	243.3	-43.7
30.50	1.49		1.5	.50	.80	855	271.4	241.6	-43.9
39637.00	2.65		2.6	-13.28	-13.55	997	271.6	220.3	-46.4
37.50	1.48		1.5	.52	.79	839	271.6	218.6	-46.5
38.00	1.63		1.6	.49	.76	860	271.6	217.0	-46.7
38.50	2.11		2.1	.38	.64	931	271.6	215.3	-46.9
39.00	2.83		2.8	.25	.52	1020	271.6	213.7	-47.1
39.50	1.98		2.0	.40	.67	905	271.6	212.0	-47.2
40.00	1.63		1.6	.49	.76	858	271.6	210.4	-47.4
40.50	1.90		1.9	.41	.69	915	271.6	208.7	-47.6
41.00	2.40		2.4	.32	.60	1035	269.6	207.1	-47.5
41.50	1.95		2.0	.40	.68	965	269.6	205.4	-47.7
42.00	1.81		1.8	.43	.73	928	269.7	203.8	-47.9
42.50	1.66		1.7	.45	.76	910	269.7	202.1	-48.0
43.00	1.57		1.6	.48	.78	891	269.7	200.5	-48.2
43.50	1.51		1.5	.51	.81	872	269.7	198.8	-48.4
44.00	1.45		1.4	.54	.84	853	269.8	197.2	-48.5
44.50	1.36		1.4	.54	.84	854	269.8	195.5	-48.7
45.00	1.30		1.3	.57	.87	834	269.8	193.9	-48.8
45.50	1.27		1.3	.57	.87	835	269.9	192.2	-49.0
46.00	1.35		1.3	.57	.87	836	269.9	190.6	-49.1
46.50	1.60		1.6	.48	.78	898	269.9	188.9	-49.3
47.00	1.83		1.8	.44	.73	938	270.0	187.2	-49.4
47.50	1.83		1.8	.44	.73	939	270.0	185.6	-49.6
48.00	1.78		1.8	.43	.73	940	270.0	183.9	-49.7
48.50	1.37		1.4	.54	.84	861	270.1	182.3	-49.9
49.00	1.25		1.2	.59	.91	818	270.1	180.6	-50.0
49.50	1.25		1.3	.56	.87	841	270.1	179.0	-50.2
39650.00	1.18		1.18	-13.60	-13.91	815	270.2	177.3	-50.3
51.00	1.07		1.07	.65	.95	792	270.3	174.0	-50.6
52.00	0.99		0.99	.67	.99	774	270.3	170.7	-50.8
53.00	0.96		0.96	.68	-14.00	768	270.4	167.3	-51.1
54.00	0.97		0.97	.68	.00	772	270.5	164.0	-51.3

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39655.00	1.00		1.00	-13.67	-13.98	781	270.6	160.7	-51.6
56.00	1.03		1.03	.66	.97	790	270.7	157.4	-51.8
57.00	1.05		1.05	.65	.96	796	270.7	154.0	-52.1
58.00	1.07		1.07	.64	.95	802	270.8	150.7	-52.3
59.00	1.08		1.08	.64	.94	806	270.9	147.4	-52.5
60.00	1.09		1.09	.64	.94	810	271.0	144.0	-52.7
61.00	1.11		1.11	.63	.93	816	271.1	140.7	-52.9
62.00	1.14		1.14	.62	.92	825	271.2	137.4	-53.1
63.00	1.18		1.18	.60	.90	836	271.2	134.1	-53.3
64.00	1.23		1.23	.59	.88	849	271.3	130.7	-53.5
65.00	1.27		1.27	.57	.87	860	271.4	127.4	-53.7
66.00	1.32		1.32	.56	.85	873	271.5	124.1	-53.8
67.00	1.65		1.65	.47	.75	947	271.6	120.7	-54.0
68.00	1.52		1.52	.51	.78	921	271.6	117.4	-54.1
69.00	1.46		1.46	.53	.80	909	271.7	114.1	-54.3
70.00	1.40		1.40	.54	.82	897	271.8	110.7	-54.4
71.00	1.37		1.37	.55	.83	892	271.9	107.4	-54.6
72.00	1.45		1.45	.53	.80	912	272.0	104.1	-54.7
73.00	1.48		1.48	.52	.79	920	272.0	100.7	-54.8
74.00	1.47		1.47	.52	.79	919	272.1	97.4	-54.9
75.00	1.45		1.45	.52	.80	916	272.2	94.1	-55.0
76.00	1.37		1.37	.56	.82	899	272.3	90.7	-55.1
77.00	1.36		1.36	.56	.82	898	272.3	87.4	-55.2
78.00	1.36		1.36	.56	.82	900	272.4	84.1	-55.3
79.00	1.31		1.31	.57	.84	889	272.5	80.7	-55.4
80.00	1.22		1.22	.60	.87	869	272.5	77.4	-55.5
81.00	1.21		1.21	.60	.87	868	272.6	74.1	-55.5
82.00	1.27		1.27	.59	.85	883	272.7	70.8	-55.6
83.00	1.41		1.41	.55	.80	917	272.7	67.4	-55.6
84.00	1.46		1.46	.53	.79	930	272.8	64.1	-55.7
85.00	1.53		1.53	.51	.77	947	272.9	60.8	-55.7
86.00	1.55		1.55	.50	.76	953	272.9	57.5	-55.8
39686.50	1.59		1.6	-13.49	-13.74	912	274.0	55.8	-56.0
87.00	1.68		1.7	.47	.71	924	274.0	54.1	-56.0
87.50	1.69		1.7	.47	.71	928	274.0	52.4	-56.0
88.00	1.62		1.6	.49	.74	917	274.1	50.8	-56.0
88.50	1.58		1.6	.49	.74	917	274.1	49.1	-56.0
89.00	1.60		1.6	.50	.74	911	274.1	47.5	-56.0
89.50	1.71		1.7	.47	.71	924	274.1	45.8	-56.1
90.00	1.80		1.8	.45	.69	944	274.1	44.2	-56.1
90.50	1.78		1.8	.45	.69	953	274.1	42.5	-56.1
91.00	1.77		1.8	.44	.69	956	274.1	40.8	-56.1
91.50	1.78		1.8	.45	.69	952	274.1	39.2	-56.1
92.00	1.79		1.8	.45	.69	952	274.1	37.5	-56.1
92.50	1.83		1.8	.45	.69	952	274.1	35.9	-56.1
93.00	1.82		1.8	.45	.69	953	274.1	34.2	-56.1
93.50	1.83		1.8	.45	.69	957	274.2	32.6	-56.0
94.00	1.79		1.8	.45	.69	958	274.2	30.9	-56.0
94.50	1.98		2.0	.41	.64	990	274.2	29.2	-56.0
95.00	2.15		2.1	.39	.62	991	274.2	27.6	-56.0
95.50	2.29		2.3	.35	.58	1027	274.2	25.9	-56.0
96.00	2.12		2.1	.39	.62	1004	274.2	24.3	-56.0
96.50	2.03		2.0	.41	.64	982	274.2	22.6	-56.0
97.00	2.00		2.0	.42	.64	976	274.2	21.0	-56.0
97.50	2.01		2.0	.42	.64	981	274.3	19.3	-55.9
98.00	1.97		2.0	.42	.64	994	274.3	17.7	-55.9
98.50	1.98		2.0	.42	.64	996	274.3	16.0	-55.9
99.00	2.02		2.0	.42	.64	989	274.3	14.4	-55.9
99.50	2.11		2.1	.40	.62	1000	274.3	12.7	-55.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	$-10^6 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39700.00	2.46		2.5	-13.33	-13.54	1061	274.3	11.1	-55.8
00.50	2.50		2.5	.33	.54	1066	274.4	9.4	-55.8
01.00	2.11		2.1	.40	.62	992	274.4	7.8	-55.8
01.50	2.48		2.5	.33	.54	1059	274.4	6.1	-55.8
02.00	2.31		2.3	.36	.58	1047	274.4	4.5	-55.7
02.50	1.79		1.8	.46	.69	965	274.4	2.8	-55.7
03.00	1.73		1.7	.49	.71	944	274.4	1.2	-55.7
03.50	1.69		1.7	.49	.71	939	274.5	359.5	-55.6
04.00	1.71		1.7	.48	.71	938	274.5	357.9	-55.6
04.50	1.70		1.7	.48	.71	941	274.5	356.3	-55.6
05.00	1.71		1.7	.48	.71	942	274.5	354.6	-55.5
05.50	1.73		1.7	.48	.71	941	274.5	353.0	-55.5
06.00	1.74		1.7	.48	.71	937	274.6	351.3	-55.4
06.50	1.73		1.7	.48	.71	928	274.6	349.7	-55.4
07.00	1.77		1.8	.45	.69	941	274.6	348.0	-55.4
07.50	1.74		1.7	.48	.71	923	274.6	346.4	-55.3
08.00	1.68		1.7	.48	.71	928	274.7	344.7	-55.3
08.50	1.62		1.6	.50	.74	912	274.7	343.1	-55.2
09.00	1.63		1.6	.50	.74	908	274.7	341.5	-55.2
09.50	1.63		1.6	.50	.74	907	274.7	339.8	-55.1
10.00	1.62		1.6	.50	.74	902	274.8	338.2	-55.1
10.50	1.58		1.6	.50	.74	898	274.8	336.5	-55.0
11.00	1.55		1.5	.53	.77	885	274.8	334.9	-55.0
11.50	1.41		1.4	.56	.80	866	274.8	333.3	-54.9
12.00	1.40		1.4	.56	.80	865	274.8	331.6	-54.9
12.50	1.40		1.4	.56	.80	861	274.9	330.0	-54.8
13.00	1.36		1.4	.56	.80	857	274.9	328.3	-54.7
13.50	1.53		1.5	.53	.77	872	274.9	326.7	-54.7
14.00	1.58		1.6	.50	.74	887	275.0	325.1	-54.6
14.50	1.49		1.5	.52	.77	879	275.0	323.4	-54.6
15.00	1.44		1.4	.55	.80	870	275.0	321.8	-54.5
15.50	1.43		1.4	.55	.80	871	275.0	320.1	-54.5
16.00	1.37		1.4	.55	.80	865	275.1	318.5	-54.4
16.50	1.34		1.3	.58	.83	841	275.1	316.9	-54.3
17.00	1.33		1.3	.58	.83	843	275.1	315.2	-54.3
17.50	1.35		1.4	.55	.80	865	275.1	313.6	-54.2
18.00	1.35		1.3	.58	.83	845	275.2	312.0	-54.1
18.50	1.31		1.3	.58	.83	844	275.2	310.3	-54.1
19.00	1.31		1.3	.58	.83	839	275.2	308.7	-54.0
19.50	1.46		1.5	.52	.76	871	275.3	307.1	-53.9
20.00	1.55		1.6	.49	.74	891	275.3	305.4	-53.8
20.50	1.52		1.5	.52	.76	875	275.3	303.8	-53.8
21.00	1.44		1.4	.55	.79	856	275.3	302.2	-53.7
21.50	1.41		1.4	.55	.79	860	275.4	300.5	-53.6
22.00	1.43		1.4	.55	.79	861	275.4	298.9	-53.6
22.50	1.43		1.4	.56	.79	858	275.4	297.3	-53.5
23.00	1.47		1.5	.53	.76	880	275.5	295.6	-53.4
23.50	1.47		1.5	.52	.76	885	275.5	294.0	-53.3
24.00	1.44		1.4	.55	.79	868	275.5	292.4	-53.3
24.50	1.44		1.4	.55	.79	870	275.6	290.7	-53.2
25.00	1.41		1.4	.55	.79	869	275.6	289.1	-53.1
25.50	1.43		1.4	.55	.79	870	275.6	287.5	-53.0
26.00	1.40		1.4	.55	.79	869	275.7	285.8	-52.9
26.50	1.37		1.4	.55	.79	865	275.7	284.2	-52.8
27.00	1.60		1.6	.50	.73	903	275.7	282.6	-52.8
27.50	1.75		1.7	.47	.71	917	275.7	280.9	-52.7
28.00	1.72		1.7	.47	.71	913	275.8	279.3	-52.6
28.50	1.57		1.6	.49	.73	899	275.8	277.7	-52.5
29.00	1.59		1.6	.49	.73	900	275.8	276.1	-52.4
29.50	1.54		1.5	.52	.76	881	275.9	274.4	-52.3

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 P$	$\dot{P}_r$	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39730.00	1.49		1.5	-13.52	-13.76	885	275.9	272.8	-52.3
30.50	1.46		1.5	.52	.76	887	275.9	271.2	-52.2
31.00	1.46		1.5	.52	.76	887	276.0	269.5	-52.1
31.50	1.48		1.5	.52	.76	885	276.0	267.9	-52.0
32.00	1.46		1.5	.52	.76	884	276.0	266.3	-51.9
32.50	1.58		1.6	.49	.73	901	276.1	264.6	-51.8
33.00	1.56		1.6	.49	.73	898	276.1	263.0	-51.7
33.50	1.66		1.7	.47	.70	914	276.1	261.4	-51.6
34.00	1.63		1.6	.49	.73	896	276.2	259.8	-51.5
34.50	1.79		1.8	.44	.68	929	276.2	258.1	-51.4
35.00	1.74		1.7	.47	.70	903	276.2	256.5	-51.3
35.50	1.69		1.7	.47	.70	903	276.3	254.9	-51.2
36.00	1.61		1.6	.49	.72	898	276.3	253.2	-51.2
36.50	1.46		1.5	.51	.75	889	276.3	251.6	-51.1
37.00	1.36		1.4	.54	.78	866	276.4	250.0	-51.0
37.50	1.36		1.4	.54	.78	865	276.4	248.4	-50.9
38.00	1.34		1.3	.57	.81	848	276.4	246.7	-50.8
38.50	1.32		1.3	.57	.81	852	276.5	245.1	-50.7
39.00	1.32		1.3	.57	.81	852	276.5	243.5	-50.6
39.50	1.35		1.3	.57	.81	852	276.5	241.8	-50.5
40.00	1.30		1.3	.57	.81	851	276.6	240.2	-50.4
40.50	1.35		1.4	.54	.78	866	276.6	238.6	-50.3
41.00	1.38		1.4	.54	.78	865	276.6	237.0	-50.2
41.50	1.39		1.4	.54	.78	866	276.7	235.3	-50.1
42.00	1.32		1.3	.57	.81	837	276.7	233.7	-50.0
42.50	1.47		1.5	.51	.75	877	276.7	232.1	-49.9
43.00	1.48		1.5	.51	.75	883	276.8	230.4	-49.8
43.50	1.41		1.4	.54	.78	870	276.8	228.8	-49.7
44.00	1.33		1.3	.57	.81	857	276.8	227.2	-49.6
44.50	1.24		1.2	.60	.84	834	276.9	225.6	-49.4
45.00	1.24		1.2	.60	.84	834	276.9	223.9	-49.3
45.50	1.30		1.3	.57	.81	854	276.9	222.3	-49.2
46.00	1.54		1.5	.51	.74	887	277.0	220.7	-49.1
46.50	1.80		1.8	.44	.66	926	277.0	219.0	-49.0
47.00	1.68		1.7	.46	.69	901	277.0	217.4	-48.9
47.50	1.35		1.4	.54	.77	852	277.1	215.8	-48.8
48.00	1.51		1.5	.52	.74	870	277.1	214.1	-48.7
48.50	1.60		1.6	.49	.72	893	277.1	212.5	-48.6
49.00	1.53		1.5	.52	.74	874	277.1	210.9	-48.5
49.50	1.31		1.3	.58	.81	835	277.2	209.2	-48.4
50.00	1.26		1.3	.58	.80	841	277.2	207.6	-48.3
50.50	1.30		1.3	.58	.80	844	277.2	206.0	-48.2
51.00	1.36		1.4	.54	.77	866	277.3	204.3	-48.1
51.50	1.60		1.6	.49	.71	900	277.3	202.7	-48.0
52.00	1.66		1.7	.46	.69	907	277.3	201.1	-47.8
52.50	1.74		1.7	.47	.69	905	277.4	199.4	-47.7
53.00	1.65		1.7	.47	.69	904	277.4	197.8	-47.6
53.50	1.84		1.8	.44	.66	910	277.4	196.2	-47.5
54.00	2.31		2.3	.34	.56	976	277.4	194.5	-47.4
54.50	2.42		2.4	.33	.54	985	277.5	192.9	-47.3
55.00	1.87		1.9	.43	.64	916	277.5	191.3	-47.2
55.50	1.40		1.4	.55	.77	848	277.5	189.6	-47.1
56.00	1.36		1.4	.55	.77	865	277.6	188.0	-47.0
56.50	1.47		1.5	.52	.74	886	277.6	186.4	-46.9
57.00	1.54		1.5	.52	.74	888	277.6	184.7	-46.7
57.50	1.55		1.5	.52	.74	885	277.6	183.1	-46.6
58.00	1.56		1.6	.49	.71	898	277.7	181.5	-46.5
58.50	1.65		1.7	.47	.69	920	277.7	179.8	-46.4
59.00	1.69		1.7	.47	.69	922	277.7	178.2	-46.3
59.50	1.70		1.7	.47	.69	922	277.8	176.5	-46.2

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	$-10^6 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39760.00	1.69		1.7	-13.47	-13.69	921	277.8	174.9	-46.1
60.50	1.73		1.7	.47	.68	918	277.8	173.3	-46.0
61.00	1.77		1.8	.45	.66	936	277.8	171.6	-45.8
61.50	1.91		1.9	.43	.64	934	277.9	170.0	-45.7
62.00	2.26		2.3	.35	.55	982	277.9	168.3	-45.6
62.50	2.53		2.5	.31	.52	1012	277.9	166.7	-45.5
63.00	2.65		2.7	.28	.48	1044	277.9	165.0	-45.4
63.50	2.30		2.3	.35	.55	981	277.9	163.4	-45.3
64.00	1.79		1.8	.45	.66	910	277.9	161.8	-45.2
39765.00	1.70		1.70	-13.48	-13.68	914	278.0	158.5	-45.0
66.00	1.71		1.71	.48	.68	921	278.0	155.2	-44.7
67.00	1.76		1.76	.46	.67	928	278.1	151.9	-44.5
68.00	1.80		1.80	.45	.66	933	278.1	148.6	-44.3
69.00	1.77		1.77	.46	.66	926	278.2	145.3	-44.1
70.00	1.76		1.76	.47	.67	924	278.2	142.0	-43.8
71.00	1.84		1.84	.45	.65	939	278.3	138.7	-43.6
72.00	1.95		1.95	.42	.62	954	278.3	135.4	-43.4
73.00	2.16		2.16	.38	.58	974	278.4	132.0	-43.2
74.00	2.14		2.14	.39	.58	967	278.4	128.7	-43.0
75.00	2.16		2.16	.38	.58	979	278.4	125.4	-42.7
76.00	2.06		2.06	.41	.60	966	278.5	122.1	-42.5
77.00	2.06		2.06	.41	.60	971	278.5	118.7	-42.3
78.00	1.99		1.99	.42	.61	959	278.6	115.4	-42.1
79.00	2.01		2.01	.42	.61	968	278.6	112.1	-41.9
80.00	2.04		2.04	.41	.60	976	278.7	108.7	-41.7
81.00	2.10		2.10	.40	.59	982	278.7	105.4	-41.5
82.00	2.13		2.13	.39	.58	991	278.8	102.0	-41.3
83.00	2.17		2.17	.38	.57	1006	278.8	98.7	-41.1
84.00	2.20		2.20	.38	.56	1018	278.9	95.3	-40.9
85.00	2.26		2.26	.37	.55	1030	278.9	92.0	-40.6
86.00	2.36		2.36	.35	.53	1034	279.0	88.6	-40.5
87.00	2.46		2.46	.34	.52	1047	279.0	85.2	-40.3
88.00	2.54		2.54	.32	.50	1072	279.1	81.9	-40.1
89.00	2.62		2.62	.31	.49	1091	279.1	78.5	-39.9
90.00	2.77		2.77	.29	.46	1108	279.2	75.1	-39.7
91.00	3.05		3.05	.25	.42	1133	279.2	71.7	-39.5
92.00	3.10		3.10	.25	.42	1124	279.2	68.3	-39.3
93.00	3.07		3.07	.26	.42	1123	279.3	64.9	-39.1
94.00	3.00		3.00	.26	.43	1133	279.3	61.5	-39.0
95.00	2.97		2.97	.26	.43	1147	279.4	58.1	-38.8
96.00	2.94		2.94	.27	.43	1138	279.4	54.7	-38.6
97.00	2.93		2.93	.27	.44	1118	279.5	51.2	-38.4
98.00	3.06		3.06	.25	.42	1131	279.5	47.8	-38.3
99.00	2.78		2.78	.29	.46	1096	279.6	44.4	-38.1
39800.00	2.64		2.64	.31	.48	1084	279.6	40.9	-38.0
01.00	2.58		2.58	.32	.49	1084	279.7	37.5	-37.8
02.00	2.53		2.53	.33	.50	1072	279.7	34.1	-37.7
03.00	2.51		2.51	.33	.50	1054	279.8	30.6	-37.5
04.00	2.40		2.40	.35	.52	1043	279.8	27.1	-37.4
05.00	2.36		2.36	.36	.52	1049	279.9	23.7	-37.2
06.00	2.55		2.55	.33	.49	1064	279.9	20.2	-37.1
07.00	2.48		2.48	.34	.51	1038	280.0	16.7	-37.0
08.00	2.45		2.45	.35	.51	1040	280.0	13.3	-36.8
09.00	2.52		2.52	.34	.50	1063	280.1	9.8	-36.7
10.00	2.55		2.55	.33	.49	1070	280.1	6.3	-36.6
11.00	2.59		2.59	.33	.49	1084	280.2	2.8	-36.5
12.00	2.64		2.64	.32	.48	1109	280.2	359.3	-36.4
13.00	2.67		2.67	.31	.47	1115	280.3	355.8	-36.3
14.00	2.69		2.69	.31	.47	1119	280.3	352.2	-36.2

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39815.00	2.71		2.71	-13.31	-13.47	1127	280.4	348.7	-36.1
16.00	2.78		2.78	.30	.46	1121	280.4	345.2	-36.0
17.00	2.79		2.79	.30	.46	1111	280.5	341.7	-35.9
18.00	2.80		2.80	.29	.45	1110	280.5	338.1	-35.9
19.00	2.77		2.77	.30	.46	1101	280.6	334.6	-35.8
20.00	2.72		2.72	.31	.47	1100	280.6	331.0	-35.7
21.00	2.65		2.65	.32	.48	1093	280.7	327.5	-35.7
22.00	2.56		2.56	.33	.49	1074	280.7	323.9	-35.6
23.00	2.48		2.48	.35	.51	1054	280.8	320.4	-35.6
24.00	2.43		2.43	.35	.51	1052	280.9	316.8	-35.5
25.00	2.39		2.39	.36	.52	1042	280.9	313.2	-35.5
26.00	2.35		2.35	.37	.53	1025	281.0	309.6	-35.5
27.00	2.28		2.28	.38	.54	1028	281.0	306.0	-35.5
28.00	2.09		2.09	.41	.57	1006	281.1	302.5	-35.4
29.00	1.90		1.90	.45	.61	974	281.1	298.9	-35.4
30.00	1.88		1.88	.45	.62	963	281.2	295.3	-35.4
31.00	2.06		2.06	.41	.58	983	281.3	291.7	-35.4
32.00	2.10		2.10	.41	.57	992	281.3	288.0	-35.4
33.00	1.98		1.98	.43	.59	977	281.4	284.4	-35.5
34.00	1.80		1.80	.47	.63	954	281.4	280.8	-35.5
35.00	1.74		1.74	.48	.65	955	281.5	277.2	-35.5
36.00	1.66		1.66	.50	.67	947	281.5	273.6	-35.6
37.00	1.69		1.69	.49	.66	951	281.6	269.9	-35.6
38.00	1.82		1.82	.46	.62	977	281.7	266.3	-35.7
39.00	1.86		1.86	.45	.61	983	281.7	262.7	-35.7
40.00	2.06		2.06	.41	.57	1015	281.8	259.0	-35.8
39840.50	2.06		2.1	-13.40	-13.56	1020	281.8	257.2	-35.8
41.00	2.06		2.1	.40	.56	1024	281.8	255.4	-35.8
41.50	2.26		2.3	.37	.52	1054	281.9	253.5	-35.9
42.00	2.26		2.3	.37	.52	1054	281.9	251.7	-35.9
42.50	2.26		2.3	.37	.52	1050	281.9	249.9	-36.0
43.00	2.29		2.3	.37	.53	1046	281.9	248.1	-36.0
43.50	2.47		2.5	.34	.49	1082	281.9	246.2	-36.1
44.00	2.65		2.7	.31	.46	1102	281.9	244.4	-36.1
44.50	2.33		2.3	.38	.53	1030	281.9	242.6	-36.1
45.00	2.29		2.3	.37	.52	1042	282.0	240.7	-36.2
45.50	2.04		2.0	.43	.58	998	282.0	238.9	-36.3
46.00	2.05		2.0	.43	.58	1002	282.0	237.1	-36.3
46.50	2.06		2.1	.41	.56	1025	282.0	235.3	-36.4
47.00	2.22		2.2	.39	.54	1036	282.0	233.4	-36.4
47.50	2.16		2.2	.39	.54	1035	282.0	231.6	-36.5
48.00	1.94		1.9	.45	.60	991	282.1	229.7	-36.5
48.50	1.77		1.8	.47	.62	981	282.1	227.9	-36.6
49.00	1.76		1.8	.46	.62	985	282.1	226.1	-36.7
49.50	1.73		1.7	.49	.65	969	282.1	224.2	-36.7
50.00	1.66		1.7	.49	.65	971	282.1	222.4	-36.8
50.50	1.60		1.6	.51	.67	945	282.1	220.6	-36.9
51.00	1.55		1.5	.54	.70	921	282.2	218.7	-36.9
51.50	1.82		1.8	.47	.62	977	282.2	216.9	-37.0
52.00	1.99		2.0	.42	.58	1020	282.2	215.1	-37.1
52.50	1.93		1.9	.44	.60	1013	282.2	213.2	-37.2
53.00	1.85		1.8	.47	.62	985	282.2	211.4	-37.2
53.50	1.71		1.7	.50	.65	963	282.2	209.5	-37.3
54.00	1.63		1.6	.52	.67	950	282.2	207.7	-37.4
54.50	1.58		1.6	.52	.68	942	282.3	205.8	-37.5
55.00	1.75		1.8	.47	.62	970	282.3	204.0	-37.6
55.50	2.18		2.2	.39	.54	1023	282.3	202.2	-37.6
56.00	2.54		2.5	.33	.48	1059	282.3	200.3	-37.7
56.50	2.28		2.3	.37	.52	1037	282.3	198.5	-37.8

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 P$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39857.00	1.93		1.9	-13.45	-13.60	983	282.3	196.6	-37.9
57.50	2.20		2.2	.39	.54	1030	282.4	194.8	-38.0
58.00	2.08		2.1	.41	.56	1009	282.4	192.9	-38.1
39859.00	1.93		1.93	-13.44	-13.59	1007	282.4	189.3	-38.3
60.00	1.91		1.91	.45	.60	1003	282.4	185.6	-38.5
61.00	1.98		1.98	.44	.59	1006	282.4	181.9	-38.7
62.00	2.00		2.00	.44	.58	1010	282.5	178.2	-38.9
63.00	2.02		2.02	.43	.58	1023	282.5	174.5	-39.1
64.00	1.98		1.98	.44	.59	1027	282.5	170.8	-39.4
65.00	1.99		1.99	.44	.59	1030	282.5	167.1	-39.6
66.00	2.10		2.10	.42	.56	1046	282.6	163.4	-39.8
67.00	2.15		2.15	.41	.55	1045	282.6	159.7	-40.1
68.00	2.30		2.30	.38	.52	1065	282.6	156.0	-40.3
69.00	2.38		2.38	.36	.51	1083	282.6	152.3	-40.6
70.00	2.27		2.27	.38	.53	1066	282.6	148.6	-40.8
71.00	2.10		2.10	.42	.56	1033	282.6	144.9	-41.1
72.00	1.98		1.98	.44	.59	1007	282.6	141.2	-41.4
73.00	1.94		1.94	.45	.60	998	282.6	137.6	-41.6
74.00	1.95		1.95	.44	.59	1006	282.6	133.9	-41.9
75.00	1.89		1.89	.46	.61	991	282.7	130.2	-42.2
76.00	1.84		1.84	.47	.62	980	282.7	126.5	-42.5
77.00	1.83		1.83	.47	.62	985	282.7	122.8	-42.8
78.00	1.85		1.85	.46	.61	990	282.7	119.1	-43.1
79.00	1.94		1.94	.44	.59	1004	282.7	115.4	-43.4
80.00	1.99		1.99	.43	.58	1017	282.6	111.7	-43.7
81.00	2.05		2.05	.42	.57	1030	282.6	108.0	-44.0
82.00	2.19		2.19	.40	.54	1053	282.6	104.3	-44.3
83.00	2.36		2.36	.37	.51	1083	282.6	100.6	-44.7
84.00	2.40		2.40	.37	.51	1085	282.6	97.0	-45.0
85.00	2.50		2.50	.35	.49	1099	282.6	93.3	-45.3
86.00	2.53		2.53	.35	.49	1110	282.6	89.6	-45.7
87.00	2.60		2.60	.34	.47	1130	282.6	85.9	-46.0
88.00	2.83		2.83	.31	.44	1163	282.6	82.2	-46.3
39888.50	2.94		2.9	-13.30	-13.43	1165	282.6	80.4	-46.5
89.00	3.13		3.1	.27	.40	1192	282.6	78.6	-46.7
89.50	3.11		3.1	.27	.40	1193	282.6	76.7	-46.9
90.00	2.92		2.9	.30	.43	1165	282.5	74.9	-47.0
90.50	2.93		2.9	.30	.43	1161	282.5	73.0	-47.2
91.00	3.02		3.0	.28	.41	1196	282.5	71.2	-47.4
91.50	2.93		2.9	.29	.43	1195	282.5	69.4	-47.6
92.00	2.76		2.8	.30	.44	1166	282.5	67.5	-47.8
92.50	2.75		2.7	.31	.45	1159	282.5	65.7	-47.9
93.00	2.73		2.7	.31	.45	1177	282.5	63.8	-48.1
93.50	2.71		2.7	.31	.45	1175	282.5	62.0	-48.3
94.00	2.67		2.7	.31	.45	1152	282.5	60.2	-48.5
94.50	2.75		2.8	.29	.44	1153	282.5	58.3	-48.7
95.00	2.79		2.8	.29	.43	1146	282.5	56.5	-48.8
95.50	2.79		2.8	.29	.43	1144	282.4	54.7	-49.0
96.00	2.80		2.8	.29	.43	1149	282.4	52.8	-49.2
96.50	2.83		2.8	.29	.43	1145	282.4	51.0	-49.4
97.00	3.09		3.1	.25	.39	1171	282.4	49.2	-49.6
97.50	3.15		3.1	.25	.39	1154	282.4	47.3	-49.8
98.00	3.03		3.0	.26	.41	1155	282.4	45.5	-50.0
98.50	2.35		2.3	.38	.52	1057	282.4	43.7	-50.1
99.00	2.30		2.3	.37	.52	1075	282.4	41.8	-50.3
99.50	2.18		2.2	.40	.54	1046	282.4	40.0	-50.5
39900.00	2.34		2.3	.38	.52	1062	282.4	38.2	-50.7
00.50	2.36		2.4	.35	.50	1102	282.4	36.3	-50.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39901.00	2.21		2.2	-13.39	-13.54	1065	282.3	34.5	-51.1
01.50	2.49		2.5	.34	.48	1097	282.3	32.7	-51.3
02.00	2.70		2.7	.30	.45	1119	282.3	30.8	-51.5
02.50	2.32		2.3	.37	.52	1058	282.3	29.0	-51.7
03.00	2.22		2.2	.39	.54	1040	282.3	27.2	-51.9
03.50	2.72		2.7	.30	.45	1127	282.3	25.3	-52.0
04.00	2.75		2.7	.30	.45	1126	282.3	23.5	-52.2
04.50	2.49		2.5	.34	.48	1085	282.3	21.7	-52.4
05.00	2.46		2.5	.34	.48	1079	282.3	19.9	-52.6
05.50	2.36		2.4	.35	.50	1075	282.3	18.0	-52.8
06.00	2.46		2.5	.33	.48	1113	282.3	16.2	-53.0
06.50	2.71		2.7	.30	.45	1126	282.3	14.4	-53.2
07.00	2.78		2.8	.29	.43	1118	282.3	12.6	-53.4
07.50	2.64		2.6	.32	.47	1097	282.3	10.7	-53.6
08.00	2.61		2.6	.32	.47	1103	282.3	8.9	-53.8
08.50	2.58		2.6	.32	.47	1107	282.2	7.1	-54.0
09.00	2.35		2.3	.37	.52	1072	282.2	5.2	-54.2
09.50	2.29		2.3	.37	.52	1080	282.2	3.4	-54.4
10.00	2.48		2.5	.34	.48	1108	282.2	1.6	-54.6
10.50	2.52		2.5	.34	.48	1103	282.2	359.8	-54.8
11.00	2.53		2.5	.34	.48	1113	282.2	357.9	-55.0
11.50	2.60		2.6	.32	.47	1137	282.2	356.1	-55.2
12.00	2.59		2.6	.32	.47	1131	282.2	354.3	-55.4
12.50	2.57		2.6	.32	.47	1135	282.2	352.5	-55.6
13.00	2.58		2.6	.33	.47	1129	282.2	350.7	-55.8
13.50	2.57		2.6	.33	.47	1124	282.2	348.8	-56.0
14.00	2.91		2.9	.28	.42	1163	282.2	347.0	-56.2
14.50	3.04		3.0	.27	.41	1161	282.2	345.2	-56.4
15.00	3.13		3.1	.25	.40	1165	282.3	343.4	-56.5
15.50	2.85		2.9	.28	.43	1134	282.3	341.5	-56.7
16.00	2.68		2.7	.31	.46	1118	282.3	339.7	-56.9
16.50	2.61		2.6	.33	.47	1103	282.3	337.9	-57.1
17.00	2.57		2.6	.32	.47	1110	282.3	336.1	-57.3
17.50	2.53		2.5	.34	.49	1095	282.4	334.4	-57.5
18.00	2.49		2.5	.34	.49	1090	282.3	332.6	-57.7
39919.00	2.64		2.64	-13.32	-13.47	1104	282.3	328.9	-58.1
20.00	2.57		2.57	.33	.48	1083	282.3	325.3	-58.5
21.00	2.46		2.46	.34	.50	1071	282.3	321.7	-58.9
22.00	2.25		2.25	.38	.54	1046	282.3	318.0	-59.3
23.00	2.09		2.09	.41	.57	1021	282.2	314.4	-59.7
24.00	1.98		1.98	.43	.59	1005	282.2	310.8	-60.1
25.00	1.88		1.88	.46	.61	976	282.2	307.1	-60.5
26.00	1.80		1.80	.47	.63	953	282.2	303.5	-60.9
27.00	1.71		1.71	.50	.66	941	282.2	299.9	-61.3
28.00	1.77		1.77	.48	.64	954	282.2	296.2	-61.7
29.00	1.77		1.77	.48	.64	947	282.2	292.6	-62.1
30.00	1.77		1.77	.48	.64	934	282.2	289.0	-62.4
31.00	1.82		1.82	.47	.63	936	282.2	285.4	-62.8
32.00	1.82		1.82	.47	.63	943	282.2	281.7	-63.2
33.00	1.64		1.64	.51	.67	917	282.2	278.1	-63.6
34.00	1.65		1.65	.51	.67	921	282.2	274.5	-64.0
35.00	1.64		1.64	.51	.67	917	282.2	270.9	-64.4
36.00	1.59		1.59	.52	.69	909	282.2	267.3	-64.7
37.00	1.60		1.60	.52	.68	918	282.2	263.6	-65.1
38.00	1.62		1.62	.51	.68	927	282.2	260.0	-65.5
39.00	1.74		1.74	.48	.64	940	282.2	256.4	-65.9
40.00	1.84		1.84	.46	.62	946	282.1	252.8	-66.2
41.00	1.93		1.93	.44	.60	967	282.1	249.2	-66.6
42.00	2.09		2.09	.40	.56	998	282.1	245.6	-67.0

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39943.00	2.08		2.08	-13.41	-13.57	996	282.1	242.0	-67.3
44.00	2.14		2.14	.39	.55	1008	282.1	238.3	-67.7
45.00	2.18		2.18	.38	.54	1010	282.0	234.7	-68.0
46.00	2.16		2.16	.39	.55	1007	282.0	231.1	-68.4
47.00	2.16		2.16	.39	.55	1005	282.0	227.5	-68.7
48.00	2.09		2.09	.40	.56	992	282.0	223.9	-69.1
49.00	2.05		2.05	.40	.57	993	282.0	220.3	-69.4
39949.50	2.07		2.1	-13.39	-13.56	1003	282.0	218.5	-69.6
50.00	1.88		1.9	.44	.60	970	282.0	216.7	-69.8
50.50	1.84		1.8	.46	.62	956	281.9	214.9	-69.9
51.00	1.90		1.9	.43	.60	978	281.9	213.1	-70.1
51.50	1.96		2.0	.41	.58	994	281.9	211.3	-70.3
52.00	2.34		2.3	.35	.52	1025	281.9	209.5	-70.5
52.50	2.11		2.1	.40	.56	973	281.9	207.7	-70.6
53.00	1.73		1.7	.48	.65	916	281.9	205.9	-70.8
53.50	1.62		1.6	.51	.67	908	281.9	204.1	-70.9
54.00	1.49		1.5	.53	.70	898	281.9	202.3	-71.1
54.50	1.37		1.4	.56	.73	887	281.9	200.5	-71.3
55.00	1.35		1.4	.56	.73	894	281.9	198.7	-71.4
55.50	1.35		1.3	.59	.76	876	281.9	196.9	-71.6
56.00	1.44		1.4	.56	.73	888	281.9	195.1	-71.8
56.50	1.52		1.5	.54	.70	904	282.0	193.3	-71.9
57.00	1.54		1.5	.54	.70	901	282.0	191.5	-72.1
57.50	1.58		1.6	.51	.68	915	282.0	189.7	-72.2
39958.00	1.62		1.62	-13.51	-13.67	920	282.0	187.9	-72.4
59.00	1.65		1.65	.50	.66	920	282.0	184.3	-72.7
60.00	1.77		1.77	.47	.64	931	282.0	180.7	-73.0
61.00	1.82		1.82	.46	.62	943	282.0	177.1	-73.3
62.00	1.69		1.69	.49	.66	925	282.1	173.5	-73.6
63.00	1.60		1.60	.51	.68	910	282.1	169.9	-73.9
64.00	1.47		1.47	.55	.72	887	282.1	166.3	-74.2
65.00	1.43		1.43	.56	.73	887	282.1	162.7	-74.5
66.00	1.40		1.40	.57	.74	890	282.2	159.1	-74.7
67.00	1.42		1.42	.56	.73	897	282.2	155.5	-75.0
68.00	1.49		1.49	.54	.71	904	282.2	151.9	-75.3
69.00	1.56		1.56	.52	.69	908	282.2	148.3	-75.5
70.00	1.57		1.57	.52	.69	908	282.3	144.7	-75.8
71.00	1.58		1.58	.51	.68	919	282.3	141.1	-76.1
39972.00	1.65		1.6	-13.51	-13.68	920	282.3	137.5	-76.3
72.50	1.68		1.7	.49	.65	928	282.3	135.7	-76.4
73.00	1.81		1.8	.47	.63	937	282.3	133.9	-76.6
73.50	1.69		1.7	.49	.65	919	282.3	132.1	-76.7
74.00	1.65		1.6	.52	.68	906	282.3	130.3	-76.8
74.50	1.66		1.7	.49	.65	927	282.4	128.5	-76.9
75.00	1.64		1.6	.52	.68	912	282.4	126.7	-77.0
75.50	1.67		1.7	.49	.65	931	282.4	124.9	-77.1
76.00	1.65		1.7	.49	.65	932	282.4	123.1	-77.3
76.50	1.58		1.6	.52	.68	919	282.4	121.3	-77.4
77.00	1.57		1.6	.52	.68	923	282.4	119.5	-77.5
77.50	1.60		1.6	.52	.68	922	282.4	117.7	-77.6
78.00	1.63		1.6	.52	.68	912	282.4	115.9	-77.7
78.50	1.86		1.9	.45	.61	965	282.4	114.1	-77.8
79.00	1.75		1.7	.50	.66	936	282.4	112.3	-77.9
79.50	1.75		1.8	.47	.63	956	282.4	110.5	-78.0
80.00	1.66		1.7	.50	.66	943	282.5	108.7	-78.1
80.50	1.67		1.7	.50	.66	950	282.5	106.9	-78.2
81.00	1.67		1.7	.50	.65	953	282.5	105.1	-78.3

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
39981.50	1.63		1.6	-13.52	-13.68	934	282.5	103.3	-78.4
82.00	1.58		1.6	.52	.68	935	282.5	101.5	-78.5
82.50	1.59		1.6	.52	.68	938	282.5	99.7	-78.6
83.00	1.60		1.6	.52	.68	930	282.5	98.0	-78.7
83.50	2.13		2.1	.41	.56	992	282.5	96.2	-78.8
84.00	2.16		2.2	.39	.54	1007	282.5	94.4	-78.9
84.50	1.96		2.0	.43	.58	999	282.5	92.6	-79.0
85.00	1.82		1.8	.47	.63	965	282.5	90.8	-79.1
85.50	1.85		1.8	.47	.63	954	282.5	89.0	-79.2
86.00	1.85		1.8	.47	.63	952	282.5	87.2	-79.2
86.50	1.78		1.8	.47	.63	960	282.5	85.4	-79.3
87.00	1.75		1.8	.47	.63	960	282.5	83.6	-79.4
87.50	1.68		1.7	.50	.65	934	282.5	81.8	-79.5
88.00	1.68		1.7	.50	.65	930	282.5	80.0	-79.6
88.50	1.71		1.7	.50	.65	931	282.5	78.2	-79.6
89.00	1.71		1.7	.49	.65	936	282.4	76.4	-79.7
89.50	1.69		1.7	.49	.65	938	282.4	74.6	-79.8
90.00	1.58		1.6	.52	.68	920	282.4	72.8	-79.9
90.50	1.58		1.6	.52	.68	922	282.4	71.0	-79.9
91.00	1.58		1.6	.52	.68	927	282.4	69.2	-80.0
91.50	1.68		1.7	.49	.65	948	282.4	67.4	-80.1
92.00	1.68		1.7	.49	.65	948	282.4	65.6	-80.1
92.50	1.65		1.6	.52	.68	926	282.4	63.8	-80.2
93.00	1.69		1.7	.49	.65	949	282.4	62.0	-80.3
93.50	1.69		1.7	.50	.65	949	282.3	60.2	-80.3
94.00	1.78		1.8	.47	.63	961	282.3	58.4	-80.4
94.50	1.85		1.9	.45	.61	977	282.3	56.6	-80.4
95.00	1.89		1.9	.45	.61	980	282.3	54.8	-80.5
95.50	1.87		1.9	.45	.61	985	282.3	53.0	-80.6
96.00	1.83		1.8	.48	.63	961	282.2	51.2	-80.6
96.50	1.77		1.8	.48	.63	958	282.2	49.4	-80.7
97.00	1.79		1.8	.48	.63	961	282.2	47.6	-80.7
97.50	2.01		2.0	.43	.59	994	282.2	45.8	-80.8
98.00	2.02		2.0	.44	.59	989	282.1	44.0	-80.8
98.50	2.01		2.0	.43	.59	995	282.1	42.2	-80.9
99.00	1.95		2.0	.43	.58	1006	282.1	40.4	-80.9
99.50	1.92		1.9	.45	.61	991	282.0	38.6	-80.9
40000.00	1.96		2.0	.43	.58	1001	282.0	36.8	-81.0
00.50	1.85		1.8	.48	.63	959	282.0	35.0	-81.0
01.00	1.81		1.8	.47	.63	970	282.0	33.2	-81.0
01.50	1.83		1.8	.47	.63	977	281.9	31.5	-81.1
02.00	1.79		1.8	.47	.63	980	281.9	29.7	-81.1
02.50	1.78		1.8	.47	.63	984	281.9	27.9	-81.1
03.00	1.80		1.8	.47	.63	992	281.8	26.1	-81.2
03.50	1.78		1.8	.47	.63	990	281.8	24.3	-81.2
04.00	1.77		1.8	.47	.63	983	281.8	22.5	-81.2
04.50	1.79		1.8	.47	.63	982	281.8	20.7	-81.2
05.00	1.83		1.8	.47	.63	981	281.7	18.9	-81.3
05.50	1.79		1.8	.46	.63	975	281.7	17.1	-81.3
06.00	1.75		1.8	.46	.63	971	281.7	15.3	-81.3
06.50	1.79		1.8	.46	.63	972	281.6	13.5	-81.3
07.00	1.83		1.8	.46	.63	972	281.6	11.7	-81.3
07.50	1.84		1.8	.46	.63	972	281.6	9.9	-81.3
08.00	1.80		1.8	.46	.63	975	281.5	8.1	-81.4
08.50	1.77		1.8	.46	.63	969	281.5	6.3	-81.4
09.00	1.73		1.7	.49	.65	941	281.5	4.5	-81.4
09.50	1.74		1.7	.49	.65	943	281.4	2.7	-81.4
10.00	1.73		1.7	.49	.65	945	281.4	0.9	-81.4
10.50	1.67		1.7	.48	.65	946	281.4	359.1	-81.4
11.00	1.60		1.6	.51	.68	928	281.3	357.3	-81.4

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40011.50	1.57		1.6	-13.51	-13.68	933	281.3	355.6	-81.4
12.00	1.53		1.5	.54	.71	915	281.3	353.8	-81.4
12.50	1.52		1.5	.53	.71	918	281.3	352.0	-81.4
13.00	1.43		1.4	.56	.74	902	281.2	350.2	-81.4
13.50	1.39		1.4	.56	.74	902	281.2	348.4	-81.3
14.00	1.45		1.5	.53	.71	921	281.2	346.6	-81.3
14.50	1.49		1.5	.53	.71	912	281.1	344.8	-81.3
15.00	1.53		1.5	.54	.71	910	281.1	343.0	-81.3
15.50	1.51		1.5	.54	.71	913	281.1	341.2	-81.3
16.00	1.53		1.5	.54	.71	908	281.0	339.4	-81.3
16.50	1.56		1.6	.51	.68	931	281.0	337.6	-81.2
17.00	1.52		1.5	.54	.71	909	281.0	335.9	-81.2
17.50	1.76		1.8	.46	.63	951	280.9	334.1	-81.2
18.00	1.80		1.8	.46	.64	937	280.9	332.3	-81.2
18.50	2.01		2.0	.42	.59	958	280.9	330.5	-81.1
19.00	1.80		1.8	.46	.64	929	280.8	328.7	-81.1
19.50	1.56		1.6	.51	.69	903	280.8	326.9	-81.1
20.00	1.52		1.5	.54	.72	886	280.8	325.1	-81.0
20.50	1.76		1.8	.46	.64	937	280.7	323.3	-81.0
21.00	1.47		1.5	.54	.72	886	280.7	321.5	-81.0
21.50	1.38		1.4	.57	.75	870	280.7	319.8	-80.9
22.00	1.40		1.4	.56	.75	874	280.6	318.0	-80.9
22.50	1.26		1.3	.59	.78	865	280.6	316.2	-80.8
23.00	1.20		1.2	.63	.81	846	280.6	314.4	-80.8
23.50	1.28		1.3	.59	.78	867	280.6	312.6	-80.7
24.00	1.30		1.3	.59	.78	859	280.5	310.8	-80.7
24.50	1.36		1.4	.56	.75	874	280.5	309.0	-80.6
25.00	1.35		1.3	.59	.78	861	280.5	307.3	-80.6
25.50	1.34		1.3	.59	.78	864	280.4	305.5	-80.5
26.00	1.25		1.2	.63	.82	836	280.4	303.7	-80.5
26.50	1.21		1.2	.63	.82	835	280.4	301.9	-80.4
27.00	1.23		1.2	.63	.82	837	280.3	300.1	-80.4
27.50	1.24		1.2	.63	.82	843	280.3	298.4	-80.3
28.00	1.20		1.2	.62	.82	849	280.3	296.6	-80.2
28.50	1.17		1.2	.62	.82	851	280.2	294.8	-80.2
29.00	1.13		1.1	.66	.86	830	280.2	293.0	-80.1
29.50	1.09		1.1	.66	.86	822	280.2	291.2	-80.0
30.00	1.13		1.1	.67	.86	816	280.1	289.5	-79.9
30.50	1.10		1.1	.66	.86	820	280.1	287.7	-79.9
31.00	1.09		1.1	.66	.86	825	280.1	285.9	-79.8
31.50	1.08		1.1	.66	.86	831	280.1	284.1	-79.7
32.00	1.04		1.0	.70	.90	809	280.0	282.4	-79.6
32.50	1.03		1.0	.70	.90	806	280.0	280.6	-79.6
33.00	0.97		1.0	.70	.90	799	280.0	278.8	-79.5
33.50	1.01		1.0	.70	.90	792	279.9	277.0	-79.4
34.00	1.03		1.0	.70	.90	792	279.9	275.3	-79.3
34.50	1.07		1.1	.66	.86	815	279.9	273.5	-79.2
35.00	1.03		1.0	.70	.90	792	279.8	271.7	-79.1
35.50	1.07		1.1	.66	.86	820	279.8	269.9	-79.0
36.00	1.12		1.1	.66	.86	824	279.8	268.2	-78.9
36.50	1.16		1.2	.62	.82	844	279.8	266.4	-78.8
37.00	1.15		1.1	.66	.86	813	279.7	264.6	-78.7
37.50	1.09		1.1	.66	.86	812	279.7	262.9	-78.6
38.00	1.06		1.1	.65	.86	815	279.7	261.1	-78.5
38.50	1.02		1.0	.70	.90	792	279.6	259.3	-78.4
39.00	0.99		1.0	.69	.90	795	279.6	257.6	-78.3
39.50	0.98		1.0	.69	.90	795	279.6	255.8	-78.2
40.00	0.98		1.0	.69	.90	793	279.6	254.0	-78.1
40.50	1.07		1.1	.65	.86	810	279.5	252.3	-78.0
41.00	1.01		1.0	.69	.90	791	279.5	250.5	-77.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40041.50	0.96		1.0	-13.69	-13.90	794	279.5	248.8	-77.7
42.00	0.90		0.9	.73	.95	768	279.4	247.0	-77.6
42.50	0.85		0.8	.78	-14.00	745	279.4	245.2	-77.5
43.00	0.82		0.8	.78	.00	747	279.4	243.5	-77.4
43.50	0.76		0.8	.78	.00	747	279.4	241.7	-77.3
44.00	0.76		0.8	.78	.00	750	279.3	240.0	-77.1
44.50	0.75		0.8	.78	.00	750	279.3	238.2	-77.0
45.00	0.72		0.7	.84	.06	721	279.3	236.4	-76.9
45.50	0.77		0.8	.78	.00	750	279.2	234.7	-76.8
46.00	0.79		0.8	.78	.00	752	279.2	232.9	-76.6
46.50	0.81		0.8	.78	.00	754	279.2	231.2	-76.5
47.00	0.88		0.9	.74	-13.95	773	279.2	229.4	-76.3
47.50	1.03		1.0	.69	.90	787	279.1	227.7	-76.2
48.00	1.23		1.2	.62	.83	826	279.1	225.9	-76.1
48.50	1.10		1.1	.65	.86	814	279.1	224.2	-75.9
49.00	0.82		0.8	.79	-14.00	747	279.0	222.4	-75.8
49.50	0.80		0.8	.79	.00	748	279.0	220.7	-75.6
50.00	0.85		0.8	.79	.00	751	279.0	218.9	-75.5
50.50	1.02		1.0	.69	-13.90	800	279.0	217.2	-75.4
51.00	1.25		1.2	.62	.83	831	278.9	215.4	-75.2
51.50	1.02		1.0	.69	.91	783	278.9	213.7	-75.0
52.00	1.02		1.0	.69	.91	793	278.9	212.0	-74.9
52.50	0.97		1.0	.69	.91	797	278.9	210.2	-74.7
53.00	0.95		0.9	.73	.95	775	278.8	208.5	-74.6
53.50	0.98		1.0	.69	.91	797	278.8	206.7	-74.4
40054.00	0.99		0.99	-13.69	-13.91	796	278.8	205.0	-74.3
55.00	1.01		1.01	.68	.90	799	278.7	201.5	-73.9
56.00	1.03		1.03	.67	.90	803	278.7	198.0	-73.6
57.00	1.04		1.04	.67	.89	809	278.6	194.6	-73.3
58.00	1.06		1.06	.66	.88	814	278.6	191.1	-72.9
59.00	1.13		1.13	.63	.86	822	278.5	187.7	-72.6
60.00	1.11		1.11	.64	.87	812	278.4	184.2	-72.2
61.00	1.07		1.07	.66	.88	812	278.4	180.8	-71.9
62.00	1.09		1.09	.65	.88	822	278.3	177.3	-71.5
63.00	1.11		1.11	.65	.87	820	278.3	173.9	-71.1
64.00	1.14		1.14	.64	.86	820	278.2	170.4	-70.7
65.00	1.11		1.11	.65	.87	816	278.2	167.0	-70.4
66.00	1.11		1.11	.65	.87	821	278.1	163.6	-70.0
67.00	1.09		1.09	.65	.88	817	278.1	160.1	-69.6
68.00	0.99		0.99	.70	.92	793	278.0	156.7	-69.2
69.00	1.03		1.03	.68	.91	803	278.0	153.3	-68.8
70.00	1.07		1.07	.66	.89	816	277.9	149.9	-68.3
71.00	1.09		1.09	.66	.88	815	277.9	146.5	-67.9
72.00	1.12		1.12	.65	.87	819	277.8	143.1	-67.5
73.00	1.14		1.14	.64	.86	824	277.7	139.7	-67.1
74.00	1.19		1.19	.62	.85	829	277.7	136.3	-66.6
75.00	1.28		1.28	.59	.82	843	277.6	132.9	-66.2
76.00	1.32		1.32	.58	.80	853	277.6	129.5	-65.8
77.00	1.30		1.30	.59	.81	851	277.5	126.1	-65.3
78.00	1.29		1.29	.59	.81	850	277.5	122.7	-64.9
79.00	1.31		1.31	.59	.81	857	277.4	119.3	-64.4
80.00	1.33		1.33	.58	.80	866	277.4	116.0	-63.9
81.00	1.35		1.35	.58	.80	871	277.3	112.6	-63.5
82.00	1.53		1.53	.53	.74	895	277.3	109.2	-63.0
83.00	1.75		1.75	.48	.68	923	277.2	105.8	-62.5
84.00	1.84		1.84	.46	.66	941	277.2	102.5	-62.0
85.00	1.94		1.94	.44	.64	951	277.1	99.1	-61.6
86.00	1.84		1.84	.46	.66	934	277.1	95.8	-61.1
87.00	1.78		1.78	.47	.68	935	277.0	92.4	-60.6

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40088.00	1.71		1.71	-13.49	-13.70	931	276.9	89.1	-60.1
89.00	1.67		1.67	.49	.71	932	276.9	85.7	-59.6
90.00	1.63		1.63	.51	.72	927	276.8	82.4	-59.1
91.00	1.63		1.63	.51	.72	922	276.8	79.1	-58.6
92.00	1.86		1.86	.45	.66	951	276.7	75.7	-58.1
93.00	1.79		1.79	.46	.68	944	276.7	72.4	-57.6
94.00	1.65		1.65	.50	.71	928	276.6	69.1	-57.0
95.00	1.56		1.56	.52	.73	909	276.6	65.7	-56.5
96.00	1.58		1.58	.51	.73	914	276.5	62.4	-56.0
97.00	1.60		1.60	.51	.72	921	276.5	59.1	-55.5
98.00	1.72		1.72	.48	.69	947	276.4	55.8	-54.9
99.00	1.86		1.86	.44	.66	964	276.4	52.4	-54.4
40100.00	1.97		1.97	.42	.63	971	276.3	49.1	-53.9
01.00	2.06		2.06	.40	.61	989	276.3	45.8	-53.3
02.00	2.07		2.07	.40	.61	988	276.2	42.5	-52.8
03.00	2.20		2.20	.38	.59	1001	276.2	39.2	-52.3
04.00	2.21		2.21	.38	.58	1004	276.1	35.9	-51.7
05.00	2.25		2.25	.37	.58	1013	276.1	32.6	-51.2
06.00	2.27		2.27	.37	.57	1012	276.0	29.3	-50.6
07.00	2.61		2.61	.31	.51	1053	276.0	26.0	-50.1
08.00	2.59		2.59	.31	.52	1048	275.9	22.7	-49.5
09.00	2.36		2.36	.35	.56	1029	275.8	19.4	-49.0
10.00	2.41		2.41	.34	.55	1049	275.8	16.1	-48.4
11.00	2.52		2.52	.32	.53	1064	275.7	12.8	-47.9
12.00	2.99		2.99	.25	.46	1114	275.6	9.5	-47.3
13.00	2.71		2.71	.30	.50	1053	275.6	6.2	-46.8
14.00	2.65		2.65	.30	.51	1046	275.5	2.9	-46.2
15.00	2.46		2.46	.33	.54	1025	275.4	359.6	-45.6
16.00	2.40		2.40	.34	.55	1027	275.3	356.4	-45.1
17.00	2.32		2.32	.35	.57	1026	275.3	353.1	-44.5
18.00	2.29		2.29	.36	.57	1016	275.2	349.8	-43.9
19.00	2.24		2.24	.36	.58	1003	275.1	346.5	-43.4
20.00	2.16		2.16	.38	.60	987	275.1	343.2	-42.8
21.00	2.14		2.14	.38	.61	977	275.0	339.9	-42.2
22.00	2.16		2.16	.38	.60	971	275.0	336.6	-41.7
23.00	2.11		2.11	.39	.61	968	274.9	333.4	-41.1
24.00	2.08		2.08	.39	.62	980	274.9	330.1	-40.5
25.00	2.08		2.08	.40	.62	976	274.8	326.8	-40.0
26.00	2.11		2.11	.39	.62	980	274.8	323.5	-39.4
27.00	2.13		2.13	.39	.61	980	274.8	320.2	-38.8
28.00	2.19		2.19	.38	.60	979	274.7	316.9	-38.2
29.00	2.24		2.24	.37	.59	987	274.7	313.7	-37.7
40129.50	2.33		2.3	-13.35	-13.58	1001	274.7	312.0	-37.4
30.00	2.34		2.3	.36	.58	989	274.6	310.4	-37.1
30.50	2.56		2.6	.30	.53	1027	274.6	308.7	-36.8
31.00	2.45		2.5	.32	.55	1008	274.6	307.1	-36.5
31.50	2.44		2.4	.34	.56	974	274.6	305.5	-36.3
32.00	2.44		2.4	.34	.56	971	274.6	303.8	-36.0
32.50	2.18		2.2	.37	.60	949	274.6	302.2	-35.7
40133.00	2.10		2.10	-13.39	-13.62	951	274.5	300.5	-35.4
34.00	2.06		2.06	.40	.63	963	274.5	297.2	-34.8
35.00	2.00		2.00	.41	.65	949	274.5	294.0	-34.3
36.00	1.94		1.94	.42	.66	930	274.4	290.7	-33.7
37.00	1.99		1.99	.41	.65	931	274.4	287.4	-33.1
38.00	1.95		1.95	.42	.66	924	274.4	284.1	-32.6
39.00	1.93		1.93	.42	.66	924	274.4	280.8	-32.0
40.00	1.96		1.96	.41	.66	936	274.3	277.5	-31.4
41.00	2.04		2.04	.40	.64	937	274.3	274.2	-30.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40142.00	2.15		2.15	-13.38	-13.62	930	274.3	270.9	-30.3
43.00	2.03		2.03	.40	.64	915	274.3	267.6	-29.8
44.00	1.99		1.99	.41	.65	924	274.2	264.3	-29.2
45.00	1.96		1.96	.41	.66	929	274.2	261.0	-28.7
46.00	1.94		1.94	.42	.66	924	274.2	257.7	-28.1
47.00	1.93		1.93	.42	.66	917	274.2	254.4	-27.6
48.00	1.95		1.95	.42	.66	923	274.2	251.1	-27.0
49.00	1.96		1.96	.42	.66	922	274.1	247.8	-26.5
40183.00	2.02		2.02	-13.40	-13.66	927	271.6	133.7	-10.0
84.00	2.09		2.09	.39	.65	942	271.6	130.3	-9.6
85.00	2.16		2.16	.38	.63	954	271.6	126.9	-9.2
86.00	2.21		2.21	.37	.62	959	271.6	123.4	-8.9
87.00	2.26		2.26	.36	.61	966	271.5	120.0	-8.5
88.00	2.31		2.31	.35	.60	973	271.5	116.6	-8.1
89.00	2.35		2.35	.34	.60	984	271.5	113.2	-7.7
90.00	2.42		2.42	.33	.58	1007	271.5	109.8	-7.4
91.00	2.47		2.47	.32	.57	1012	271.4	106.3	-7.0
92.00	2.53		2.53	.31	.56	1015	271.4	102.9	-6.7
93.00	2.55		2.55	.31	.56	1014	271.4	99.5	-6.4
94.00	2.65		2.65	.30	.54	1017	271.3	96.1	-6.0
95.00	2.78		2.78	.28	.52	1031	271.3	92.6	-5.7
96.00	2.71		2.71	.29	.53	1028	271.3	89.2	-5.4
97.00	2.61		2.61	.31	.55	1031	271.2	85.7	-5.1
98.00	2.64		2.64	.30	.54	1038	271.2	82.3	-4.8
99.00	2.69		2.69	.29	.54	1044	271.1	78.9	-4.5
40200.00	2.73		2.73	.29	.53	1046	271.1	75.4	-4.2
01.00	2.77		2.77	.28	.52	1053	271.0	72.0	-3.9
02.00	2.79		2.79	.28	.52	1063	271.0	68.5	-3.7
03.00	2.75		2.75	.28	.53	1059	270.9	65.1	-3.4
04.00	2.67		2.67	.30	.54	1053	270.9	61.6	-3.1
05.00	2.63		2.63	.30	.55	1047	270.8	58.2	-2.9
06.00	2.60		2.60	.31	.55	1037	270.8	54.7	-2.7
07.00	2.66		2.66	.30	.54	1046	270.7	51.3	-2.4
08.00	2.80		2.80	.27	.52	1073	270.7	47.8	-2.2
09.00	2.84		2.84	.27	.51	1072	270.7	44.4	-2.0
10.00	2.86		2.86	.27	.51	1074	270.6	40.9	-1.8
11.00	2.94		2.94	.26	.50	1093	270.6	37.5	-1.6
12.00	3.01		3.01	.25	.49	1093	270.5	34.0	-1.4
13.00	3.05		3.05	.24	.48	1095	270.5	30.6	-1.2
14.00	3.08		3.08	.24	.48	1105	270.4	27.1	-1.0
15.00	3.06		3.06	.24	.48	1095	270.4	23.7	-0.8
16.00	3.03		3.03	.24	.49	1100	270.3	20.2	-0.7
17.00	2.99		2.99	.25	.49	1100	270.3	16.8	-0.5
18.00	2.94		2.94	.26	.50	1091	270.3	13.3	-0.4
19.00	2.90		2.90	.26	.51	1091	270.2	9.9	-0.2
20.00	2.87		2.87	.26	.51	1079	270.2	6.4	-0.1
21.00	2.87		2.87	.26	.51	1078	270.1	3.0	0.0
22.00	2.88		2.88	.26	.51	1079	270.1	359.5	0.2
23.00	2.82		2.82	.27	.52	1073	270.1	356.1	0.3
24.00	2.70		2.70	.28	.54	1070	270.0	352.6	0.4
25.00	2.61		2.61	.30	.56	1061	270.0	349.2	0.5
26.00	2.55		2.55	.31	.57	1046	270.0	345.7	0.6
27.00	2.53		2.53	.31	.57	1044	270.0	342.3	0.6
28.00	2.54		2.54	.31	.57	1041	269.9	338.9	0.7
29.00	2.55		2.55	.31	.57	1031	269.9	335.4	0.8
30.00	2.50		2.50	.32	.58	1021	269.9	332.0	0.8
31.00	2.46		2.46	.33	.58	1022	269.9	328.6	0.9
32.00	2.41		2.41	.33	.59	1018	269.9	325.1	0.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 P$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40233.00	2.34		2.34	-13.34	-13.61	999	269.9	321.7	1.0
34.00	2.32		2.32	.35	.61	998	269.9	318.3	1.0
35.00	2.29		2.29	.35	.62	994	269.8	314.9	1.0
36.00	2.27		2.27	.35	.62	976	269.8	311.5	1.0
37.00	2.28		2.28	.35	.62	971	269.8	308.1	1.1
38.00	2.33		2.33	.34	.61	975	269.8	304.6	1.1
39.00	2.20		2.20	.36	.64	949	269.8	301.2	1.1
40.00	2.01		2.01	.40	.68	920	269.8	297.8	1.0
41.00	1.88		1.88	.43	.71	904	269.8	294.4	1.0
42.00	1.75		1.75	.45	.74	885	269.8	291.0	1.0
43.00	1.68		1.68	.47	.76	878	269.8	287.6	1.0
44.00	1.65		1.65	.47	.77	878	269.8	284.3	0.9
45.00	1.73		1.73	.45	.75	890	269.9	280.9	0.9
46.00	1.91		1.91	.41	.70	904	269.9	277.5	0.9
47.00	1.92		1.92	.41	.70	894	269.9	274.1	0.8
48.00	1.79		1.79	.44	.73	879	269.9	270.7	0.8
49.00	1.68		1.68	.47	.76	871	269.9	267.4	0.7
50.00	1.59		1.59	.49	.79	865	269.9	264.0	0.6
51.00	1.50		1.50	.51	.81	848	269.9	260.6	0.6
52.00	1.43		1.43	.53	.83	832	270.0	257.3	0.5
53.00	1.43		1.43	.53	.83	835	270.0	253.9	0.4
40254.00	1.53		1.5	-13.51	-13.81	851	270.0	250.5	0.3
54.50	1.74		1.7	.46	.76	880	270.0	248.9	0.3
55.00	2.67		2.7	.26	.55	1008	270.0	247.2	0.2
55.50	2.41		2.4	.32	.60	946	270.0	245.5	0.2
56.00	2.07		2.1	.37	.66	915	270.0	243.8	0.1
56.50	1.89		1.9	.41	.71	895	270.0	242.2	0.1
57.00	1.83		1.8	.44	.73	883	270.0	240.5	0.0
40258.00	1.80		1.80	-13.43	-13.73	887	270.1	237.2	-0.1
59.00	1.76		1.76	.44	.74	882	270.1	233.8	-0.2
60.00	1.71		1.71	.46	.75	876	270.1	230.5	-0.3
61.00	1.64		1.64	.47	.77	867	270.1	227.1	-0.4
40288.50	1.92		1.9	-13.42	-13.70	892	269.6	136.7	-4.9
89.00	2.03		2.0	.40	.68	912	269.6	135.0	-5.0
89.50	2.13		2.1	.38	.66	928	269.6	133.4	-5.1
90.00	2.25		2.2	.36	.64	946	269.6	131.8	-5.2
90.50	2.39		2.4	.32	.60	985	269.6	130.1	-5.3
91.00	2.44		2.4	.32	.60	988	269.6	128.5	-5.4
91.50	2.48		2.5	.31	.58	993	269.6	126.9	-5.5
92.00	2.51		2.5	.31	.58	971	269.7	125.3	-5.6
92.50	2.42		2.4	.33	.60	947	269.7	123.6	-5.7
93.00	2.43		2.4	.33	.60	962	269.7	122.0	-5.8
93.50	2.43		2.4	.33	.60	980	269.7	120.4	-5.9
94.00	2.41		2.4	.33	.60	983	269.7	118.8	-6.0
94.50	2.41		2.4	.33	.60	984	269.7	117.1	-6.1
95.00	2.53		2.5	.31	.58	994	269.7	115.5	-6.2
95.50	2.65		2.6	.30	.56	997	269.7	113.9	-6.3
96.00	2.76		2.8	.27	.53	1027	269.7	112.3	-6.4
96.50	2.93		2.9	.25	.52	1040	269.7	110.6	-6.5
97.00	3.01		3.0	.24	.50	1051	269.7	109.0	-6.6
97.50	3.22		3.2	.22	.47	1074	269.7	107.4	-6.7
98.00	3.20		3.2	.22	.47	1074	269.7	105.7	-6.8
98.50	3.13		3.1	.24	.49	1072	269.6	104.1	-6.9
99.00	3.14		3.1	.24	.49	1086	269.6	102.5	-7.0
99.50	3.21		3.2	.22	.47	1105	269.6	100.9	-7.1
40300.00	3.43		3.4	.20	.45	1109	269.6	99.3	-7.2

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40300.50	3.75		3.7	-13.17	-13.41	1144	269.6	97.6	-7.3
01.00	3.62		3.6	.18	.42	1140	269.6	96.0	-7.3
01.50	3.63		3.6	.18	.42	1142	269.6	94.4	-7.4
02.00	3.67		3.7	.17	.41	1161	269.6	92.8	-7.5
02.50	3.76		3.8	.16	.40	1175	269.6	91.1	-7.6
03.00	3.79		3.8	.16	.40	1184	269.5	89.5	-7.7
03.50	3.80		3.8	.16	.40	1185	269.5	87.9	-7.8
04.00	4.28		4.3	.11	.34	1204	269.5	86.3	-7.9
04.50	4.41		4.4	.10	.33	1177	269.5	84.6	-8.0
05.00	3.79		3.8	.16	.40	1150	269.5	83.0	-8.1
05.50	3.67		3.7	.17	.41	1152	269.5	81.4	-8.2
40306.00	3.65		3.65	-13.17	-13.41	1149	269.4	79.8	-8.3
07.00	3.65		3.65	.17	.41	1160	269.4	76.5	-8.5
08.00	3.68		3.68	.17	.41	1175	269.4	73.3	-8.7
09.00	3.71		3.71	.16	.41	1178	269.3	70.0	-8.9
10.00	3.74		3.74	.16	.40	1171	269.3	66.8	-9.1
11.00	3.78		3.78	.16	.40	1166	269.3	63.5	-9.3
40311.50	3.81		3.8	-13.16	-13.40	1164	269.3	61.9	-9.4
12.00	3.86		3.9	.14	.39	1188	269.2	60.3	-9.5
12.50	3.84		3.8	.16	.40	1172	269.2	58.7	-9.5
13.00	3.91		3.9	.15	.39	1174	269.2	57.0	-9.6
13.50	3.96		4.0	.14	.37	1190	269.2	55.4	-9.7
14.00	3.98		4.0	.14	.37	1188	269.2	53.8	-9.8
14.50	3.95		4.0	.14	.37	1192	269.2	52.2	-9.9
15.00	3.90		3.9	.15	.39	1189	269.1	50.5	-10.0
15.50	3.87		3.9	.15	.39	1186	269.1	48.9	-10.1
16.00	3.81		3.8	.16	.40	1176	269.1	47.3	-10.2
40317.00	3.73		3.73	-13.16	-13.41	1169	269.1	44.0	-10.4
18.00	3.68		3.68	.17	.41	1154	269.1	40.8	-10.5
19.00	3.61		3.61	.18	.42	1143	269.0	37.5	-10.7
20.00	3.57		3.57	.18	.42	1147	269.0	34.3	-10.9
21.00	3.59		3.59	.17	.42	1152	269.0	31.0	-11.1
22.00	3.60		3.60	.17	.42	1155	269.0	27.7	-11.2
23.00	3.64		3.64	.17	.42	1171	269.0	24.5	-11.4
24.00	3.63		3.63	.17	.42	1158	268.9	21.2	-11.6
25.00	3.75		3.75	.16	.40	1155	268.9	18.0	-11.7
26.00	3.81		3.81	.15	.40	1166	268.9	14.7	-11.9
27.00	3.88		3.88	.15	.39	1179	268.9	11.4	-12.0
28.00	3.70		3.70	.17	.41	1150	268.9	8.2	-12.2
29.00	3.58		3.58	.18	.42	1130	268.9	4.9	-12.3
30.00	3.44		3.44	.19	.44	1130	268.9	1.6	-12.5
31.00	3.30		3.30	.20	.46	1123	268.9	358.4	-12.6
32.00	3.23		3.23	.21	.47	1110	268.9	355.1	-12.8
33.00	3.15		3.15	.22	.48	1091	268.9	351.8	-12.9
34.00	3.08		3.08	.23	.49	1083	269.0	348.5	-13.0
35.00	3.01		3.01	.24	.50	1077	269.0	345.2	-13.2
36.00	2.94		2.94	.25	.51	1060	269.0	342.0	-13.3
37.00	2.86		2.86	.26	.52	1053	269.0	338.7	-13.4
38.00	2.75		2.75	.28	.54	1034	269.0	335.4	-13.5
40338.50	2.69		2.7	-13.28	-13.55	1019	269.1	333.8	-13.6
39.00	2.80		2.8	.27	.53	1030	269.1	332.1	-13.7
39.50	2.85		2.8	.27	.53	1005	269.1	330.5	-13.7
40.00	2.77		2.8	.27	.53	1009	269.1	328.8	-13.8
40.50	2.71		2.7	.28	.55	1021	269.1	327.2	-13.8
41.00	2.73		2.7	.28	.55	1014	269.1	325.5	-13.9
41.50	2.58		2.6	.30	.57	986	269.1	323.9	-13.9

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40342.00	2.38		2.4	-13.33	-13.60	961	269.2	322.2	-14.0
42.50	2.30		2.3	.34	.62	959	269.2	320.6	-14.0
43.00	2.20		2.2	.36	.64	950	269.2	318.9	-14.1
43.50	2.12		2.1	.38	.66	925	269.2	317.3	-14.1
44.00	2.46		2.5	.31	.58	976	269.2	315.6	-14.2
44.50	2.31		2.3	.34	.62	947	269.2	314.0	-14.2
45.00	2.21		2.2	.36	.64	940	269.3	312.3	-14.3
45.50	2.19		2.2	.36	.64	948	269.3	310.7	-14.3
46.00	2.11		2.1	.38	.66	932	269.3	309.0	-14.4
46.50	2.07		2.1	.38	.66	932	269.3	307.4	-14.4
40347.00	2.05		2.05	-13.39	-13.67	924	269.3	305.7	-14.5
48.00	2.06		2.06	.39	.67	929	269.4	302.4	-14.5
49.00	2.11		2.11	.37	.66	945	269.4	299.1	-14.6
50.00	2.09		2.09	.37	.67	940	269.5	295.8	-14.7
51.00	2.13		2.13	.37	.66	936	269.5	292.5	-14.7
52.00	2.11		2.11	.37	.66	937	269.5	289.1	-14.8
53.00	2.15		2.15	.36	.65	955	269.6	285.8	-14.9
54.00	2.19		2.19	.36	.65	945	269.6	282.5	-14.9
40355.00	2.37		2.4	-13.32	-13.60	953	269.6	279.2	-14.9
55.50	2.39		2.4	.32	.60	958	269.7	277.5	-15.0
56.00	2.90		2.9	.24	.52	1018	269.7	275.8	-15.0
56.50	3.19		3.2	.20	.48	1026	269.7	274.2	-15.0
57.00	2.74		2.7	.28	.55	963	269.7	272.5	-15.0
57.50	2.17		2.2	.36	.64	915	269.7	270.8	-15.0
58.00	2.05		2.0	.40	.68	905	269.7	269.2	-15.1
40359.00	2.01		2.01	-13.39	-13.68	916	269.8	265.8	-15.1
60.00	2.00		2.00	.39	.68	914	269.8	262.5	-15.1
61.00	1.95		1.95	.40	.70	911	269.8	259.1	-15.1
62.00	1.89		1.89	.42	.71	902	269.8	255.8	-15.1
63.00	1.82		1.82	.43	.73	888	269.8	252.4	-15.1
64.00	1.78		1.78	.44	.73	887	270.3	249.1	-15.1
65.00	1.79		1.79	.44	.73	891	270.4	245.8	-15.1
66.00	1.74		1.74	.45	.74	885	270.4	242.4	-15.1
67.00	1.64		1.64	.48	.76	874	270.5	239.0	-15.1
68.00	1.59		1.59	.49	.78	871	270.6	235.7	-15.1
69.00	1.47		1.47	.52	.81	845	270.6	232.3	-15.0
70.00	1.39		1.39	.54	.84	829	270.7	229.0	-15.0
71.00	1.41		1.41	.53	.83	832	270.7	225.6	-14.9
72.00	1.41		1.41	.53	.83	827	270.8	222.2	-14.9
73.00	1.42		1.42	.53	.83	830	270.9	218.9	-14.8
74.00	1.46		1.46	.51	.81	844	270.9	215.5	-14.7
75.00	1.47		1.47	.51	.81	850	271.0	212.1	-14.7
76.00	1.49		1.49	.51	.80	853	271.0	208.7	-14.6
77.00	1.49		1.49	.51	.80	853	271.1	205.3	-14.5
78.00	1.64		1.64	.47	.76	886	271.2	202.0	-14.4
79.00	1.81		1.81	.44	.72	915	271.2	198.6	-14.3
80.00	1.83		1.83	.44	.71	912	271.3	195.2	-14.2
81.00	1.92		1.92	.42	.69	926	271.4	191.8	-14.1
82.00	1.97		1.97	.41	.68	930	271.4	188.4	-14.0
83.00	2.02		2.02	.40	.66	944	271.5	185.1	-13.8
84.00	2.06		2.06	.40	.66	952	271.5	181.7	-13.7
85.00	2.02		2.02	.41	.66	940	271.6	178.3	-13.6
86.00	2.11		2.11	.39	.64	950	271.7	174.9	-13.4
87.00	2.15		2.15	.38	.63	959	271.7	171.5	-13.3
88.00	1.98		1.98	.41	.67	937	271.8	168.1	-13.1
89.00	1.84		1.84	.44	.70	911	271.9	164.7	-12.9
90.00	1.68		1.68	.47	.74	891	271.9	161.3	-12.8

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	$\dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40391.00	1.61		1.61	-13.48	-13.76	888	272.0	157.9	-12.6
92.00	1.59		1.59	.49	.76	880	272.1	154.5	-12.4
93.00	1.53		1.53	.51	.78	870	272.2	151.1	-12.2
94.00	1.50		1.50	.51	.79	873	272.2	147.8	-12.0
95.00	1.47		1.47	.52	.79	870	272.3	144.4	-11.8
96.00	1.48		1.48	.52	.79	864	272.4	141.0	-11.6
97.00	1.47		1.47	.52	.79	859	272.5	137.6	-11.4
98.00	1.47		1.47	.52	.79	861	272.5	134.2	-11.1
99.00	1.44		1.44	.53	.80	859	272.6	130.8	-10.9
40400.00	1.40		1.40	.54	.81	858	272.7	127.4	-10.6
40400.50	1.38		1.4	-13.54	-13.81	861	272.8	125.7	-10.5
01.00	1.39		1.4	.54	.81	863	272.8	124.0	-10.4
01.50	1.42		1.4	.54	.81	862	272.8	122.3	-10.3
02.00	1.46		1.5	.51	.78	882	272.9	120.6	-10.1
02.50	1.52		1.5	.51	.78	882	272.9	118.9	-10.0
03.00	1.58		1.6	.49	.75	898	273.0	117.2	-9.9
03.50	1.86		1.9	.42	.67	942	273.0	115.5	-9.7
04.00	1.93		1.9	.42	.67	937	273.0	113.8	-9.6
04.50	1.76		1.8	.45	.69	932	273.1	112.1	-9.5
05.00	1.72		1.7	.47	.72	927	273.1	110.4	-9.3
05.50	1.74		1.7	.47	.72	929	273.1	108.8	-9.2
06.00	1.79		1.8	.45	.69	948	273.2	107.1	-9.1
06.50	1.80		1.8	.45	.69	950	273.2	105.4	-8.9
07.00	1.86		1.9	.43	.67	971	273.2	103.7	-8.8
07.50	1.92		1.9	.43	.67	972	273.3	102.0	-8.6
08.00	1.91		1.9	.43	.67	973	273.3	100.3	-8.5
08.50	1.94		1.9	.43	.67	969	273.4	98.6	-8.3
09.00	1.97		2.0	.41	.64	983	273.4	96.9	-8.2
09.50	2.03		2.0	.41	.64	981	273.4	95.2	-8.0
10.00	2.04		2.0	.41	.64	981	273.5	93.5	-7.9
10.50	2.07		2.1	.39	.62	1004	273.5	91.8	-7.7
11.00	2.10		2.1	.39	.62	1000	273.5	90.1	-7.5
11.50	2.14		2.1	.39	.62	997	273.6	88.4	-7.4
12.00	2.17		2.2	.37	.60	1018	273.6	86.8	-7.2
12.50	2.20		2.2	.37	.60	1019	273.6	85.1	-7.1
13.00	2.23		2.2	.37	.60	1020	273.7	83.4	-6.9
13.50	2.26		2.3	.35	.58	1043	273.7	81.7	-6.7
14.00	2.27		2.3	.35	.58	1038	273.7	80.0	-6.6
14.50	2.30		2.3	.35	.58	1032	273.8	78.3	-6.4
15.00	2.33		2.3	.35	.58	1028	273.8	76.6	-6.2
15.50	2.26		2.3	.35	.58	1023	273.8	74.9	-6.0
16.00	2.24		2.2	.37	.60	1006	273.9	73.3	-5.9
16.50	2.20		2.2	.37	.60	1008	273.9	71.6	-5.7
17.00	2.06		2.1	.39	.62	999	273.9	69.9	-5.5
17.50	1.99		2.0	.41	.64	989	273.9	68.2	-5.3
18.00	1.94		1.9	.43	.66	971	274.0	66.5	-5.2
18.50	1.95		1.9	.43	.66	965	274.0	64.8	-5.0
19.00	1.95		1.9	.43	.66	964	274.0	63.1	-4.8
19.50	1.95		2.0	.41	.64	992	274.1	61.5	-4.6
20.00	1.91		1.9	.43	.66	982	274.1	59.8	-4.4
20.50	1.89		1.9	.43	.66	981	274.1	58.1	-4.2
21.00	1.82		1.8	.45	.68	962	274.2	56.4	-4.0
21.50	1.79		1.8	.45	.68	966	274.2	54.7	-3.9
22.00	1.80		1.8	.45	.68	967	274.2	53.0	-3.7
22.50	1.73		1.7	.47	.70	945	274.3	51.4	-3.5
23.00	1.75		1.8	.45	.68	964	274.3	49.7	-3.3
23.50	1.78		1.8	.45	.68	965	274.3	48.0	-3.1
24.00	1.83		1.8	.45	.68	959	274.4	46.3	-2.9
24.50	1.78		1.8	.45	.68	953	274.4	44.6	-2.7

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	-10^6 P_a	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg)	$\delta_\pi - \delta_O$ (deg.)
40425.00	1.76		1.8	-13.45	-13.68	955	274.4	43.0	-2.5
25.50	1.76		1.8	.45	.68	960	274.5	41.3	-2.3
26.00	1.81		1.8	.45	.68	960	274.5	39.6	-2.1
26.50	1.84		1.8	.45	.68	960	274.5	37.9	-1.9
27.00	1.76		1.8	.45	.68	965	274.5	36.3	-1.7
27.50	1.66		1.7	.48	.70	946	274.6	34.6	-1.5
28.00	1.61		1.6	.50	.73	923	274.6	32.9	-1.2
28.50	1.79		1.8	.45	.68	950	274.6	31.2	-1.0
29.00	2.15		2.2	.37	.59	1003	274.7	29.6	-0.8
29.50	2.20		2.2	.37	.59	1000	274.7	27.9	-0.6
30.00	2.03		2.0	.41	.63	983	274.7	26.2	-0.4
30.50	1.98		2.0	.41	.63	1000	274.8	24.5	-0.2
31.00	1.90		1.9	.43	.65	988	274.8	22.9	0.0
31.50	1.85		1.9	.43	.65	992	274.8	21.2	0.3
32.00	1.83		1.8	.45	.67	971	274.9	19.5	0.5
32.50	1.92		1.9	.43	.65	983	274.9	17.9	0.7
33.00	1.99		2.0	.41	.63	988	274.9	16.2	0.9
33.50	2.09		2.1	.39	.61	1009	274.9	14.5	1.1
34.00	2.11		2.1	.39	.61	1022	275.0	12.9	1.4
34.50	2.16		2.2	.37	.59	1045	275.0	11.2	1.6
35.00	2.21		2.2	.38	.59	1050	275.0	9.5	1.8
35.50	2.24		2.2	.38	.59	1048	275.0	7.9	2.0
36.00	2.24		2.2	.38	.59	1035	275.0	6.2	2.3
36.50	2.34		2.3	.36	.57	1044	275.1	4.5	2.5
37.00	2.47		2.5	.33	.53	1069	275.1	2.9	2.7
37.50	2.65		2.6	.31	.52	1085	275.1	1.2	3.0
38.00	2.63		2.6	.31	.52	1095	275.1	359.5	3.2
38.50	2.59		2.6	.31	.52	1100	275.2	357.9	3.4
39.00	2.54		2.5	.33	.53	1087	275.2	356.2	3.7
39.50	2.50		2.5	.32	.53	1094	275.2	354.5	3.9
40.00	2.46		2.5	.32	.53	1098	275.3	352.9	4.1
40.50	2.44		2.4	.34	.55	1073	275.3	351.2	4.4
41.00	2.45		2.4	.34	.55	1068	275.3	349.6	4.6
41.50	2.45		2.5	.32	.53	1082	275.3	347.9	4.9
42.00	2.39		2.4	.33	.55	1058	275.4	346.2	5.1
42.50	2.35		2.3	.35	.57	1039	275.4	344.6	5.4
43.00	2.30		2.3	.35	.57	1044	275.4	342.9	5.6
43.50	2.26		2.3	.35	.57	1046	275.5	341.3	5.8
44.00	2.20		2.2	.36	.59	1040	275.5	339.6	6.1
44.50	2.13		2.1	.38	.61	1030	275.5	337.9	6.3
45.00	2.14		2.1	.38	.61	1015	275.6	336.3	6.6
45.50	2.20		2.2	.37	.59	1014	275.6	334.6	6.8
46.00	2.16		2.2	.36	.59	1014	275.6	333.0	7.1
46.50	1.92		1.9	.42	.65	972	275.7	331.3	7.3
47.00	1.81		1.8	.45	.67	958	275.7	329.7	7.6
47.50	1.74		1.7	.47	.70	937	275.7	328.0	7.8
48.00	1.61		1.6	.49	.72	922	275.8	326.3	8.1
48.50	1.62		1.6	.49	.72	927	275.8	324.7	8.4
49.00	1.68		1.7	.46	.70	943	275.8	323.0	8.6
49.50	1.61		1.6	.49	.72	925	275.9	321.4	8.9
50.00	1.55		1.5	.52	.75	898	275.9	319.7	9.1
50.50	1.53		1.5	.52	.75	897	276.0	318.1	9.4
51.00	1.50		1.5	.52	.75	902	276.0	316.4	9.6
51.50	1.46		1.5	.52	.75	897	276.0	314.8	9.9
52.00	1.40		1.4	.55	.78	874	276.1	313.1	10.2
52.50	1.38		1.4	.55	.78	871	276.1	311.5	10.4
53.00	1.35		1.3	.58	.81	845	276.1	309.8	10.7
53.50	1.33		1.3	.58	.81	849	276.2	308.2	10.9
54.00	1.35		1.3	.57	.81	854	276.2	306.5	11.2
54.50	1.36		1.4	.54	.78	878	276.3	304.9	11.5

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40455.00	1.39		1.4	-13.54	-13.78	878	276.3	303.2	11.7
55.50	1.38		1.4	.54	.78	879	276.3	301.6	12.0
56.00	1.40		1.4	.54	.78	873	276.4	299.9	12.3
56.50	1.38		1.4	.55	.78	867	276.4	298.3	12.5
57.00	1.40		1.4	.55	.78	869	276.5	296.6	12.8
57.50	1.41		1.4	.55	.78	872	276.5	295.0	13.1
58.00	1.45		1.4	.55	.78	873	276.5	293.4	13.4
58.50	1.46		1.5	.52	.75	900	276.6	291.7	13.6
59.00	1.43		1.4	.55	.78	886	276.6	290.1	13.9
59.50	1.42		1.4	.55	.78	872	276.7	288.4	14.2
60.00	1.80		1.8	.45	.67	934	276.7	286.8	14.4
60.50	2.21		2.2	.36	.58	1006	276.7	285.1	14.7
61.00	1.63		1.6	.50	.72	905	276.8	283.5	15.0
61.50	1.58		1.6	.49	.72	914	276.8	281.8	15.3
62.00	1.54		1.5	.52	.75	899	276.9	280.2	15.5
62.50	1.56		1.6	.49	.72	920	276.9	278.5	15.8
63.00	1.57		1.6	.49	.72	923	277.0	276.9	16.1
63.50	1.61		1.6	.49	.72	921	277.0	275.3	16.4
64.00	1.60		1.6	.49	.72	919	277.0	273.6	16.7
64.50	1.60		1.6	.49	.72	919	277.1	272.0	16.9
65.00	1.56		1.6	.49	.72	916	277.1	270.3	17.2
65.50	1.58		1.6	.49	.72	921	277.2	268.7	17.5
66.00	1.57		1.6	.49	.72	926	277.2	267.0	17.8
66.50	1.57		1.6	.49	.72	925	277.0	265.4	18.0
67.00	1.57		1.6	.49	.72	925	277.1	263.8	18.3
67.50	1.52		1.5	.52	.75	903	277.1	262.1	18.6
68.00	1.50		1.5	.52	.74	896	277.2	260.5	18.9
68.50	1.50		1.5	.52	.74	896	277.2	258.8	19.2
69.00	1.45		1.4	.55	.77	879	277.2	257.2	19.5
69.50	1.45		1.4	.55	.77	870	277.3	255.6	19.7
70.00	1.67		1.7	.47	.69	911	277.3	253.9	20.0
70.50	1.72		1.7	.47	.69	908	277.4	252.3	20.3
71.00	1.52		1.5	.52	.74	881	277.4	250.6	20.6
71.50	1.49		1.5	.52	.74	883	277.5	249.0	20.9
72.00	1.62		1.6	.49	.71	895	277.5	247.3	21.2
72.50	1.72		1.7	.46	.69	911	277.6	245.7	21.5
73.00	1.40		1.4	.54	.77	864	277.6	244.1	21.7
73.50	1.18		1.2	.61	.84	826	277.6	242.4	22.0
74.00	1.18		1.2	.61	.84	821	277.7	240.8	22.3
74.50	1.18		1.2	.61	.84	829	277.7	239.1	22.6
75.00	1.18		1.2	.61	.83	828	277.8	237.5	22.9
75.50	1.11		1.1	.65	.87	802	277.8	235.9	23.2
76.00	1.08		1.1	.64	.87	805	277.9	234.2	23.5
76.50	1.09		1.1	.64	.87	808	277.9	232.6	23.8
77.00	1.06		1.1	.64	.87	814	278.0	230.9	24.0
77.50	1.11		1.1	.64	.87	816	278.0	229.3	24.3
78.00	1.12		1.1	.64	.87	815	278.1	227.7	24.6
78.50	1.14		1.1	.65	.87	813	278.1	226.0	24.9
79.00	1.36		1.4	.55	.76	861	278.2	224.4	25.2
79.50	1.47		1.5	.52	.73	872	278.2	222.7	25.5
80.00	1.39		1.4	.55	.76	859	278.3	221.1	25.8
80.50	1.32		1.3	.58	.79	846	278.3	219.5	26.1
81.00	1.30		1.3	.58	.79	855	278.4	217.8	26.4
81.50	1.25		1.3	.58	.79	850	278.4	216.2	26.7
82.00	1.23		1.2	.62	.83	819	278.5	214.5	27.0
82.50	1.26		1.3	.58	.79	836	278.5	212.9	27.2
83.00	1.44		1.4	.55	.76	853	278.6	211.2	27.5
83.50	1.39		1.4	.55	.76	859	278.6	209.6	27.8
84.00	1.39		1.4	.55	.76	868	278.7	208.0	28.1
84.50	1.40		1.4	.55	.76	865	276.7	206.3	28.4

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40485.00	1.30		1.3	-13.58	-13.79	846	278.8	204.7	28.7
85.50	1.31		1.3	.58	.79	852	278.9	203.0	29.0
86.00	1.31		1.3	.58	.79	854	278.9	201.4	29.3
86.50	1.32		1.3	.58	.79	856	279.0	199.7	29.6
87.00	1.32		1.3	.58	.79	859	279.0	198.1	29.9
87.50	1.35		1.3	.58	.79	856	279.1	196.5	30.2
88.00	1.43		1.4	.55	.76	867	279.1	194.8	30.5
88.50	1.48		1.5	.53	.73	886	279.2	193.2	30.8
89.00	1.54		1.5	.53	.73	890	279.2	191.5	31.0
89.50	1.66		1.7	.48	.67	923	279.3	189.9	31.3
90.00	1.57		1.6	.50	.70	906	279.3	188.2	31.6
90.50	1.38		1.4	.56	.76	873	279.4	186.6	31.9
91.00	1.34		1.3	.59	.79	858	279.5	184.9	32.2
91.50	1.27		1.3	.59	.79	860	279.5	183.3	32.5
92.00	1.59		1.6	.50	.70	908	279.6	181.6	32.8
92.50	2.19		2.2	.37	.56	988	279.6	180.0	33.1
93.00	2.17		2.2	.37	.56	980	279.7	178.3	33.4
93.50	1.88		1.9	.43	.62	927	279.7	176.7	33.7
94.00	2.60		2.6	.30	.49	1014	279.8	175.0	34.0
94.50	2.60		2.6	.30	.49	1014	279.8	173.4	34.3
95.00	1.92		1.9	.43	.62	928	279.9	171.8	34.6
95.50	1.54		1.5	.53	.72	869	280.0	170.1	34.8
96.00	1.55		1.5	.53	.72	870	280.0	168.4	35.1
96.50	1.70		1.7	.48	.67	902	280.1	166.8	35.4
97.00	1.76		1.8	.46	.64	922	280.1	165.1	35.7
97.50	1.71		1.7	.48	.67	911	280.2	163.5	36.0
98.00	1.60		1.6	.51	.69	898	280.2	161.8	36.3
98.50	1.53		1.5	.53	.72	884	280.3	160.2	36.6
99.00	1.64		1.6	.50	.69	903	280.4	158.5	36.9
99.50	1.55		1.5	.53	.72	889	280.4	156.9	37.2
40500.00	1.51		1.5	.53	.72	888	280.5	155.2	37.5
00.50	1.59		1.6	.51	.69	898	280.5	153.6	37.8
01.00	1.72		1.7	.48	.66	915	280.6	151.9	38.0
01.50	1.65		1.7	.48	.66	925	280.6	150.3	38.3
02.00	1.61		1.6	.51	.69	917	280.7	148.6	38.6
02.50	1.55		1.5	.54	.71	901	280.8	146.9	38.9
03.00	1.53		1.5	.54	.71	898	280.8	145.3	39.2
03.50	1.49		1.5	.54	.71	899	280.9	143.6	39.5
04.00	1.53		1.5	.54	.71	886	280.9	142.0	39.8
04.50	1.90		1.9	.44	.61	946	281.0	140.3	40.1
05.00	1.96		2.0	.42	.59	967	281.0	138.6	40.3
05.50	1.78		1.8	.46	.63	935	281.1	137.0	40.6
06.00	1.79		1.8	.46	.63	940	281.1	135.3	40.9
06.50	1.80		1.8	.46	.63	942	281.2	133.7	41.2
07.00	1.78		1.8	.46	.63	952	281.3	132.0	41.5
07.50	1.69		1.7	.48	.66	938	281.3	130.3	41.8
08.00	1.53		1.5	.54	.71	898	281.4	128.7	42.1
08.50	1.49		1.5	.54	.71	904	281.4	127.0	42.3
09.00	1.50		1.5	.54	.71	904	281.5	125.3	42.6
09.50	1.49		1.5	.54	.71	901	281.5	123.7	42.9
10.00	1.50		1.5	.54	.71	902	281.6	122.0	43.2
10.50	1.49		1.5	.54	.71	901	281.6	120.3	43.5
11.00	1.52		1.5	.54	.71	898	281.7	118.7	43.7
11.50	1.58		1.6	.51	.68	921	281.7	117.0	44.0
12.00	1.77		1.8	.46	.63	955	281.8	115.3	44.3
12.50	1.73		1.7	.49	.65	931	281.9	113.6	44.6
13.00	1.69		1.7	.49	.65	934	281.9	112.0	44.9
13.50	1.80		1.8	.47	.63	947	282.0	110.3	45.1
14.00	1.81		1.8	.47	.63	948	282.0	108.6	45.4
14.50	1.82		1.8	.47	.63	959	282.1	106.9	45.7

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	-10^6 P	P_r	$-10^6 P_a$	log ρ_π	log ρ_s	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40515.00	1.88		1.9	-13.45	-13.60	979	282.1	105.3	46.0
15.50	1.90		1.9	.45	.60	971	282.2	103.6	46.2
16.00	1.93		1.9	.46	.61	968	282.2	101.9	46.5
16.50	1.95		1.9	.46	.61	969	282.3	100.2	46.8
17.00	1.96		2.0	.44	.58	991	282.3	98.5	47.1
17.50	2.02		2.0	.44	.58	1003	282.4	96.9	47.3
18.00	2.11		2.1	.42	.56	1013	282.4	95.2	47.6
18.50	2.27		2.3	.38	.52	1034	282.5	93.5	47.9
19.00	2.45		2.5	.35	.49	1068	282.5	91.8	48.1
19.50	2.42		2.4	.37	.51	1066	282.6	90.1	48.4
20.00	2.41		2.4	.37	.50	1072	282.6	88.4	48.7
20.50	2.42		2.4	.37	.50	1070	282.7	86.8	48.9
21.00	2.46		2.5	.35	.49	1091	282.7	85.1	49.2
21.50	2.48		2.5	.35	.49	1087	282.7	83.4	49.5
22.00	2.46		2.5	.35	.49	1075	282.8	81.7	49.7
22.50	2.52		2.5	.35	.49	1080	282.8	80.0	50.0
23.00	2.52		2.5	.35	.49	1087	282.9	78.3	50.3
23.50	2.52		2.5	.35	.48	1090	282.9	76.6	50.5
24.00	2.50		2.5	.35	.48	1099	282.9	74.9	50.8
24.50	2.53		2.5	.34	.48	1102	283.0	73.2	51.0
25.00	2.48		2.5	.34	.48	1103	283.0	71.5	51.3
25.50	2.43		2.4	.36	.50	1075	283.1	69.8	51.6
26.00	2.44		2.4	.36	.50	1073	283.1	68.1	51.8
26.50	2.46		2.5	.34	.48	1101	283.1	66.4	52.1
27.00	2.44		2.4	.36	.50	1081	283.2	64.7	52.3
27.50	2.46		2.5	.34	.48	1085	283.2	63.0	52.6
28.00	2.49		2.5	.34	.48	1072	283.3	61.3	52.8
28.50	2.46		2.5	.34	.48	1069	283.3	59.6	53.1
29.00	2.44		2.4	.36	.50	1056	283.3	57.9	53.3
29.50	2.43		2.4	.36	.49	1065	283.4	56.2	53.6
30.00	2.43		2.4	.36	.49	1076	283.4	54.5	53.8
30.50	2.33		2.3	.37	.51	1057	283.5	52.8	54.1
31.00	2.33		2.3	.37	.51	1061	283.5	51.1	54.3
31.50	2.25		2.3	.37	.51	1071	283.5	49.4	54.6
32.00	2.25		2.3	.38	.51	1063	283.6	47.7	54.8
32.50	2.30		2.3	.38	.51	1049	283.6	46.0	55.1
33.00	2.34		2.3	.38	.51	1045	283.6	44.2	55.3
33.50	2.51		2.5	.34	.48	1081	283.7	42.5	55.6
34.00	2.65		2.7	.31	.44	1105	283.7	40.8	55.8
34.50	2.72		2.7	.31	.44	1083	283.8	39.1	56.0
35.00	2.40		2.4	.36	.49	1040	283.8	37.4	56.3
35.50	2.34		2.3	.38	.51	1027	283.8	35.7	56.5
36.00	2.29		2.3	.38	.51	1028	283.9	33.9	56.7
36.50	2.18		2.2	.40	.53	1026	283.9	32.2	57.0
37.00	2.13		2.1	.42	.55	1012	284.0	30.5	57.2
37.50	2.09		2.1	.42	.55	1021	284.0	28.8	57.4
38.00	2.11		2.1	.41	.55	1029	284.0	27.0	57.7
38.50	2.13		2.1	.41	.55	1029	284.1	25.3	57.9
39.00	2.10		2.1	.41	.55	1029	284.1	23.6	58.1
39.50	2.09		2.1	.41	.55	1038	284.2	21.9	58.3
40.00	2.05		2.1	.41	.55	1047	284.2	20.1	58.6
40.50	2.02		2.0	.44	.57	1027	284.2	18.4	58.8
41.00	2.01		2.0	.44	.57	1027	284.3	16.7	59.0
41.50	2.05		2.0	.44	.57	1027	284.3	14.9	59.2
42.00	2.09		2.1	.42	.55	1040	284.4	13.2	59.4
42.50	2.13		2.1	.42	.55	1040	284.4	11.5	59.7
43.00	2.19		2.2	.40	.53	1058	284.5	9.7	59.9
43.50	2.18		2.2	.40	.53	1055	284.5	8.0	60.1
44.00	2.19		2.2	.40	.53	1056	284.5	6.3	60.3
44.50	2.18		2.2	.41	.53	1054	284.6	4.5	60.5

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40545.00	2.16		2.2	-13.41	-13.53	1045	284.6	2.8	60.7
45.50	2.18		2.2	.41	.53	1050	284.7	1.0	60.9
46.00	2.19		2.2	.41	.53	1064	284.7	359.3	61.1
46.50	2.20		2.2	.41	.53	1065	284.7	357.5	61.3
47.00	2.16		2.2	.41	.53	1057	284.8	355.8	61.5
47.50	2.17		2.2	.41	.53	1048	284.8	354.1	61.7
48.00	2.18		2.2	.41	.53	1050	284.9	352.3	61.9
48.50	2.19		2.2	.41	.53	1057	284.9	350.6	62.1
49.00	2.15		2.1	.43	.55	1039	285.0	348.8	62.3
49.50	2.13		2.1	.43	.55	1035	285.0	347.1	62.5
50.00	2.14		2.1	.43	.55	1034	285.0	345.3	62.7
50.50	2.12		2.1	.43	.55	1033	285.1	343.6	62.9
51.00	2.15		2.2	.41	.53	1046	285.1	341.8	63.1
51.50	2.19		2.2	.41	.53	1047	285.2	340.0	63.3
52.00	2.24		2.2	.40	.53	1046	285.2	338.3	63.5
52.50	2.35		2.3	.39	.51	1049	285.3	336.5	63.7
53.00	2.21		2.2	.40	.53	1031	285.3	334.8	63.8
53.50	2.04		2.0	.44	.57	1009	285.4	333.0	64.0
54.00	2.02		2.0	.44	.56	1014	285.4	331.3	64.2
54.50	1.98		2.0	.44	.56	1007	285.4	329.5	64.4
55.00	1.96		2.0	.44	.56	998	285.5	327.7	64.6
55.50	2.01		2.0	.44	.56	998	285.5	326.0	64.7
56.00	1.84		1.8	.48	.61	973	285.6	324.2	64.9
56.50	1.70		1.7	.50	.63	962	285.6	322.4	65.1
57.00	1.63		1.6	.53	.65	948	285.7	320.7	65.2
57.50	1.58		1.6	.52	.65	950	285.7	318.9	65.4
58.00	1.54		1.5	.55	.68	931	285.8	317.1	65.6
58.50	1.49		1.5	.55	.68	936	285.8	315.4	65.7
59.00	1.49		1.5	.55	.68	930	285.9	313.6	65.9
59.50	1.52		1.5	.55	.68	922	285.9	311.8	66.1
60.00	1.62		1.6	.52	.65	944	286.0	310.1	66.2
60.50	1.74		1.7	.50	.63	957	286.0	308.3	66.4
61.00	1.76		1.8	.48	.60	962	286.1	306.5	66.5
61.50	1.67		1.7	.50	.63	945	286.1	304.7	66.7
62.00	1.57		1.6	.52	.65	936	286.2	303.0	66.8
62.50	1.32		1.3	.61	.74	885	286.2	301.2	67.0
63.00	1.22		1.2	.64	.77	866	286.3	299.4	67.1
63.50	1.15		1.1	.68	.81	844	286.3	297.6	67.3
64.00	1.17		1.2	.64	.77	863	286.4	295.8	67.4
64.50	1.27		1.3	.61	.73	880	286.4	294.1	67.6
65.00	1.17		1.2	.64	.77	866	286.5	292.3	67.7
65.50	1.09		1.1	.67	.80	849	286.5	290.5	67.8
66.00	1.04		1.0	.72	.85	817	286.6	288.7	68.0
66.50	1.16		1.2	.64	.77	858	286.6	286.9	68.1
67.00	1.18		1.2	.64	.76	865	286.7	285.2	68.2
67.50	1.17		1.2	.64	.76	870	286.7	283.4	68.4
68.00	1.16		1.2	.63	.76	874	286.7	281.6	68.5
68.50	1.09		1.1	.67	.80	853	286.7	279.8	68.6
69.00	1.01		1.0	.71	.84	831	286.7	278.0	68.7
69.50	1.12		1.1	.67	.80	854	286.7	276.2	68.9
70.00	1.14		1.1	.67	.80	852	286.7	274.4	69.0
70.50	1.21		1.2	.64	.76	874	286.7	272.6	69.1
71.00	1.18		1.2	.64	.76	870	286.7	270.9	69.2
71.50	1.13		1.1	.68	.80	842	286.7	269.1	69.3
72.00	1.12		1.1	.67	.80	843	286.7	267.3	69.4
72.50	1.10		1.1	.67	.80	850	286.7	265.5	69.5
73.00	1.12		1.1	.67	.80	854	286.7	263.7	69.6
73.50	1.14		1.1	.67	.80	855	286.8	261.9	69.8
74.00	1.13		1.1	.67	.80	858	286.8	260.1	69.9
74.50	1.13		1.1	.67	.80	857	286.8	258.3	70.0

Table 4 (Cont.)

1966 44A (Explorer 32)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 P_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40575.00	1.13		1.1	-13.67	-13.80	857	286.8	256.5	70.1
75.50	1.15		1.1	.67	.80	859	286.8	254.7	70.1
76.00	1.12		1.1	.67	.80	860	286.8	252.9	70.2
76.50	1.14		1.1	.67	.80	860	286.9	251.1	70.3
77.00	1.21		1.2	.63	.76	885	286.9	249.3	70.4
77.50	1.33		1.3	.60	.73	900	286.9	247.5	70.5
78.00	1.35		1.4	.57	.69	917	286.9	245.7	70.6
78.50	1.33		1.3	.60	.73	894	286.9	243.9	70.7
79.00	1.28		1.3	.60	.73	890	287.0	242.1	70.8
79.50	1.27		1.3	.60	.72	893	287.0	240.4	70.8
80.00	1.30		1.3	.60	.72	897	287.0	238.6	70.9
80.50	1.32		1.3	.60	.72	894	287.0	236.8	71.0
81.00	1.25		1.2	.63	.76	874	287.1	235.0	71.1
81.50	1.22		1.2	.63	.76	878	287.1	233.2	71.1
82.00	1.29		1.3	.60	.72	894	287.1	231.4	71.2
82.50	1.27		1.3	.60	.72	894	287.2	229.6	71.3
83.00	1.22		1.2	.63	.75	884	287.2	227.8	71.3
83.50	1.07		1.1	.67	.79	865	287.2	226.0	71.4
84.00	1.00		1.0	.71	.83	838	287.2	224.2	71.5
84.50	0.97		1.0	.71	.83	836	287.3	222.4	71.5
85.00	0.92		0.9	.76	.88	814	287.3	220.6	71.6
85.50	0.97		1.0	.71	.83	843	287.3	218.8	71.6
86.00	1.02		1.0	.71	.83	844	287.4	217.0	71.7
86.50	1.05		1.0	.71	.83	844	287.4	215.2	71.7
87.00	1.07		1.1	.67	.79	866	287.5	213.4	71.8
87.50	1.15		1.1	.67	.79	861	287.5	211.6	71.8
88.00	1.27		1.3	.60	.72	899	287.5	209.8	71.9
88.50	1.51		1.5	.54	.66	929	287.6	208.0	71.9
89.00	1.27		1.3	.60	.72	884	287.6	206.2	72.0
89.50	1.05		1.1	.67	.79	850	287.6	204.4	72.0
90.00	0.86		0.9	.76	.88	812	287.7	202.6	72.0
90.50	0.94		0.9	.75	.87	817	287.7	200.8	72.1
91.00	0.99		1.0	.71	.83	843	287.8	199.0	72.1
91.50	0.99		1.0	.71	.83	841	287.8	197.2	72.1
92.00	1.02		1.0	.71	.83	837	287.9	195.4	72.2
92.50	1.02		1.0	.71	.83	838	287.9	193.6	72.2
93.00	0.97		1.0	.71	.83	842	287.9	191.8	72.2
93.50	0.95		1.0	.70	.82	844	288.0	190.0	72.2
94.00	0.90		0.9	.75	.87	815	288.0	188.2	72.3
94.50	0.88		0.9	.75	.87	813	288.1	186.4	72.3
95.00	0.89		0.9	.75	.87	810	288.1	184.6	72.3
95.50	0.94		0.9	.75	.87	810	288.2	182.8	72.3
96.00	0.94		0.9	.75	.87	811	288.2	181.0	72.3
96.50	0.95		0.9	.75	.87	814	288.3	179.2	72.3
97.00	0.90		0.9	.75	.87	819	288.3	177.4	72.4
97.50	0.91		0.9	.76	.87	820	288.4	175.6	72.4
98.00	1.06		1.1	.67	.78	867	288.4	173.8	72.4
98.50	1.18		1.2	.64	.75	890	288.5	172.0	72.4
99.00	1.26		1.3	.61	.71	915	288.5	170.2	72.4
99.50	1.34		1.3	.61	.72	915	288.6	168.4	72.4
40600.00	1.35		1.3	.61	.72	917	288.6	166.6	72.4

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40222.50	1.29		1.3	-14.10	-14.35	1025	356.9	322.9	27.1
23.00	1.26		1.3	.09	.35	1025	356.9	322.0	27.8
23.50	1.23		1.2	.13	.39	1003	356.8	321.0	28.6
24.00	1.24		1.2	.12	.39	1003	356.8	320.1	29.3
24.50	1.21		1.2	.12	.39	1003	356.7	319.1	30.1
25.00	1.25		1.3	.09	.35	1025	356.7	318.2	30.9
25.50	1.23		1.2	.12	.39	1003	356.7	317.2	31.6
26.00	1.23		1.2	.13	.39	1004	356.7	316.3	32.4
26.50	1.24		1.2	.13	.39	1004	356.7	315.3	33.1
27.00	1.18		1.2	.12	.39	1004	356.7	314.4	33.9
27.50	1.23		1.2	.13	.39	1004	356.7	313.4	34.6
28.00	1.24		1.2	.13	.39	1004	356.7	312.5	35.4
28.50	1.25		1.2	.13	.39	1005	356.8	311.6	36.1
29.00	1.29		1.3	.10	.35	1026	356.8	310.6	36.9
29.50	1.31		1.3	.10	.35	1027	356.8	309.7	37.6
30.00	1.21		1.2	.14	.39	1005	356.9	308.7	38.3
30.50	1.08		1.1	.17	.43	983	357.0	307.8	39.1
31.00	1.13		1.1	.17	.43	983	357.0	306.8	39.8
31.50	1.11		1.1	.17	.43	984	357.1	305.9	40.6
32.00	1.13		1.1	.17	.43	984	357.2	304.9	41.3
32.50	1.03		1.0	.21	.47	961	357.3	304.0	42.0
33.00	1.01		1.0	.21	.47	961	357.4	303.0	42.7
33.50	1.03		1.0	.21	.46	962	357.5	302.1	43.5
34.00	1.01		1.0	.21	.46	962	357.6	301.1	44.2
34.50	0.99		1.0	.20	.46	962	357.7	300.1	44.9
35.00	1.01		1.0	.20	.46	963	357.8	299.2	45.6
35.50	1.03		1.0	.21	.46	963	358.0	298.2	46.3
36.00	1.01		1.0	.21	.46	964	358.1	297.3	47.1
36.50	1.07		1.1	.17	.42	988	358.2	296.3	47.8
37.00	1.02		1.0	.21	.46	965	358.4	295.3	48.5
37.50	1.00		1.0	.21	.46	965	358.5	294.4	49.2
38.00	0.91		0.9	.26	.50	941	358.7	293.4	49.9
38.50	0.97		1.0	.21	.46	966	358.9	292.5	50.6
39.00	0.96		1.0	.21	.46	967	359.0	291.5	51.3
39.50	0.94		0.9	.26	.50	942	359.2	290.5	52.0
40.00	0.86		0.9	.26	.50	943	359.4	289.5	52.7
40.50	0.81		0.8	.31	.55	917	359.6	288.6	53.4
41.00	0.76		0.8	.30	.55	917	359.7	287.6	54.1
41.50	0.75		0.8	.30	.55	918	359.9	286.6	54.8
42.00	0.71		0.7	.36	.60	890	360.1	285.6	55.5
42.50	0.70		0.7	.36	.60	890	360.3	284.6	56.2
43.00	0.62		0.6	.42	.67	860	360.5	283.7	56.9
43.50	0.64		0.6	.42	.67	861	360.7	282.7	57.6
44.00	0.60		0.6	.42	.67	861	360.9	281.7	58.3
44.50	0.52		0.5	.50	.74	828	361.1	280.7	59.0
45.00	0.51		0.5	.50	.74	829	361.3	279.7	59.6
45.50	0.61		0.6	.42	.66	863	361.6	278.7	60.3
46.00	0.81		0.8	.30	.54	923	361.8	277.7	61.0
46.50	0.99		1.0	.21	.44	975	362.0	276.6	61.7
47.00	0.84		0.8	.31	.53	924	362.2	275.6	62.3
47.50	0.83		0.8	.31	.53	925	362.4	274.6	63.0
48.00	0.79		0.8	.31	.53	925	362.6	273.6	63.7
48.50	0.68		0.7	.37	.59	897	362.9	272.5	64.4
49.00	0.60		0.6	.43	.65	867	363.1	271.5	65.0
49.50	0.64		0.6	.43	.65	867	363.3	270.4	65.7
50.00	0.56		0.6	.42	.65	867	363.5	269.4	66.4
50.50	0.56		0.6	.42	.65	868	363.8	268.3	67.0
51.00	0.56		0.6	.42	.64	869	364.0	267.2	67.7
51.50	0.52		0.5	.51	.72	836	364.2	266.1	68.3
52.00	0.55		0.6	.42	.64	870	364.4	265.1	69.0

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40252.50	0.55		0.6	-14.42	-14.64	870	364.6	264.0	69.6
53.00	0.55		0.6	.43	.64	871	364.9	262.8	70.3
53.50	0.55		0.6	.42	.64	871	365.1	261.7	70.9
54.00	0.59		0.6	.42	.63	871	365.3	260.6	71.6
40254.40	0.2		0.2	-14.90	-15.11	702	365.5	259.7	72.1
54.60	1.3		1.3	.09	-14.30	1053	365.5	259.2	72.4
54.80	0.7		0.7	.37	.56	904	365.6	258.7	72.6
55.00	1.3		1.3	.11	.30	1054	365.7	258.3	72.9
55.20	1.6		1.6	.03	.21	1116	365.8	257.8	73.1
55.40	1.1		1.1	.19	.37	1010	365.9	257.3	73.4
55.60	0.7		0.7	.38	.56	906	366.0	256.9	73.6
55.80	0.9		0.9	.27	.45	961	366.0	256.4	73.9
56.00	1.3		1.3	.11	.29	1055	366.1	255.9	74.1
56.20	0.7		0.7	.38	.56	906	366.2	255.4	74.4
56.40	0.9		0.9	.26	.45	961	366.3	254.9	74.7
56.60	0.7		0.7	.37	.56	906	366.4	254.4	74.9
40257.00	0.67		0.7	-14.37	-14.56	906	366.5	253.5	75.4
57.50	0.64		0.6	.44	.62	876	366.7	252.2	76.0
58.00	0.71		0.7	.37	.55	907	366.9	250.9	76.7
58.50	0.68		0.7	.37	.55	907	367.1	249.6	77.3
59.00	0.69		0.7	.37	.55	907	367.3	248.3	77.9
59.50	0.66		0.7	.37	.55	908	367.5	246.9	78.5
60.00	0.66		0.7	.37	.55	908	367.7	245.6	79.1
60.50	0.67		0.7	.37	.55	909	367.8	244.1	79.7
61.00	0.64		0.6	.43	.61	878	368.0	242.7	80.3
61.50	0.61		0.6	.43	.61	878	368.2	241.2	80.9
62.00	0.66		0.7	.36	.54	909	368.3	239.7	81.5
62.50	0.77		0.8	.31	.48	938	368.5	238.1	82.1
63.00	0.89		0.9	.26	.43	965	368.6	236.4	82.7
63.50	1.25		1.2	.15	.31	1038	368.8	234.7	83.3
64.00	1.33		1.3	.11	.27	1060	368.9	233.0	83.9
64.50	0.66		0.7	.37	.54	911	369.1	231.1	84.4
65.00	0.64		0.6	.43	.60	880	369.2	229.2	85.0
65.50	0.54		0.5	.52	.68	846	369.3	227.2	85.5
66.00	0.63		0.6	.44	.60	880	369.4	225.1	86.1
66.50	0.67		0.7	.37	.53	911	369.5	222.9	86.6
40274.00	0.96		1.0	-14.23	-14.38	984	370.4	164.2	91.6
74.50	1.09		1.1	.19	.34	1006	370.4	158.1	91.6
75.00	1.11		1.1	.19	.34	1006	370.4	151.9	91.4
75.50	1.12		1.1	.20	.34	1005	370.4	145.6	91.2
76.00	1.21		1.2	.16	.30	1027	370.4	139.5	91.0
76.50	1.27		1.3	.13	.27	1047	370.4	133.5	90.6
77.00	1.29		1.3	.13	.27	1046	370.4	127.7	90.2
77.50	1.38		1.4	.10	.24	1065	370.3	122.3	89.7
78.00	1.37		1.4	.10	.24	1064	370.3	117.1	89.1
78.50	1.28		1.3	.14	.28	1043	370.2	112.3	88.5
79.00	1.37		1.4	.11	.24	1062	370.2	107.8	87.9
79.50	1.47		1.5	.08	.21	1081	370.1	103.7	87.2
80.00	1.77		1.8	.00	.14	1135	370.0	99.8	86.5
80.50	1.72		1.7	.02	.16	1116	369.9	96.3	85.7
81.00	1.53		1.5	.08	.22	1077	369.9	93.0	84.9
81.50	1.38		1.4	.10	.24	1057	369.8	89.9	84.1
82.00	1.40		1.4	.10	.24	1055	369.7	87.0	83.3
82.50	1.39		1.4	.10	.24	1054	369.6	84.3	82.4
83.00	1.34		1.3	.12	.28	1033	369.4	81.8	81.6
83.50	1.33		1.3	.12	.27	1031	369.3	79.4	80.7

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40284.00	1.29		1.3	-14.12	-14.27	1030	369.2	77.1	79.8
84.50	1.24		1.2	.15	.31	1008	369.1	75.0	78.9
85.00	1.34		1.3	.12	.28	1028	368.9	73.0	78.0
85.50	1.40		1.4	.10	.25	1047	368.8	71.0	77.1
86.00	1.43		1.4	.09	.25	1045	368.6	69.2	76.2
86.50	1.53		1.5	.06	.22	1063	368.5	67.4	75.2
87.00	1.52		1.5	.07	.22	1062	368.3	65.7	74.3
87.50	1.55		1.5	.07	.22	1061	368.2	64.1	73.4
88.00	1.61		1.6	.04	.19	1077	368.0	62.5	72.4
88.50	1.57		1.6	.04	.20	1076	367.8	61.0	71.5
89.00	1.56		1.6	.04	.20	1074	367.6	59.5	70.5
89.50	1.59		1.6	.04	.20	1073	367.4	58.1	69.6
90.00	1.56		1.6	.04	.20	1072	367.3	56.7	68.6
90.50	1.56		1.6	.03	.20	1070	367.1	55.3	67.6
91.00	1.63		1.6	.03	.20	1069	366.9	54.0	66.7
91.50	1.77		1.8	-13.99	.15	1102	366.7	52.7	65.7
92.00	1.94		1.9	.97	.13	1117	366.5	51.4	64.7
92.50	1.93		1.9	.97	.13	1116	366.3	50.2	63.8
93.00	1.77		1.8	.99	.16	1097	366.1	49.0	62.8
93.50	1.72		1.7	-14.01	.18	1079	365.9	47.8	61.8
94.00	1.77		1.8	-13.98	.16	1094	365.7	46.6	60.8
94.50	1.83		1.8	.98	.16	1093	365.5	45.4	59.8
95.00	1.87		1.9	.96	.14	1107	365.3	44.3	58.9
95.50	1.96		2.0	.94	.12	1122	365.0	43.2	57.9
96.00	2.07		2.1	.93	.10	1136	364.8	42.1	56.9
96.50	2.33		2.3	.89	.06	1164	364.6	41.0	55.9
97.00	2.51		2.5	.86	.03	1192	364.3	39.9	54.9
97.50	2.58		2.6	.84	.01	1204	364.1	38.8	53.9
98.00	2.58		2.6	.84	.01	1202	363.9	37.8	52.9
98.50	2.65		2.7	.83	.00	1214	363.6	36.8	51.9
99.00	2.68		2.7	.83	.00	1213	363.4	35.7	50.9
99.50	2.75		2.7	.83	.00	1211	363.1	34.7	50.0
40300.00	2.95		3.0	.79	-13.96	1249	362.9	33.7	49.0
00.50	3.23		3.2	.76	.93	1273	362.7	32.7	48.0
01.00	3.36		3.4	.73	.90	1296	362.4	31.7	47.0
01.50	3.31		3.3	.74	.92	1282	362.2	30.7	46.0
02.00	3.22		3.2	.76	.93	1267	361.9	29.7	45.0
02.50	3.20		3.2	.76	.93	1266	361.7	28.8	44.0
03.00	3.08		3.1	.77	.95	1251	361.5	27.8	43.0
03.50	3.23		3.2	.76	.94	1262	361.2	26.9	42.0
04.00	4.77		4.8	.59	.76	1447	361.0	25.9	41.0
04.50	3.43		3.4	.75	.92	1284	360.8	25.0	40.0
05.00	3.20		3.2	.76	.94	1257	360.5	24.0	39.0
05.50	3.17		3.2	.75	.94	1255	360.3	23.1	38.0
06.00	3.00		3.0	.78	.97	1229	360.1	22.2	37.0
06.50	2.97		3.0	.78	.97	1227	359.9	21.2	36.0
07.00	2.97		3.0	.78	.97	1226	359.6	20.3	35.0
07.50	2.94		2.9	.79	.99	1211	359.4	19.4	34.0
08.00	2.87		2.9	.79	.99	1210	359.2	18.5	33.0
08.50	2.83		2.8	.80	-14.00	1196	359.0	17.6	32.0
09.00	2.83		2.8	.80	.00	1195	358.8	16.7	31.0
09.50	2.89		2.9	.79	-13.99	1206	358.6	15.8	30.0
10.00	2.99		3.0	.78	.98	1218	358.4	14.9	29.0
10.50	3.06		3.1	.76	.96	1229	358.2	14.0	28.0
11.00	2.87		2.9	.79	.99	1203	358.0	13.1	27.0
11.50	2.86		2.9	.79	.99	1202	357.9	12.2	26.0
12.00	2.78		2.8	.80	-14.01	1188	357.7	11.3	25.0
12.50	2.66		2.7	.82	.03	1174	357.5	10.4	24.0
13.00	2.97		3.0	.78	-13.98	1212	357.3	9.5	23.0
13.50	2.92		2.9	.79	-14.00	1198	357.2	8.6	22.0

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40314.00	2.84		2.8	-13.81	-14.01	1184	357.0	7.8	21.0
14.50	2.75		2.7	.82	.03	1171	356.9	6.9	20.0
15.00	2.70		2.7	.82	.03	1170	356.7	6.0	19.0
15.50	2.64		2.6	.84	.05	1156	356.6	5.1	18.0
16.00	2.62		2.6	.83	.05	1156	356.5	4.2	17.0
16.50	2.57		2.6	.83	.05	1155	356.4	3.4	16.0
17.00	2.62		2.6	.83	.05	1155	356.3	2.5	15.0
17.50	2.67		2.7	.81	.03	1168	356.2	1.6	14.0
18.00	2.54		2.5	.85	.07	1141	356.1	0.8	13.0
18.50	2.41		2.4	.87	.09	1127	356.0	359.9	12.0
19.00	2.32		2.3	.88	.10	1113	355.9	359.0	11.0
19.50	2.29		2.3	.88	.10	1112	355.8	358.2	10.0
20.00	2.23		2.2	.89	.12	1098	355.7	357.3	9.0
20.50	2.20		2.2	.89	.12	1098	355.7	356.4	8.0
21.00	2.32		2.3	.87	.10	1112	355.6	355.6	7.1
21.50	2.40		2.4	.85	.09	1126	355.6	354.7	6.1
22.00	2.41		2.4	.85	.09	1126	355.6	353.9	5.1
22.50	2.31		2.3	.87	.11	1113	355.5	353.0	4.1
23.00	2.31		2.3	.87	.11	1113	355.5	352.1	3.1
23.50	2.32		2.3	.87	.11	1113	355.5	351.3	2.1
24.00	2.39		2.4	.85	.09	1127	355.5	350.4	1.1
24.50	2.47		2.5	.84	.07	1141	355.5	349.6	0.1
25.00	2.40		2.4	.86	.09	1128	355.6	348.7	-0.9
25.50	2.41		2.4	.86	.09	1129	355.6	347.9	-1.9
26.00	2.41		2.4	.86	.09	1129	355.6	347.0	-2.9
26.50	2.42		2.4	.86	.09	1130	355.7	346.1	-3.9
27.00	2.38		2.4	.86	.09	1131	355.7	345.3	-4.9
27.50	2.42		2.4	.86	.09	1131	355.8	344.4	-5.8
28.00	2.39		2.4	.86	.09	1132	355.9	343.6	-6.8
28.50	2.39		2.4	.86	.08	1133	356.0	342.7	-7.8
29.00	2.47		2.5	.84	.07	1148	356.1	341.8	-8.8
29.50	2.29		2.3	.87	.10	1121	356.2	341.0	-9.8
30.00	2.15		2.2	.89	.12	1108	356.3	340.1	-10.8
30.50	2.08		2.1	.90	.14	1094	356.4	339.3	-11.8
31.00	2.02		2.0	.92	.16	1080	356.5	338.4	-12.7
31.50	1.88		1.9	.94	.18	1066	356.7	337.5	-13.7
32.00	1.88		1.9	.95	.18	1067	356.8	336.7	-14.7
32.50	1.92		1.9	.95	.18	1068	357.0	335.8	-15.7
33.00	1.92		1.9	.94	.18	1069	357.2	335.0	-16.7
33.50	1.85		1.9	.95	.18	1071	357.3	334.1	-17.7
34.00	1.86		1.9	.95	.18	1072	357.5	333.2	-18.6
34.50	1.82		1.8	.97	.20	1058	357.7	332.4	-19.6
35.00	1.83		1.8	.97	.20	1059	357.9	331.5	-20.6
35.50	1.72		1.7	.99	.22	1044	358.1	330.6	-21.6
36.00	1.69		1.7	.99	.22	1046	358.3	329.8	-22.5
36.50	1.63		1.6	-14.02	.25	1030	358.6	328.9	-23.5
37.00	1.60		1.6	.02	.24	1032	358.8	328.0	-24.5
37.50	1.50		1.5	.04	.27	1016	359.1	327.2	-25.5
38.00	1.43		1.4	.07	.30	1000	359.3	326.3	-26.4
38.50	1.29		1.3	.11	.33	983	359.6	325.4	-27.4
39.00	1.34		1.3	.11	.33	984	359.8	324.5	-28.4
39.50	1.56		1.6	.03	.24	1041	360.1	323.7	-29.3
40.00	1.56		1.6	.02	.23	1043	360.4	322.8	-30.3
40.50	1.47		1.5	.04	.26	1026	360.7	321.9	-31.3
41.00	1.65		1.7	-13.99	.20	1063	361.0	321.0	-32.2
41.50	1.41		1.4	-14.08	.29	1012	361.3	320.1	-33.2
42.00	1.21		1.2	.14	.35	975	361.6	319.2	-34.2
42.50	1.15		1.2	.14	.35	977	361.9	318.4	-35.1
43.00	0.95		1.0	.21	.43	936	362.3	317.5	-36.1
43.50	0.93		0.9	.26	.47	915	362.6	316.6	-37.1

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
40344.00	1.26		1.3	-14.11	-14.31	1002	362.9	315.7	-38.0
44.50	1.03		1.0	.22	.42	942	363.3	314.8	-39.0
45.00	1.04		1.0	.22	.42	943	363.6	313.9	-39.9
45.50	0.95		1.0	.21	.41	945	364.0	313.0	-40.9
46.00	1.00		1.0	.21	.41	947	364.3	312.1	-41.9
46.50	0.95		1.0	.22	.41	949	364.7	311.2	-42.8
47.00	0.93		0.9	.26	.45	928	365.1	310.3	-43.8
47.50	0.95		1.0	.22	.41	953	365.4	309.4	-44.7
48.00	0.94		0.9	.26	.45	931	365.8	308.4	-45.7
48.50	0.89		0.9	.26	.45	933	366.2	307.5	-46.6
49.00	0.88		0.9	.25	.44	935	366.6	306.6	-47.6
49.50	0.83		0.8	.30	.49	912	367.0	305.7	-48.5
50.00	0.86		0.9	.26	.44	939	367.4	304.7	-49.4
50.50	0.85		0.8	.31	.49	916	367.7	303.8	-50.4
51.00	0.84		0.8	.31	.48	918	368.1	302.9	-51.3
51.50	0.87		0.9	.26	.43	947	368.8	301.9	-52.3
52.00	0.92		0.9	.26	.42	948	369.1	301.0	-53.2
52.50	0.90		0.9	.26	.42	950	369.5	300.0	-54.1
53.00	0.91		0.9	.26	.42	952	369.8	299.1	-55.1
53.50	1.03		1.0	.21	.37	978	370.2	298.1	-56.0
54.00	1.08		1.1	.18	.33	1004	370.6	297.2	-57.0
54.50	1.06		1.1	.19	.33	1007	370.9	296.2	-57.9
55.00	1.08		1.1	.19	.33	1009	371.3	295.2	-58.8
55.50	1.17		1.2	.15	.29	1034	371.7	294.3	-59.8
56.00	1.18		1.2	.16	.29	1036	372.0	293.3	-60.7
56.50	1.31		1.3	.13	.25	1061	372.4	292.3	-61.6
57.00	1.33		1.3	.13	.25	1063	372.8	291.3	-62.5
57.50	1.20		1.2	.16	.28	1043	373.1	290.3	-63.5
58.00	0.73		0.7	.38	.51	919	373.5	289.3	-64.4
58.50	0.71		0.7	.38	.50	920	373.9	288.2	-65.3
59.00	0.66		0.7	.38	.50	922	374.3	287.2	-66.2
59.50	0.69		0.7	.38	.50	924	374.6	286.2	-67.1
60.00	0.78		0.8	.32	.44	955	375.0	285.1	-68.0
60.50	0.66		0.7	.38	.49	928	375.3	284.1	-68.9
61.00	0.68		0.7	.38	.49	930	375.7	283.0	-69.9
61.50	0.64		0.6	.44	.55	900	376.1	282.0	-70.8
62.00	0.66		0.7	.37	.48	933	376.4	280.9	-71.7
40363.00	0.66		0.66	-14.40	-14.50	925	377.1	278.7	-73.5
64.00	0.64		0.64	.42	.51	923	377.8	276.4	-75.3
65.00	0.58		0.58	.46	.55	906	378.5	274.1	-77.0
66.00	0.52		0.52	.51	.59	889	379.2	271.7	-78.8
67.00	0.49		0.49	.53	.61	880	379.8	269.2	-80.6
68.00	0.45		0.45	.56	.64	868	380.4	266.7	-82.3
69.00	0.43		0.43	.58	.66	863	381.0	264.0	-84.1
70.00	0.43		0.43	.58	.65	866	381.6	261.2	-85.8
71.00	0.42		0.42	.59	.66	864	382.2	258.3	-87.5
72.00	0.41		0.41	.60	.66	863	382.7	255.2	-89.1
73.00	0.38		0.38	.63	.69	852	383.2	251.9	-90.8
74.00	0.37		0.37	.64	.69	850	383.6	248.3	-92.4
75.00	0.40		0.40	.60	.65	866	384.1	244.4	-94.0
76.00	0.43		0.43	.58	.62	883	384.5	240.1	-95.6
77.00	0.45		0.45	.56	.60	894	384.8	235.4	-97.1
78.00	0.48		0.48	.53	.57	909	385.1	230.0	-98.6
79.00	0.53		0.53	.50	.53	932	385.4	223.9	-99.9
80.00	0.58		0.58	.47	.50	954	385.7	216.8	-101.2
81.00	0.60		0.60	.46	.49	964	385.9	208.6	-102.3
82.00	0.66		0.66	.42	.45	987	386.0	199.1	-103.3
83.00	0.75		0.75	.37	.39	1018	386.1	188.2	-104.0
84.00	0.80		0.80	.34	.37	1035	386.2	176.1	-104.5

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r - 10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40385.00	0.81	0.81	-14.34	-14.36	1040	386.3	163.5	-104.7
86.00	0.82	0.82	.33	.36	1044	386.3	151.0	-104.5
87.00	0.87	0.87	.31	.33	1060	386.2	139.3	-104.0
88.00	0.78	0.78	.35	.38	1032	386.1	129.0	-103.3
89.00	0.68	0.68	.41	.44	999	386.0	120.0	-102.4
90.00	0.64	0.64	.43	.46	984	385.8	112.2	-101.3
91.00	0.62	0.62	.43	.47	977	385.6	105.5	-100.1
92.00	0.58	0.58	.46	.50	962	385.4	99.7	-98.9
93.00	0.57	0.57	.47	.51	958	385.1	94.6	-97.5
94.00	0.57	0.57	.47	.51	958	384.8	90.0	-96.1
95.00	0.55	0.55	.48	.53	950	384.4	85.9	-94.6
96.00	0.51	0.51	.52	.56	934	384.0	82.1	-93.1
97.00	0.50	0.50	.53	.58	929	383.6	78.6	-91.6
98.00	0.50	0.50	.52	.58	929	383.1	75.4	-90.1
99.00	0.50	0.50	.52	.58	928	382.6	72.3	-88.5
40400.00	0.51	0.51	.51	.57	930	382.0	69.4	-86.9
01.00	0.50	0.50	.52	.59	925	381.5	66.7	-85.3
02.00	0.49	0.49	.53	.60	920	380.9	64.0	-83.7
03.00	0.58	0.58	.46	.54	955	380.2	61.5	-82.0
04.00	0.70	0.70	.38	.46	997	379.6	59.0	-80.4
05.00	0.72	0.72	.37	.45	1002	378.9	56.6	-78.7
06.00	0.73	0.73	.36	.45	1004	378.2	54.3	-77.0
07.00	0.80	0.80	.32	.42	1025	377.5	52.1	-75.4
08.00	0.89	0.89	.28	.38	1051	376.8	49.9	-73.7
09.00	0.98	0.98	.24	.34	1076	376.0	47.7	-71.9
10.00	1.05	1.05	.21	.32	1094	375.2	45.6	-70.2
11.00	1.10	1.10	.19	.30	1105	374.5	43.5	-68.5
12.00	1.13	1.13	.17	.30	1111	373.7	41.4	-66.8
13.00	1.22	1.22	.14	.27	1132	372.9	39.4	-65.0
40413.50	1.25	1.3	-14.11	-14.24	1151	372.4	38.4	-64.2
14.00	1.31	1.3	.11	.25	1149	372.0	37.4	-63.3
14.50	1.34	1.3	.11	.25	1148	371.6	36.4	-62.4
15.00	1.22	1.2	.15	.29	1121	371.2	35.4	-61.5
15.50	1.20	1.2	.15	.29	1119	370.8	34.4	-60.6
16.00	1.23	1.2	.15	.29	1118	370.4	33.4	-59.8
16.50	1.25	1.2	.15	.30	1116	370.0	32.4	-58.9
17.00	1.09	1.1	.18	.33	1088	369.6	31.5	-58.0
17.50	0.97	1.0	.22	.38	1060	369.2	30.5	-57.1
18.00	0.95	1.0	.22	.38	1058	368.8	29.5	-56.2
18.50	1.04	1.0	.22	.38	1057	368.4	28.6	-55.3
19.00	1.06	1.1	.18	.34	1083	368.0	27.6	-54.4
19.50	1.01	1.0	.21	.39	1054	367.6	26.7	-53.5
20.00	1.03	1.0	.21	.39	1052	367.2	25.7	-52.6
20.50	0.97	1.0	.21	.39	1051	366.8	24.8	-51.7
21.00	0.95	1.0	.21	.39	1049	366.4	23.8	-50.8
21.50	0.97	1.0	.21	.40	1048	366.0	22.9	-49.9
22.00	0.88	0.9	.25	.44	1018	365.6	22.0	-49.0
22.50	0.89	0.9	.25	.45	1016	365.3	21.0	-48.1
23.00	0.87	0.9	.25	.45	1015	364.9	20.1	-47.2
23.50	0.92	0.9	.25	.45	1014	364.5	19.2	-46.3
24.00	0.93	0.9	.25	.46	1012	364.2	18.3	-45.4
24.50	0.98	1.0	.21	.41	1039	363.8	17.3	-44.5
25.00	0.95	1.0	.21	.41	1038	363.4	16.4	-43.6
25.50	0.93	0.9	.25	.46	1008	363.1	15.5	-42.7
26.00	0.94	0.9	.25	.46	1007	362.8	14.6	-41.7
26.50	0.92	0.9	.25	.47	1006	362.4	13.7	-40.8
27.00	0.93	0.9	.25	.47	1004	362.1	12.8	-39.9
27.50	0.86	0.9	.25	.47	1003	361.8	11.9	-39.0

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40435.50	1.35		1.3	-14.10	-14.34	1086	357.5	357.6	-24.1
36.00	1.42		1.4	.07	.31	1108	357.3	356.7	-23.1
36.50	1.53		1.5	.04	.28	1129	357.1	355.9	-22.2
37.00	1.53		1.5	.05	.28	1128	356.9	355.0	-21.2
37.50	1.64		1.6	.02	.26	1148	356.8	354.1	-20.3
38.00	1.71		1.7	-13.99	.23	1168	356.6	353.2	-19.4
38.50	1.78		1.8	.96	.21	1188	356.4	352.3	-18.4
39.00	1.82		1.8	.96	.21	1187	356.3	351.5	-17.5
39.50	1.82		1.8	.96	.21	1186	356.2	350.6	-16.5
40.00	1.82		1.8	.96	.21	1184	356.0	349.7	-15.6
40.50	1.78		1.8	.96	.21	1183	355.9	348.9	-14.6
41.00	1.71		1.7	.98	.24	1161	355.8	348.0	-13.6
41.50	1.64		1.6	-14.01	.26	1139	355.7	347.1	-12.7
40449.50	1.10		1.1	-14.15	-14.44	1012	355.3	333.2	2.7
50.00	0.99		1.0	.19	.48	986	355.3	332.3	3.7
50.50	0.92		0.9	.24	.52	960	355.4	331.4	4.6
51.00	0.88		0.9	.24	.52	959	355.4	330.5	5.6
51.50	0.91		0.9	.24	.52	959	355.5	329.7	6.6
52.00	0.87		0.9	.24	.52	958	355.6	328.8	7.6
52.50	0.90		0.9	.24	.52	958	355.6	327.9	8.5
53.00	0.89		0.9	.24	.52	957	355.7	327.0	9.5
53.50	0.89		0.9	.24	.52	957	355.8	326.1	10.5
54.00	0.88		0.9	.24	.52	957	355.9	325.3	11.5
54.50	0.88		0.9	.24	.52	956	356.0	324.4	12.4
55.00	0.87		0.9	.24	.52	956	356.2	323.5	13.4
55.50	0.94		0.9	.24	.52	956	356.3	322.6	14.4
56.00	0.97		1.0	.20	.47	981	356.4	321.7	15.4
56.50	1.00		1.0	.20	.47	981	356.6	320.8	16.3
57.00	1.03		1.0	.20	.47	981	356.7	320.0	17.3
57.50	1.06		1.1	.16	.43	1005	356.9	319.1	18.3
58.00	1.09		1.1	.16	.43	1005	357.0	318.2	19.3
58.50	1.12		1.1	.16	.42	1004	357.2	317.3	20.3
59.00	1.18		1.2	.12	.39	1028	357.3	316.4	21.2
59.50	1.39		1.4	.06	.32	1072	357.5	315.5	22.2
60.00	1.45		1.5	.04	.29	1092	357.7	314.6	23.2
60.50	1.59		1.6	.01	.26	1112	357.9	313.7	24.2
61.00	1.41		1.4	.07	.31	1070	358.1	312.7	25.2
61.50	1.33		1.3	.10	.34	1048	358.3	311.8	26.2
62.00	1.33		1.3	.09	.34	1048	358.5	310.9	27.1
62.50	1.32		1.3	.09	.34	1048	358.7	310.0	28.1
63.00	1.35		1.3	.09	.34	1048	358.9	309.1	29.1
63.50	1.34		1.3	.10	.34	1047	359.1	308.1	30.1
64.00	1.37		1.4	.06	.31	1068	359.3	307.2	31.1
64.50	1.33		1.3	.10	.34	1047	359.5	306.3	32.1
65.00	1.33		1.3	.10	.34	1046	359.7	305.3	33.1
65.50	1.32		1.3	.09	.33	1046	359.9	304.4	34.0
66.00	1.25		1.2	.13	.37	1024	360.1	303.4	35.0
66.50	1.24		1.2	.12	.37	1024	360.4	302.5	36.0
67.00	1.27		1.3	.09	.33	1046	360.6	301.5	37.0
67.50	1.23		1.2	.13	.36	1023	360.8	300.5	38.0
68.00	1.19		1.2	.13	.36	1023	361.1	299.6	39.0
68.50	1.12		1.1	.17	.40	1000	361.3	298.6	39.9
69.00	1.15		1.1	.16	.40	1000	361.5	297.6	40.9
69.50	1.18		1.2	.13	.36	1022	361.8	296.6	41.9
70.00	1.28		1.3	.10	.32	1044	362.0	295.6	42.9
70.50	1.27		1.3	.10	.32	1044	362.2	294.6	43.9
71.00	1.06		1.1	.17	.39	999	362.5	293.5	44.9
71.50	1.02		1.0	.21	.43	975	362.7	292.5	45.8

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r - 10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40472.00	0.94	0.9	-14.26	-14.47	950	362.9	291.4	46.8
72.50	1.08	1.1	.17	.38	998	363.2	290.4	47.8
73.00	0.90	0.9	.25	.47	949	363.4	289.3	48.8
73.50	0.76	0.8	.30	.52	923	363.6	288.2	49.8
74.00	0.75	0.8	.31	.52	923	363.9	287.1	50.8
74.50	0.75	0.8	.30	.52	923	364.1	286.0	51.7
75.00	0.75	0.7	.36	.57	894	364.3	284.9	52.7
75.50	0.74	0.7	.36	.57	894	364.6	283.7	53.7
76.00	0.68	0.7	.36	.57	894	364.8	282.5	54.7
76.50	0.63	0.6	.43	.63	864	365.0	281.4	55.6
77.00	0.65	0.7	.36	.56	894	365.2	280.1	56.6
77.50	0.57	0.6	.42	.63	863	365.4	278.9	57.6
78.00	0.56	0.6	.42	.63	863	365.6	277.6	58.6
78.50	0.54	0.5	.51	.71	830	365.8	276.3	59.5
79.00	0.71	0.7	.37	.56	893	366.0	275.0	60.5
79.50	0.91	0.9	.27	.45	946	366.1	273.7	61.5
80.00	0.90	0.9	.26	.45	946	366.3	272.3	62.4
80.50	0.79	0.8	.31	.50	920	366.5	270.8	63.4
81.00	0.71	0.7	.36	.55	892	366.7	269.3	64.3
81.50	0.66	0.7	.37	.55	892	366.8	267.8	65.3
82.00	0.76	0.8	.31	.49	919	367.0	266.2	66.2
82.50	0.90	0.9	.26	.44	944	367.2	264.6	67.2
83.00	0.75	0.8	.32	.49	919	367.3	262.9	68.1
83.50	0.71	0.7	.37	.55	891	367.5	261.1	69.0
84.00	0.78	0.8	.31	.49	918	367.6	259.3	70.0
84.50	0.78	0.8	.31	.49	918	367.8	257.3	70.9
85.00	0.81	0.8	.31	.48	917	367.9	255.3	71.8
85.50	0.77	0.8	.31	.48	917	368.0	253.1	72.7
86.00	0.77	0.8	.31	.48	917	368.2	250.9	73.6
86.50	0.73	0.7	.36	.54	889	368.3	248.5	74.5
87.00	0.73	0.7	.36	.54	889	368.4	245.9	75.3
87.50	0.88	0.9	.25	.43	941	368.5	243.2	76.2
88.00	0.91	0.9	.26	.43	941	368.6	240.3	77.0
88.50	0.84	0.8	.31	.48	915	368.7	237.1	77.8
89.00	0.88	0.9	.26	.42	940	368.8	233.8	78.6
89.50	0.89	0.9	.26	.42	940	368.9	230.1	79.4
90.00	0.92	0.9	.26	.42	939	369.0	226.2	80.1
90.50	0.89	0.9	.26	.42	939	369.0	222.0	80.8
91.00	0.86	0.9	.26	.42	938	369.1	217.5	81.4
91.50	0.87	0.9	.26	.42	937	369.1	212.6	82.0
92.00	0.98	1.0	.22	.38	960	369.2	207.3	82.6
92.50	1.30	1.3	.12	.27	1023	369.2	201.8	83.1
93.00	0.92	0.9	.28	.43	934	369.3	196.0	83.5
93.50	1.00	1.0	.24	.38	957	369.3	189.9	83.8
94.00	1.68	1.7	.01	.16	1093	369.3	183.7	84.1
94.50	1.65	1.7	.01	.16	1091	369.3	177.5	84.3
95.00	1.20	1.2	.16	.30	996	369.4	171.3	84.4
95.50	1.04	1.0	.23	.38	951	369.4	165.2	84.5
96.00	1.08	1.1	.19	.34	972	369.4	159.4	84.4
96.50	0.99	1.0	.23	.38	949	369.3	153.8	84.3
97.00	1.04	1.0	.23	.38	948	369.3	148.6	84.2
97.50	1.01	1.0	.23	.38	947	369.3	143.7	83.9
98.00	0.95	1.0	.23	.38	945	369.3	139.2	83.7
98.50	0.97	1.0	.23	.38	944	369.2	134.9	83.4
99.00	0.98	1.0	.23	.38	943	369.2	131.0	83.0
99.50	0.96	1.0	.22	.38	941	369.1	127.4	82.7
40500.00	0.94	0.9	.27	.43	918	369.1	124.0	82.3
00.50	0.99	1.0	.23	.39	940	369.0	120.9	81.8
01.00	1.14	1.1	.19	.35	960	368.9	117.9	81.4
01.50	0.98	1.0	.23	.39	937	368.9	115.2	80.9

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg)
40502.00	0.96		1.0	-14.23	-14.39	936	368.8	112.6	80.5
02.50	1.05		1.0	.23	.39	935	368.7	110.2	80.0
03.00	1.06		1.1	.19	.35	955	368.6	108.0	79.5
03.50	1.04		1.0	.23	.39	933	368.5	105.8	78.9
04.00	1.03		1.0	.24	.39	932	368.4	103.8	78.4
04.50	1.04		1.0	.24	.40	932	368.3	101.8	77.9
05.00	1.27		1.3	.12	.28	990	368.1	99.9	77.3
05.50	1.22		1.2	.16	.32	970	368.0	98.2	76.8
06.00	1.13		1.1	.19	.36	949	367.9	96.4	76.2
06.50	1.12		1.1	.19	.36	948	367.8	94.8	75.7
07.00	1.03		1.0	.23	.40	926	367.6	93.2	75.1
07.50	0.94		0.9	.27	.44	902	367.5	91.7	74.5
08.00	0.93		0.9	.27	.45	902	367.3	90.2	74.0
08.50	0.91		0.9	.27	.45	900	367.1	88.7	73.4
09.00	0.90		0.9	.27	.45	899	367.0	87.3	72.8
09.50	0.85		0.8	.32	.50	875	366.8	85.9	72.2
10.00	0.97		1.0	.22	.40	919	366.6	84.6	71.6
10.50	1.03		1.0	.22	.41	918	366.5	83.3	71.0
11.00	1.05		1.1	.18	.37	938	366.3	82.0	70.4
11.50	1.04		1.0	.22	.41	916	366.1	80.7	69.8
12.00	1.09		1.1	.19	.37	936	365.9	79.5	69.2
12.50	1.26		1.3	.12	.30	974	365.7	78.3	68.6
13.00	1.31		1.3	.12	.30	972	365.5	77.1	68.0
13.50	1.30		1.3	.12	.30	972	365.3	75.9	67.4
14.00	1.32		1.3	.12	.30	971	365.1	74.8	66.8
14.50	1.38		1.4	.09	.27	988	364.9	73.6	66.2
15.00	1.47		1.5	.06	.24	1004	364.7	72.5	65.6
15.50	1.60		1.6	.04	.22	1020	364.5	71.4	65.0
16.00	1.63		1.6	.04	.22	1019	364.3	70.3	64.3
16.50	1.69		1.7	.02	.19	1034	364.1	69.2	63.7
17.00	1.74		1.7	.02	.20	1033	363.9	68.1	63.1
17.50	1.80		1.8	-13.99	.17	1048	363.6	67.1	62.5
18.00	1.83		1.8	.99	.17	1047	363.4	66.0	61.9
18.50	2.03		2.0	.95	.13	1076	363.2	65.0	61.2
19.00	2.09		2.1	.93	.11	1090	363.0	63.9	60.6
19.50	2.14		2.1	.93	.11	1089	362.8	62.9	60.0
20.00	2.13		2.1	.93	.11	1088	362.5	61.9	59.4
20.50	2.26		2.3	.89	.07	1115	362.3	60.9	58.7
21.00	2.46		2.5	.85	.04	1141	362.1	59.9	58.1
21.50	2.52		2.5	.85	.04	1140	361.9	58.9	57.5
22.00	2.44		2.4	.87	.06	1126	361.6	57.9	56.8
22.50	2.47		2.5	.86	.04	1138	361.4	56.9	56.2
23.00	2.45		2.5	.85	.04	1138	361.2	55.9	55.5
23.50	2.37		2.4	.87	.06	1123	361.0	54.9	54.9
24.00	2.29		2.3	.88	.08	1109	360.8	54.0	54.3
24.50	2.28		2.3	.88	.08	1109	360.5	53.0	53.6
25.00	2.27		2.3	.88	.08	1108	360.3	52.0	53.0
25.50	2.29		2.3	.88	.08	1107	360.1	51.1	52.3
26.00	2.25		2.2	.90	.10	1093	359.9	50.1	51.7
26.50	2.24		2.2	.89	.11	1092	359.7	49.1	51.0
27.00	2.19		2.2	.89	.11	1092	359.5	48.2	50.4
27.50	2.18		2.2	.89	.11	1091	359.3	47.2	49.7
28.00	2.21		2.2	.90	.11	1091	359.1	46.3	49.1
28.50	2.30		2.3	.88	.09	1104	358.9	45.4	48.4
29.00	2.43		2.4	.86	.07	1117	358.7	44.4	47.8
29.50	2.42		2.4	.85	.07	1117	358.5	43.5	47.1
30.00	2.09		2.1	.91	.13	1075	358.3	42.5	46.5
30.50	1.90		1.9	.95	.18	1046	358.1	41.6	45.8
31.00	2.00		2.0	.93	.16	1060	357.9	40.7	45.2
31.50	2.09		2.1	.90	.14	1074	357.7	39.7	44.5

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40532.00	2.15		2.1	-13.91	-14.14	1075	357.5	38.8	43.8
32.50	2.17		2.2	.89	.12	1089	357.4	37.9	43.2
33.00	2.23		2.2	.89	.12	1089	357.2	37.0	42.5
33.50	2.33		2.3	.87	.10	1102	357.1	36.0	41.8
34.00	2.35		2.3	.88	.10	1102	356.9	35.1	41.2
34.50	2.34		2.3	.88	.10	1103	356.7	34.2	40.5
35.00	2.29		2.3	.88	.10	1103	356.6	33.3	39.8
35.50	2.28		2.3	.88	.10	1103	356.5	32.3	39.2
36.00	2.12		2.1	.92	.14	1075	356.4	31.4	38.5
36.50	1.98		2.0	.93	.16	1061	356.3	30.5	37.8
37.00	1.87		1.9	.95	.19	1046	356.2	29.6	37.1
37.50	1.87		1.9	.95	.19	1047	356.0	28.7	36.5
38.00	1.91		1.9	.95	.19	1047	355.9	27.7	35.8
38.50	1.87		1.9	.95	.19	1047	355.8	26.8	35.1
39.00	1.91		1.9	.95	.19	1048	355.7	25.9	34.4
39.50	1.91		1.9	.94	.19	1048	355.7	25.0	33.7
40.00	1.87		1.9	.94	.19	1049	355.6	24.1	33.0
40.50	1.83		1.8	.97	.21	1034	355.5	23.1	32.4
41.00	1.83		1.8	.97	.21	1035	355.4	22.2	31.7
41.50	1.86		1.9	.94	.19	1051	355.4	21.3	31.0
42.00	1.89		1.9	.95	.19	1051	355.4	20.4	30.3
42.50	1.96		2.0	.93	.17	1067	355.3	19.5	29.6
43.00	1.98		2.0	.93	.17	1068	355.3	18.6	28.9
43.50	2.01		2.0	.93	.17	1069	355.3	17.6	28.2
44.00	2.08		2.1	.91	.15	1085	355.3	16.7	27.5
44.50	2.14		2.1	.91	.15	1086	355.3	15.8	26.8
45.00	2.20		2.2	.90	.13	1101	355.3	14.9	26.1
45.50	2.23		2.2	.90	.13	1102	355.3	14.0	25.4
46.00	2.25		2.3	.87	.11	1118	355.3	13.0	24.7
46.50	2.21		2.2	.89	.12	1105	355.4	12.1	24.0
47.00	2.27		2.3	.88	.11	1120	355.4	11.2	23.3
47.50	2.22		2.2	.90	.12	1107	355.5	10.3	22.6
48.00	2.25		2.2	.90	.12	1109	355.6	9.3	21.9
48.50	2.27		2.3	.88	.10	1125	355.6	8.4	21.2
49.00	2.29		2.3	.88	.10	1126	355.7	7.5	20.5
49.50	2.32		2.3	.88	.10	1128	355.8	6.6	19.8
50.00	2.37		2.4	.86	.08	1144	355.9	5.6	19.0
50.50	2.40		2.4	.86	.08	1145	356.0	4.7	18.3
51.00	2.35		2.3	.88	.10	1133	356.2	3.8	17.6
51.50	2.30		2.3	.88	.10	1135	356.3	2.9	16.9
52.00	2.46		2.5	.84	.06	1165	356.4	1.9	16.2
52.50	2.48		2.5	.85	.06	1167	356.6	1.0	15.4
53.00	2.39		2.4	.86	.08	1155	356.8	0.1	14.7
53.50	2.38		2.4	.86	.08	1157	356.9	359.1	14.0
54.00	2.33		2.3	.87	.09	1144	357.1	358.2	13.3
54.50	2.28		2.3	.87	.09	1146	357.3	357.3	12.5
55.00	2.19		2.2	.89	.11	1133	357.5	356.3	11.8
55.50	2.07		2.1	.91	.13	1120	357.7	355.4	11.1
56.00	2.02		2.0	.93	.15	1107	357.9	354.4	10.3
56.50	1.96		2.0	.92	.15	1109	358.1	353.5	9.6
57.00	1.81		1.8	.97	.19	1079	358.3	352.6	8.8
57.50	1.79		1.8	.96	.19	1081	358.6	351.6	8.1
58.00	1.74		1.7	.99	.21	1066	358.8	350.7	7.4
58.50	1.68		1.7	.99	.21	1068	359.1	349.7	6.6
59.00	1.67		1.7	.99	.21	1070	359.3	348.8	5.9
59.50	1.72		1.7	.99	.21	1072	359.6	347.8	5.1
60.00	1.84		1.8	.97	.18	1092	359.9	346.9	4.4
60.50	1.93		1.9	.95	.16	1111	360.2	345.9	3.6
61.00	1.91		1.9	.95	.16	1114	360.5	344.9	2.9
61.50	1.78		1.8	.98	.18	1099	360.7	344.0	2.1

Table 4 (Cont.)

1966 70A (OV3-3)

MJD	$-10^6\dot{P}$	$10^6 P_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40562.00	1.59		1.6	-14.02	-14.23	1066	361.0	343.0	1.4
62.50	1.57		1.6	.02	.22	1069	361.4	342.1	0.6
63.00	1.52		1.5	.04	.25	1052	361.7	341.1	-0.2
63.50	1.43		1.4	.07	.28	1036	362.0	340.1	-0.9
64.00	1.41		1.4	.07	.28	1038	362.3	339.2	-1.7
64.50	1.32		1.3	.11	.31	1020	362.7	338.2	-2.5
65.00	1.30		1.3	.10	.30	1022	363.0	337.2	-3.2
65.50	1.28		1.3	.10	.30	1025	363.3	336.2	-4.0
66.00	1.26		1.3	.10	.30	1027	363.7	335.3	-4.8
66.50	1.21		1.2	.14	.33	1009	364.0	334.3	-5.5
67.00	1.23		1.2	.14	.33	1011	364.4	333.3	-6.3
67.50	1.21		1.2	.14	.33	1013	364.7	332.3	-7.1
68.00	1.12		1.1	.17	.36	993	365.1	331.3	-7.9
68.50	1.10		1.1	.17	.36	996	365.5	330.3	-8.6
69.00	1.19		1.2	.13	.32	1020	365.9	329.3	-9.4
69.50	1.24		1.2	.14	.32	1023	366.2	328.3	-10.2
40570.00	1.27		1.27	-14.11	-14.29	1040	366.6	327.3	-11.0
71.00	1.26		1.26	.12	.29	1043	367.4	325.3	-12.6
72.00	1.27		1.27	.12	.28	1050	368.1	323.3	-14.2
73.00	1.26		1.26	.12	.28	1053	368.9	321.2	-15.7
74.00	1.24		1.24	.13	.28	1054	369.7	319.1	-17.3
75.00	1.22		1.22	.13	.28	1054	370.5	317.0	-18.9
76.00	1.25		1.25	.12	.26	1066	371.3	314.9	-20.5
77.00	1.35		1.35	.09	.23	1093	372.1	312.8	-22.2
78.00	1.39		1.39	.09	.21	1107	372.8	310.6	-23.8
79.00	1.40		1.40	.09	.20	1114	373.6	308.4	-25.4
80.00	1.35		1.35	.10	.21	1108	374.4	306.1	-27.0
81.00	1.27		1.27	.13	.23	1094	375.1	303.8	-28.7
82.00	1.19		1.19	.15	.26	1080	375.9	301.5	-30.3
83.00	1.10		1.10	.19	.29	1063	376.6	299.1	-32.0
84.00	1.01		1.01	.22	.32	1044	377.3	296.7	-33.6
85.00	0.99		0.99	.23	.32	1043	378.0	294.2	-35.3
86.00	0.98		0.98	.23	.32	1044	378.6	291.6	-36.9
87.00	0.98		0.98	.24	.32	1047	379.3	288.9	-38.6
88.00	1.11		1.11	.19	.26	1085	379.9	286.1	-40.2
89.00	1.11		1.11	.19	.26	1088	380.5	283.1	-41.9
90.00	0.92		0.92	.26	.33	1041	381.0	280.0	-43.5
91.00	0.79		0.79	.32	.39	1006	381.5	276.8	-45.1
92.00	0.72		0.72	.36	.43	987	382.0	273.3	-46.8
93.00	0.69		0.69	.38	.44	979	382.5	269.5	-48.4
94.00	0.67		0.67	.39	.45	976	382.9	265.4	-50.0
95.00	0.67		0.67	.39	.44	978	383.3	260.9	-51.5
96.00	0.68		0.68	.39	.44	983	383.6	255.8	-53.1
97.00	0.74		0.74	.35	.40	1004	383.9	250.1	-54.5
98.00	0.82		0.82	.31	.35	1031	384.2	243.5	-55.9
99.00	0.87		0.87	.29	.33	1047	384.4	235.9	-57.2
40600.00	0.95		0.9	.27	.31	1060	384.7	227.1	-58.4

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40084.50	3.17	0.13	3.3	-15.94	-16.57	1175	677.2	351.8	8.3
85.00	2.93	0.15	3.1	.96	.60	1160	677.2	350.7	9.5
85.50	2.83	0.17	3.0	.98	.61	1152	677.3	349.7	10.6
86.00	2.36	0.18	2.5	-16.06	.70	1124	677.4	348.6	11.7
86.50	2.13	0.20	2.3	.10	.74	1112	677.5	347.6	12.9
87.00	1.96	0.22	2.2	.12	.76	1105	677.6	346.6	14.0
87.50	1.80	0.23	2.0	.16	.81	1090	677.8	345.5	15.1
88.00	1.65	0.25	1.9	.19	.83	1084	678.0	344.5	16.3
88.50	1.54	0.27	1.8	.22	.86	1076	678.2	343.4	17.4
89.00	1.52	0.28	1.8	.22	.86	1075	678.5	342.-	18.6
89.50	1.48	0.30	1.8	.22	.86	1075	678.7	341.3	19.7
90.00	1.45	0.32	1.8	.22	.86	1075	679.0	340.2	20.8
90.50	1.43	0.33	1.8	.23	.86	1074	679.4	339.2	22.0
91.00	1.47	0.34	1.8	.23	.86	1071	679.7	338.1	23.1
91.50	1.50	0.37	1.9	.20	.84	1077	680.0	337.0	24.3
92.00	1.64	0.37	2.0	.18	.82	1081	680.4	335.9	25.4
92.50	1.55	0.39	1.9	.21	.84	1070	680.8	334.8	26.6
93.00	1.19	0.40	1.6	.29	.92	1046	681.2	333.7	27.7
93.50	1.01	0.41	1.4	.36	.98	1029	681.6	332.6	28.9
94.00	0.96	0.42	1.4	.37	.98	1029	682.1	331.5	30.0
94.50	0.82	0.44	1.3	.40	-17.01	1016	682.5	330.4	31.1
95.00	0.65	0.45	1.1	.48	.08	992	683.0	329.3	32.3
95.50	0.60	0.46	1.1	.48	.08	991	683.4	328.1	33.4
96.00	0.58	0.47	1.1	.49	.08	990	683.9	327.0	34.6
96.50	0.52	0.48	1.0	.53	.12	977	684.4	325.8	35.7
97.00	0.46	0.49	0.9	.58	.16	962	684.9	324.7	36.9
97.50	0.48	0.50	1.0	.54	.11	977	685.4	323.5	38.0
98.00	0.57	0.50	1.1	.50	.07	991	685.9	322.3	39.2
98.50	0.65	0.51	1.2	.46	.03	1003	686.4	321.1	40.3
99.00	0.75	0.52	1.3	.43	-16.99	1013	686.9	319.9	41.5
99.50	0.90	0.52	1.4	.39	.96	1019	687.4	318.6	42.6
40100.00	1.16	0.53	1.7	.30	.87	1044	688.0	317.4	43.7
00.50	1.31	0.53	1.8	.28	.84	1053	688.5	316.1	44.9
01.00	0.99	0.54	1.5	.37	.92	1029	689.0	314.8	46.0
01.50	0.93	0.54	1.5	.37	.92	1029	689.5	313.5	47.2
02.00	0.88	0.54	1.4	.39	.95	1016	690.0	312.2	48.3
02.50	0.81	0.54	1.3	.42	.98	1005	690.6	310.8	49.5
03.00	0.84	0.54	1.4	.39	.94	1014	691.1	309.4	50.6
03.50	0.91	0.54	1.4	.38	.94	1014	691.6	308.0	51.7
04.00	0.94	0.54	1.5	.36	.91	1026	692.1	306.6	52.9
04.50	0.93	0.54	1.5	.36	.90	1026	692.6	305.1	54.0
05.00	0.94	0.54	1.5	.36	.90	1024	693.1	303.5	55.1
05.50	0.98	0.53	1.5	.37	.90	1024	693.6	302.0	56.2
06.00	1.10	0.53	1.6	.34	.87	1031	694.1	300.4	57.4
06.50	1.16	0.52	1.7	.31	.84	1040	694.5	298.7	58.5
40107.00	1.8	0.5	2.3	-16.18	-16.71	1084	695.0	297.0	59.6
07.20	2.8	0.5	3.3	.02	.55	1135	695.2	296.2	60.0
07.40	2.7	0.5	3.2	.02	.56	1127	695.4	295.5	60.5
07.60	2.2	0.5	2.7	.10	.63	1101	695.6	294.8	60.9
07.80	2.0	0.5	2.5	.13	.66	1090	695.7	294.0	61.4
08.00	2.0	0.5	2.5	.14	.66	1093	695.9	293.3	61.8
08.20	1.4	0.5	1.9	.26	.78	1055	696.1	292.5	62.3
40108.50	0.95	0.48	1.4	-16.40	-16.91	1011	696.4	291.3	62.9
09.00	0.96	0.47	1.4	.40	.91	1013	696.8	289.3	64.0
09.50	0.99	0.46	1.4	.40	.91	1014	697.2	287.1	65.1
10.00	1.07	0.44	1.5	.37	.88	1024	697.6	284.9	66.1
10.50	1.18	0.43	1.6	.35	.85	1035	698.0	282.5	67.2
11.00	1.34	0.41	1.7	.32	.82	1045	698.4	279.9	68.2

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40111.50	1.49	0.38	1.9	-16.26	-16.76	1057	698.8	277.2	69.3
12.00	1.88	0.36	2.2	.19	.69	1074	699.1	274.3	70.3
12.50	2.08	0.33	2.4	.15	.65	1085	699.5	271.2	71.3
13.00	2.06	0.30	2.4	.14	.65	1085	699.8	267.8	72.2
13.50	1.99	0.27	2.3	.17	.67	1079	700.1	264.2	73.2
14.00	1.66	0.23	1.9	.25	.75	1050	700.4	260.2	74.1
14.50	1.58	0.18	1.8	.27	.77	1042	700.7	255.9	74.9
15.00	1.53	0.13	1.7	.30	.79	1034	701.0	251.2	75.7
15.50	1.38	0.06	1.4	.39	.87	1007	701.3	246.1	76.5
16.00	1.35	0.00	1.4	.40	.87	1009	701.6	240.5	77.2
16.50	1.29	0.00	1.3	.44	.90	998	701.8	234.5	77.8
17.00	1.16	0.00	1.2	.48	.93	988	702.0	228.2	78.3
17.50	1.05	0.00	1.1	.52	.97	976	702.3	221.5	78.8
18.00	1.27	0.00	1.3	.44	.90	997	702.5	214.6	79.1
18.50	1.59	0.00	1.6	.35	.80	1024	702.6	207.5	79.3
19.00	1.19	0.00	1.2	.48	.93	979	702.8	200.5	79.4
19.50	1.01	0.00	1.0	.57	-17.01	953	703.0	193.7	79.4
20.00	0.99	0.00	1.0	.57	.01	951	703.1	187.1	79.4
20.50	1.11	0.00	1.1	.52	-16.97	960	703.2	180.9	79.2
21.00	1.20	0.00	1.2	.48	.93	972	703.3	175.1	78.9
21.50	1.32	0.00	1.3	.45	.90	984	703.4	169.8	78.6
22.00	1.39	0.00	1.4	.41	.87	990	703.5	164.8	78.2
22.50	1.56	0.00	1.6	.35	.81	1005	703.5	160.3	77.7
23.00	1.39	0.00	1.4	.43	.87	988	703.6	156.1	77.2
23.50	1.00	0.00	1.0	.59	-17.02	939	703.6	152.3	76.7
24.00	0.92	0.00	0.9	.63	.06	920	703.6	148.8	76.1
24.50	0.99	0.00	1.0	.58	.02	936	703.6	145.5	75.5
25.00	1.15	0.00	1.1	.53	-16.98	949	703.5	142.5	74.9
25.50	1.22	0.00	1.2	.49	.94	961	703.5	139.6	74.3
26.00	1.22	0.00	1.2	.49	.94	960	703.4	137.0	73.6
26.50	1.19	0.00	1.2	.49	.94	959	703.3	134.5	72.9
27.00	1.24	0.00	1.2	.49	.94	956	703.2	132.2	72.3
27.50	1.43	0.00	1.4	.42	.87	977	703.1	130.0	71.6
28.00	1.60	0.00	1.6	.35	.82	993	703.0	127.9	70.9
28.50	1.62	0.00	1.6	.36	.82	992	702.9	125.8	70.1
29.00	1.63	0.00	1.6	.36	.82	992	702.7	123.9	69.4
29.50	1.66	0.00	1.7	.34	.79	1001	702.5	122.1	68.7
30.00	2.02	0.00	2.0	.26	.72	1021	702.4	120.3	67.9
30.50	2.10	0.00	2.1	.24	.70	1025	702.1	118.6	67.2
40130.80	2.2	0.0	2.2	-16.23	-16.68	1033	702.0	117.6	66.7
31.00	2.4	0.0	2.4	.19	.64	1046	701.9	117.0	66.4
31.20	2.9	0.0	2.9	.10	.56	1070	701.8	116.3	66.1
31.40	3.1	0.0	3.1	.06	.53	1075	701.8	115.7	65.8
31.60	2.8	0.0	2.8	.10	.57	1057	701.7	115.0	65.5
31.80	2.0	0.0	2.0	.25	.72	1005	701.6	114.4	65.2
32.00	2.5	0.0	2.5	.16	.63	1042	701.5	113.8	64.9
32.20	3.0	0.0	3.0	.08	.55	1070	701.4	113.2	64.6
32.40	2.7	0.0	2.7	.12	.59	1050	701.3	112.6	64.3
32.60	2.5	0.0	2.5	.15	.63	1038	701.2	112.0	64.0
40133.00	1.70	0.00	1.7	-16.34	-16.80	987	700.9	110.8	63.4
33.50	1.49	0.00	1.5	.40	.85	970	700.7	109.4	62.6
34.00	1.59	0.00	1.6	.37	.82	980	700.4	108.0	61.8
34.50	1.68	0.00	1.7	.34	.80	988	700.1	106.6	61.1
35.00	1.75	0.00	1.7	.34	.80	987	699.8	105.2	60.3
35.50	1.79	0.00	1.8	.31	.77	993	699.4	103.9	59.5
36.00	1.84	0.00	1.8	.30	.77	989	699.1	102.6	58.7
36.50	1.91	0.00	1.9	.28	.75	996	698.8	101.3	57.9
37.00	2.46	0.00	2.5	.15	.63	1036	698.4	100.0	57.1

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40137.50	2.24	0.00	2.2	-16.21	-16.69	1016	698.0	98.8	56.4
38.00	2.10	0.00	2.1	.23	.71	1009	697.7	97.6	55.6
38.50	2.12	0.00	2.1	.23	.71	1007	697.3	96.3	54.8
39.00	2.08	0.00	2.1	.23	.71	1007	696.9	95.1	54.0
39.50	2.13	0.00	2.1	.23	.71	1006	696.5	94.0	53.2
40.00	2.04	0.00	2.0	.26	.74	1001	696.1	92.8	52.4
40.50	2.17	0.00	2.2	.21	.69	1015	695.7	91.6	51.6
41.00	2.30	0.00	2.3	.19	.68	1017	695.3	90.4	50.8
40141.40	3.0	0.0	3.0	-16.05	-16.56	1050	695.0	89.5	50.2
41.60	3.7	0.0	3.7	-15.96	.47	1080	694.8	89.1	49.8
41.80	4.4	0.0	4.4	.88	.39	1108	694.7	88.6	49.5
42.00	4.4	0.0	4.4	.88	.39	1106	694.5	88.2	49.2
42.20	4.7	0.0	4.7	.85	.36	1117	694.3	87.7	48.9
42.40	3.6	0.0	3.6	.97	.48	1076	694.2	87.3	48.6
42.60	3.1	0.0	3.1	-16.03	.55	1053	694.0	86.8	48.2
40142.75	3.0	0.0	3.0	-16.05	-16.56	1048	693.5	86.5	48.0
43.00	2.7	0.0	2.7	.10	.61	1032	693.3	85.9	47.6
40143.50	2.46	0.00	2.5	-16.13	-16.64	1021	692.9	84.8	46.8
44.00	2.41	0.00	2.4	.15	.66	1017	692.5	83.7	46.0
44.50	2.60	0.00	2.6	.12	.63	1031	692.1	82.6	45.2
45.00	2.60	0.00	2.6	.12	.63	1033	691.7	81.5	44.4
45.50	2.72	0.00	2.7	.10	.62	1038	691.4	80.4	43.6
46.00	2.90	0.00	2.9	.06	.58	1047	691.0	79.3	42.8
46.50	3.54	0.00	3.5	-15.98	.50	1076	690.7	78.2	42.0
47.00	3.72	0.00	3.7	.95	.48	1084	690.3	77.2	41.2
47.50	4.07	0.00	4.1	.90	.43	1101	690.0	76.1	40.4
48.00	3.88	0.00	3.9	.92	.46	1095	689.6	75.0	39.5
48.50	3.87	0.00	3.9	.92	.46	1095	689.3	74.0	38.7
49.00	4.33	0.00	4.3	.87	.41	1108	689.0	72.9	37.9
49.50	4.68	0.00	4.7	.83	.37	1123	688.6	71.8	37.1
50.00	4.40	0.00	4.4	.86	.40	1116	688.3	70.8	36.3
50.50	4.48	0.00	4.5	.85	.40	1122	688.0	69.7	35.5
51.00	4.69	0.00	4.7	.82	.38	1130	687.7	68.7	34.7
51.50	4.71	0.00	4.7	.82	.38	1131	687.4	67.6	33.9
52.00	4.79	0.00	4.8	.81	.37	1135	687.1	66.6	33.0
52.50	5.23	0.00	5.2	.77	.33	1148	686.8	65.6	32.2
53.00	5.58	0.00	5.6	.74	.30	1159	686.5	64.5	31.4
40153.25	5.9	0.0	5.9	-15.71	-16.27	1167	686.4	64.0	31.0
53.50	6.4	0.0	6.4	.68	.24	1183	686.2	63.5	30.6
53.75	6.7	0.0	6.7	.65	.22	1190	686.1	63.0	30.2
54.00	7.7	0.0	7.7	.59	.16	1211	686.0	62.4	29.8
54.25	6.8	0.0	6.8	.64	.21	1191	685.8	61.9	29.4
54.50	6.8	0.0	6.8	.64	.21	1192	685.7	61.4	29.0
54.75	6.2	0.0	6.2	.68	.25	1175	685.6	60.9	28.6
40155.00	6.13	0.00	6.1	-15.69	-16.26	1174	685.4	60.4	28.1
55.50	6.12	0.00	6.1	.69	.26	1175	685.2	59.3	27.3
56.00	6.49	0.00	6.5	.66	.23	1185	684.9	58.3	26.5
56.50	6.91	-0.05	6.9	.63	.20	1194	684.7	57.3	25.7
57.00	7.07	-0.12	7.0	.62	.20	1200	684.4	56.2	24.9
57.50	7.24	-0.16	7.1	.62	.19	1204	684.2	55.2	24.0
58.00	7.50	-0.19	7.3	.60	.18	1206	684.0	54.2	23.2
40158.25	7.9	-0.2	7.7	-15.58	-16.15	1213	683.9	53.7	22.8
58.50	8.9	-0.2	8.7	.52	.10	1233	683.8	53.1	22.4
58.75	9.1	-0.2	8.9	.51	.09	1233	683.7	52.6	22.0

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40159.00	10.6	-0.2	10.3	-15.45	-16.02	1257	683.6	52.1	21.6
59.25	9.7	-0.2	9.5	.48	.05	1248	683.5	51.6	21.1
59.50	8.6	-0.2	8.4	.53	.11	1232	683.5	51.1	20.7
59.75	8.5	-0.3	8.3	.54	.11	1229	683.4	50.6	20.3
60.00	8.4	-0.3	8.1	.55	.12	1222	683.3	50.0	19.9
60.25	7.6	-0.3	7.4	.59	.16	1203	683.2	49.5	19.5
40160.40	8.6	-0.3	8.3	-15.54	-16.11	1220	683.2	49.2	19.2
60.60	9.1	-0.3	8.8	.51	.09	1225	683.1	48.8	18.9
60.80	13.1	-0.3	12.8	.35	-15.91	1283	683.1	48.4	18.6
61.00	12.8	-0.3	12.5	.36	.92	1277	683.0	48.0	18.2
61.20	10.1	-0.3	9.8	.47	-16.04	1242	683.0	47.6	17.9
61.40	9.1	-0.3	8.8	.51	.09	1231	682.9	47.2	17.6
61.60	9.9	-0.3	9.6	.47	.06	1248	682.9	46.7	17.2
61.80	12.2	-0.3	11.9	.38	-15.95	1275	682.8	46.3	16.9
62.00	12.8	-0.3	12.6	.36	.92	1275	682.8	45.9	16.6
62.20	10.6	-0.3	10.4	.44	-16.00	1240	682.8	45.5	16.2
62.40	8.1	-0.3	7.8	.56	.13	1192	682.7	45.1	15.9
40162.50	8.0	-0.3	7.7	-15.57	-16.14	1196	682.7	44.9	15.7
62.75	7.3	-0.3	7.0	.61	.19	1187	682.7	44.4	15.3
63.00	7.6	-0.3	7.3	.59	.18	1195	682.7	43.8	14.9
63.25	9.0	-0.3	8.7	.52	.10	1225	682.7	43.3	14.5
63.50	7.7	-0.3	7.4	.59	.17	1199	682.6	42.8	14.1
63.75	6.4	-0.3	6.1	.67	.26	1169	682.6	42.3	13.6
64.00	6.0	-0.3	5.7	.70	.29	1160	682.6	41.8	13.2
64.25	5.6	-0.3	5.4	.72	.31	1153	682.6	41.3	12.8
64.50	6.2	-0.2	5.9	.68	.27	1165	682.7	40.7	12.4
64.75	6.2	-0.2	5.9	.68	.27	1164	682.7	40.2	12.0
65.00	6.6	-0.2	6.4	.65	.24	1179	682.7	39.7	11.6
65.25	5.7	-0.2	5.4	.72	.32	1155	682.8	39.2	11.1
65.50	5.2	-0.2	4.9	.77	.36	1143	682.8	38.7	10.7
65.75	5.0	-0.2	4.7	.79	.38	1136	682.8	38.1	10.3
66.00	4.7	-0.2	4.4	.81	.41	1126	682.9	37.6	9.9
66.25	4.9	-0.2	4.7	.79	.38	1138	683.0	37.1	9.4
66.50	5.0	-0.2	4.8	.78	.38	1143	683.0	36.6	9.0
66.75	5.1	-0.2	4.8	.78	.38	1142	683.1	36.0	8.6
67.00	5.4	-0.2	5.2	.74	.34	1153	683.2	35.5	8.2
67.25	5.9	-0.2	5.7	.70	.29	1163	683.2	35.0	7.8
67.50	6.8	-0.2	6.6	.64	.23	1187	683.3	34.5	7.3
67.75	5.7	-0.2	5.5	.72	.31	1159	683.4	34.0	6.9
68.00	5.2	-0.2	5.1	.75	.35	1152	683.5	33.4	6.5
68.25	5.1	-0.2	4.9	.77	.37	1150	683.6	32.9	6.1
68.50	5.1	-0.2	4.9	.77	.37	1148	683.7	32.4	5.6
68.75	5.6	-0.2	5.4	.72	.32	1160	683.8	31.9	5.2
69.00	6.9	-0.2	6.8	.62	.22	1199	683.9	31.3	4.8
69.25	7.4	-0.2	7.3	.59	.19	1211	684.1	30.8	4.4
69.50	6.4	-0.1	6.2	.66	.25	1180	684.2	30.3	3.9
69.75	5.7	-0.1	5.6	.71	.30	1164	684.3	29.7	3.5
70.00	5.4	-0.1	5.3	.73	.32	1159	684.4	29.2	3.1
70.25	5.6	-0.1	5.5	.72	.31	1169	684.6	28.7	2.7
70.50	5.8	-0.1	5.6	.71	.30	1173	684.7	28.2	2.2
70.75	5.9	-0.1	5.8	.69	.28	1177	684.9	27.6	1.8
71.00	5.8	-0.1	5.7	.70	.29	1174	685.0	27.1	1.4
71.25	5.7	-0.1	5.6	.71	.30	1171	685.2	26.6	1.0
71.50	5.3	-0.1	5.2	.74	.33	1159	685.3	26.0	0.5
71.75	4.6	-0.1	4.5	.80	.39	1137	685.5	25.5	0.1
40172.00	4.52	-0.07	4.4	-15.81	-16.40	1137	685.6	25.0	-0.3
72.50	4.39	-0.06	4.3	.83	.42	1138	686.0	23.9	-1.2

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40173.00	4.24	-0.04	4.2	-15.84	-16.43	1136	686.3	22.8	-2.0
73.50	4.20	-0.02	4.2	.84	.43	1136	686.7	21.7	-2.9
74.00	4.19	-0.01	4.2	.84	.43	1136	687.1	20.7	-3.7
74.50	4.18	0.00	4.2	.84	.42	1138	687.5	19.6	-4.6
75.00	4.29	0.02	4.3	.83	.41	1143	687.9	18.5	-5.5
75.50	4.23	0.04	4.3	.83	.41	1145	688.3	17.4	-6.3
76.00	4.15	0.05	4.2	.84	.42	1143	688.8	16.3	-7.2
76.50	4.57	0.07	4.6	.80	.38	1155	689.2	15.2	-8.1
77.00	5.19	0.08	5.3	.74	.31	1176	689.7	14.1	-8.9
77.50	4.44	0.10	4.5	.81	.38	1150	690.1	13.0	-9.8
78.00	4.65	0.12	4.8	.78	.35	1160	690.6	11.9	-10.7
78.50	4.62	0.13	4.8	.78	.35	1163	691.1	10.8	-11.5
79.00	4.08	0.15	4.2	.84	.40	1146	691.6	9.6	-12.4
79.50	3.83	0.17	4.0	.86	.42	1142	692.1	8.5	-13.3
80.00	3.72	0.18	3.9	.88	.44	1143	692.7	7.4	-14.2
80.50	3.68	0.20	3.9	.88	.44	1141	693.2	6.2	-15.0
81.00	3.93	0.21	4.1	.86	.41	1148	693.7	5.1	-15.9
81.50	3.72	0.23	3.9	.88	.44	1145	694.3	3.9	-16.8
82.00	3.41	0.24	3.6	.92	.47	1134	694.8	2.7	-17.7
82.50	3.13	0.25	3.4	.95	.50	1126	695.4	1.6	-18.6
83.00	2.91	0.27	3.2	.97	.52	1117	696.0	0.4	-19.5
83.50	2.79	0.28	3.1	.99	.54	1113	696.6	359.2	-20.3
84.00	2.72	0.30	3.0	-16.01	.55	1112	697.1	358.0	-21.2
84.50	2.72	0.31	3.0	.01	.55	1113	697.7	356.8	-22.1
85.00	2.92	0.33	3.2	-15.98	.52	1123	698.3	355.6	-23.0
85.50	3.04	0.34	3.4	.95	.49	1133	698.9	354.3	-23.9
86.00	3.09	0.35	3.4	.95	.49	1135	699.5	353.1	-24.8
86.50	3.17	0.36	3.5	.94	.47	1141	700.1	351.8	-25.7
87.00	3.02	0.38	3.4	.96	.48	1136	700.8	350.6	-26.6
87.50	2.89	0.39	3.3	.97	.49	1134	701.4	349.3	-27.4
88.00	2.78	0.40	3.2	.99	.51	1131	702.0	348.0	-28.3
88.50	2.54	0.42	3.0	-16.02	.53	1123	702.6	346.7	-29.2
89.00	2.36	0.43	2.8	.05	.56	1114	703.2	345.3	-30.1
89.50	2.19	0.44	2.6	.08	.60	1104	703.8	344.0	-31.0
90.00	1.90	0.45	2.4	.12	.63	1096	704.4	342.6	-31.9
90.50	1.88	0.47	2.3	.15	.65	1092	705.0	341.2	-32.8
91.00	2.28	0.48	2.8	.06	.56	1121	705.6	339.8	-33.7
91.50	2.57	0.49	3.1	.01	.51	1134	706.2	338.4	-34.6
92.00	2.54	0.50	3.0	.03	.53	1132	706.8	336.9	-35.5
92.50	2.53	0.51	3.0	.03	.52	1136	707.4	335.4	-36.4
93.00	3.00	0.52	3.5	-15.96	.45	1160	708.0	333.8	-37.3
93.50	3.02	0.53	3.5	.96	.44	1161	708.6	332.3	-38.2
94.00	3.33	0.54	3.9	.91	.39	1178	709.1	330.6	-39.1
94.50	2.85	0.55	3.4	.97	.45	1158	709.7	329.0	-40.0
95.00	2.14	0.55	2.7	-16.07	.55	1125	710.3	327.3	-40.8
95.50	2.76	0.56	3.3	-15.98	.46	1155	710.8	325.5	-41.7
96.00	2.18	0.57	2.8	-16.06	.53	1131	711.4	323.7	-42.6
96.50	1.71	0.58	2.3	.15	.62	1107	711.9	321.8	-43.5
97.00	1.18	0.58	1.8	.26	.73	1076	712.5	319.8	-44.4
97.50	0.92	0.59	1.5	.34	.80	1052	713.0	317.8	-45.2
98.00	1.06	0.59	1.6	.31	.77	1062	713.5	315.6	-46.1
98.50	1.06	0.60	1.7	.28	.74	1070	714.0	313.4	-46.9
99.00	1.20	0.60	1.8	.26	.72	1079	714.5	311.0	-47.8
99.50	1.18	0.61	1.8	.26	.72	1082	715.0	308.5	-48.6
40200.00	1.24	0.61	1.9	.24	.69	1091	715.5	305.9	-49.5
00.50	1.20	0.61	1.8	.26	.70	1083	716.0	303.1	-50.3
01.00	1.18	0.61	1.8	.26	.70	1086	716.4	300.1	-51.1
01.50	1.30	0.62	1.9	.24	.68	1098	716.9	296.8	-51.8
02.00	1.37	0.62	2.0	.21	.65	1106	717.3	293.3	-52.6
02.50	1.23	0.62	1.8	.26	.70	1092	717.8	289.5	-53.3

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40203.00	0.90	0.62	1.5	-16.34	-16.78	1069	718.2	285.4	-54.0
03.50	0.77	0.62	1.4	.37	.80	1061	718.8	281.0	-54.6
04.00	0.65	0.62	1.3	.40	.83	1053	719.2	276.1	-55.2
04.50	0.66	0.62	1.3	.40	.83	1054	719.6	270.9	-55.8
05.00	0.70	0.62	1.3	.40	.83	1056	719.9	265.2	-56.3
05.50	0.75	0.62	1.4	.37	.79	1069	720.3	259.0	-56.7
06.00	0.89	0.61	1.5	.33	.75	1079	720.6	252.4	-57.0
06.50	0.84	0.61	1.4	.36	.78	1071	720.9	245.5	-57.2
07.00	0.59	0.60	1.2	.42	.84	1051	721.2	238.4	-57.3
07.50	0.59	0.60	1.2	.43	.84	1053	721.5	231.1	-57.3
08.00	0.61	0.59	1.2	.43	.84	1056	721.8	223.9	-57.2
08.50	0.70	0.59	1.3	.39	.81	1067	722.0	216.8	-57.0
40208.75	0.9	0.6	1.4	-16.36	-16.77	1078	722.1	213.4	-56.8
09.00	0.9	0.6	1.5	.33	.74	1087	722.2	210.1	-56.7
09.25	1.2	0.6	1.8	.24	.66	1112	722.3	206.9	-56.5
09.50	1.3	0.6	1.9	.22	.63	1120	722.4	203.7	-56.3
09.75	1.3	0.6	1.8	.24	.66	1113	722.5	200.7	-56.0
10.00	1.3	0.6	1.8	.24	.66	1113	722.6	197.8	-55.8
10.25	1.2	0.6	1.7	.27	.68	1107	722.7	195.0	-55.5
10.50	1.0	0.5	1.5	.33	.74	1091	722.8	192.3	-55.2
10.75	0.9	0.5	1.4	.36	.77	1084	722.8	189.8	-54.9
11.00	0.6	0.5	1.1	.47	.88	1051	722.9	187.3	-54.6
11.25	0.7	0.5	1.2	.43	.84	1061	723.0	184.9	-54.3
11.50	0.7	0.5	1.2	.42	.83	1059	723.0	182.7	-54.0
11.75	1.0	0.5	1.5	.33	.73	1090	723.1	180.5	-53.6
12.00	2.1	0.5	2.6	.09	.49	1170	723.1	178.4	-53.2
12.25	2.1	0.5	2.5	.10	.51	1163	723.2	176.4	-52.9
12.50	1.7	0.5	2.2	.16	.57	1145	723.2	174.5	-52.5
12.75	1.4	0.5	1.9	.23	.63	1125	723.3	172.6	-52.1
13.00	1.0	0.5	1.5	.33	.74	1091	723.3	170.9	-51.7
13.25	1.1	0.4	1.6	.30	.71	1102	723.3	169.2	-51.3
13.50	1.5	0.4	1.9	.23	.64	1126	723.4	167.5	-50.9
13.75	2.0	0.4	2.4	.13	.53	1158	723.4	165.9	-50.5
14.00	1.1	0.4	1.5	.33	.74	1088	723.4	164.4	-50.1
14.25	0.9	0.4	1.3	.39	.80	1069	723.4	162.9	-49.7
14.50	1.0	0.4	1.4	.37	.77	1082	723.4	161.5	-49.2
14.75	1.2	0.4	1.6	.31	.72	1101	723.4	160.1	-48.8
15.00	1.4	0.4	1.8	.26	.67	1118	723.4	158.8	-48.4
15.25	2.0	0.3	2.3	.15	.55	1152	723.4	157.5	-47.9
15.50	1.6	0.3	1.9	.22	.63	1121	723.4	156.2	-47.5
15.75	1.5	0.3	1.7	.28	.68	1108	723.4	155.0	-47.0
16.00	1.0	0.3	1.3	.40	.81	1072	723.3	153.8	-46.6
16.25	0.8	0.2	1.1	.47	.88	1050	723.3	152.6	-46.2
16.50	1.2	0.2	1.4	.37	.78	1085	723.3	151.5	-45.7
16.75	1.4	0.2	1.5	.34	.75	1096	723.3	150.4	-45.3
17.00	1.6	0.1	1.7	.29	.70	1114	723.2	149.3	-44.8
17.25	1.7	0.0	1.8	.26	.67	1120	723.2	148.2	-44.3
17.50	2.6	0.0	2.6	.10	.51	1172	723.1	147.2	-43.9
17.75	2.0	0.0	2.0	.21	.62	1131	723.1	146.2	-43.4
18.00	1.6	0.0	1.6	.31	.72	1102	723.0	145.2	-43.0
18.25	1.4	0.0	1.4	.37	.78	1086	723.0	144.2	-42.5
18.50	1.7	0.0	1.7	.29	.70	1114	722.9	143.3	-42.0
18.75	1.8	0.0	1.8	.26	.67	1121	722.8	142.3	-41.6
19.00	1.9	0.0	1.9	.24	.65	1128	722.8	141.4	-41.1
19.25	2.1	0.0	2.1	.20	.61	1143	722.7	140.5	-40.7
40219.50	2.10	0.00	2.1	-16.20	-16.61	1142	722.6	139.6	-40.2
20.00	2.04	0.00	2.0	.22	.63	1133	722.5	137.9	-39.3
20.50	1.75	0.00	1.8	.27	.68	1116	722.3	136.2	-38.3

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40221.00	1.61	0.00	1.6	-16.32	-16.74	1099	722.1	134.5	-37.4
21.50	1.56	0.00	1.6	.32	.74	1100	721.9	132.9	-36.4
22.00	1.65	0.00	1.7	.30	.71	1108	721.7	131.4	-35.5
22.50	1.64	0.00	1.6	.32	.74	1097	721.4	129.8	-34.6
23.00	1.62	0.00	1.6	.33	.74	1099	721.2	128.3	-33.6
23.50	1.45	0.00	1.4	.39	.81	1081	721.0	126.9	-32.7
24.00	1.41	0.00	1.4	.39	.81	1082	720.7	125.4	-31.7
24.50	1.42	0.00	1.4	.39	.81	1083	720.4	124.0	-30.8
25.00	1.43	0.00	1.4	.39	.81	1083	720.1	122.6	-29.8
25.50	1.47	0.00	1.5	.36	.78	1092	719.8	121.3	-28.9
26.00	1.48	0.00	1.5	.35	.78	1091	719.5	119.9	-27.9
26.50	1.45	0.00	1.4	.38	.81	1082	719.2	118.6	-27.0
27.00	1.41	0.00	1.4	.38	.81	1084	718.9	117.2	-26.1
27.50	1.66	0.00	1.7	.29	.72	1113	718.6	115.9	-25.1
28.00	1.87	0.00	1.9	.24	.67	1129	718.2	114.7	-24.2
28.50	2.15	0.00	2.2	.17	.60	1150	717.9	113.4	-23.2
29.00	2.09	0.00	2.1	.18	.62	1141	717.5	112.1	-22.3
29.50	2.03	0.00	2.0	.20	.64	1135	717.2	110.9	-21.4
30.00	2.00	0.00	2.0	.20	.64	1136	716.8	109.6	-20.4
30.50	1.97	0.00	2.0	.20	.64	1136	716.5	108.4	-19.5
31.00	1.94	0.00	1.9	.23	.67	1130	716.1	107.2	-18.6
31.50	1.94	0.00	1.9	.23	.67	1129	715.7	106.0	-17.6
32.00	1.88	0.00	1.9	.23	.67	1129	715.4	104.8	-16.7
32.50	1.89	0.00	1.9	.23	.67	1127	715.0	103.6	-15.8
33.00	1.94	0.00	1.9	.23	.67	1124	714.6	102.4	-14.9
33.50	1.98	0.00	2.0	.20	.65	1131	714.2	101.2	-13.9
34.00	2.04	0.00	2.0	.20	.65	1131	713.8	100.1	-13.0
34.50	2.10	0.00	2.1	.19	.64	1140	713.5	98.9	-12.1
35.00	2.08	0.00	2.1	.18	.64	1138	713.0	97.7	-11.2
35.50	2.11	0.00	2.1	.18	.64	1135	712.6	96.6	-10.2
40235.75	2.1	0.0	2.1	-16.18	-16.64	1134	712.4	96.0	-9.8
36.00	2.3	0.0	2.3	.14	.60	1147	712.2	95.4	-9.3
36.25	2.3	0.0	2.3	.14	.60	1144	712.1	94.9	-8.9
36.50	3.0	0.0	3.0	.02	.48	1186	711.9	94.3	-8.4
36.75	2.9	0.0	2.9	.04	.50	1182	711.7	93.7	-7.9
37.00	2.8	0.0	2.8	.05	.51	1175	711.5	93.2	-7.5
37.25	2.6	0.0	2.6	.08	.55	1163	711.3	92.6	-7.0
37.50	2.4	0.0	2.4	.12	.58	1151	711.1	92.0	-6.6
37.75	2.3	0.0	2.3	.14	.60	1143	711.0	91.5	-6.1
38.00	2.7	0.0	2.7	.07	.53	1169	710.8	90.9	-5.7
38.25	2.9	0.0	2.9	.03	.50	1179	710.6	90.4	-5.2
38.50	2.5	0.0	2.5	.10	.56	1153	710.4	89.8	-4.8
38.75	2.3	0.0	2.3	.13	.60	1140	710.3	89.2	-4.3
39.00	2.1	0.0	2.1	.17	.64	1125	710.1	88.7	-3.9
39.25	1.9	0.0	1.9	.22	.68	1110	709.9	88.1	-3.4
39.50	2.2	0.0	2.2	.15	.62	1132	709.8	87.6	-2.9
39.75	2.5	0.0	2.5	.10	.56	1151	709.6	87.0	-2.5
40.00	2.3	0.0	2.3	.13	.60	1138	709.4	86.5	-2.0
40.25	2.2	0.0	2.2	.15	.62	1131	709.3	85.9	-1.6
40.50	2.0	0.0	2.0	.19	.66	1117	709.1	85.4	-1.1
40.75	2.0	0.0	2.0	.20	.67	1118	708.9	84.8	-0.7
40241.00	2.11	0.00	2.1	-16.18	-16.65	1124	708.8	84.3	-0.2
41.50	2.04	0.00	2.0	.20	.67	1115	708.5	83.2	0.7
42.00	1.98	0.00	2.0	.20	.67	1114	708.2	82.1	1.6
42.50	1.92	0.00	1.9	.22	.70	1107	707.9	81.0	2.5
43.00	1.92	0.00	1.9	.22	.70	1108	707.6	79.9	3.3
43.50	1.90	0.00	1.9	.22	.70	1108	707.3	78.8	4.2
44.00	1.89	0.00	1.9	.22	.70	1109	707.1	77.7	5.1

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 \dot{P}$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40244.50	1.85	0.00	1.8	-16.24	-16.72	1100	706.8	76.6	6.0
45.00	1.86	0.00	1.9	.22	.70	1106	706.6	75.6	6.9
40245.25	1.7	0.0	1.7	-16.27	-16.75	1088	706.4	75.0	7.3
45.50	2.5	0.0	2.5	.10	.58	1149	706.3	74.5	7.8
45.75	3.1	0.0	3.1	.01	.49	1181	706.2	73.9	8.2
46.00	3.4	0.0	3.4	-15.96	.44	1192	706.1	73.4	8.7
46.25	3.4	0.0	3.4	.96	.44	1190	706.0	72.9	9.1
46.50	3.1	0.0	3.1	-16.00	.48	1174	705.9	72.3	9.5
46.75	2.7	0.0	2.7	.06	.53	1151	705.8	71.8	10.0
47.00	2.9	0.0	2.9	.02	.50	1162	705.7	71.3	10.4
47.25	3.4	0.0	3.4	-15.95	.43	1188	705.6	70.7	10.9
47.50	3.1	0.0	3.1	-16.00	.47	1175	705.5	70.2	11.3
47.75	2.3	0.0	2.3	.13	.61	1128	705.4	69.7	11.7
40248.00	2.44	0.00	2.4	-16.11	-16.59	1136	705.3	69.1	12.2
48.50	2.42	0.00	2.4	.11	.59	1137	705.2	68.1	13.1
49.00	2.40	0.00	2.4	.11	.59	1136	705.0	67.0	13.9
49.50	2.35	0.00	2.3	.13	.61	1131	704.9	65.9	14.8
50.00	2.27	0.00	2.3	.13	.61	1132	704.7	64.9	15.7
50.50	2.12	0.00	2.1	.17	.65	1117	704.6	63.8	16.5
51.00	2.01	0.00	2.0	.19	.67	1108	704.5	62.8	17.4
51.50	2.10	0.00	2.1	.17	.65	1113	704.4	61.7	18.3
52.00	2.31	0.00	2.3	.13	.61	1128	704.4	60.6	19.1
52.50	2.50	0.00	2.5	.10	.58	1140	704.3	59.6	20.0
53.00	2.68	0.00	2.7	.06	.54	1151	704.2	58.5	20.8
53.50	2.86	0.00	2.9	.03	.51	1164	704.2	57.5	21.7
40254.00	3.0	0.0	3.0	-16.02	-16.50	1169	704.2	56.4	22.6
54.25	3.3	0.0	3.3	-15.98	.45	1186	704.2	55.9	23.0
54.50	3.4	0.0	3.4	.96	.44	1191	704.2	55.4	23.4
54.75	3.6	0.0	3.6	.93	.41	1196	704.2	54.8	23.8
55.00	5.5	0.0	5.5	.74	.22	1262	704.2	54.3	24.3
55.25	6.9	0.0	6.9	.64	.11	1299	704.2	53.8	24.7
55.50	5.2	0.0	5.2	.77	.24	1251	704.2	53.3	25.1
55.75	3.7	0.0	3.7	.91	.39	1191	704.3	52.7	25.5
56.00	4.1	0.0	4.1	.87	.34	1208	704.3	52.2	26.0
56.25	3.3	0.0	3.3	.97	.44	1174	704.3	51.7	26.4
56.50	3.4	0.0	3.4	.96	.43	1184	704.3	51.2	26.8
56.75	3.4	0.0	3.4	.96	.43	1184	704.4	50.6	27.2
57.00	3.7	0.0	3.7	.92	.39	1197	704.4	50.1	27.7
57.25	3.5	0.0	3.5	.94	.41	1186	704.5	49.6	28.1
57.50	3.5	0.0	3.5	.95	.42	1187	704.5	49.1	28.5
57.75	3.5	0.0	3.5	.95	.42	1191	704.6	48.5	28.9
58.00	3.4	0.0	3.4	.96	.43	1185	704.6	48.0	29.4
58.25	3.3	0.0	3.3	.97	.44	1175	704.7	47.5	29.8
58.50	4.1	0.0	4.1	.88	.34	1210	704.8	46.9	30.2
58.75	3.3	0.0	3.3	.97	.44	1177	704.8	46.4	30.6
40259.00	3.41	0.00	3.4	-15.96	-16.43	1183	704.9	45.9	31.0
59.50	3.32	0.02	3.3	.98	.44	1177	705.1	44.8	31.9
60.00	3.31	0.07	3.4	.96	.43	1180	705.2	43.8	32.7
60.50	3.13	0.11	3.2	.99	.45	1170	705.4	42.7	33.5
61.00	2.94	0.15	3.1	-16.01	.47	1165	705.7	41.7	34.4
61.50	2.77	0.19	3.0	.03	.48	1160	705.9	40.6	35.2
62.00	2.85	0.22	3.1	.01	.47	1165	706.2	39.5	36.0
62.50	2.97	0.25	3.2	.00	.45	1168	706.4	38.5	36.9
40262.75	3.1	0.3	3.4	-15.97	-16.43	1177	706.6	37.9	37.3
63.00	2.9	0.3	3.1	-16.01	.47	1158	706.7	37.4	37.7

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40263.25	1.9	0.3	2.1	-16.18	-16.63	1089	706.9	36.9	38.1
63.50	2.4	0.3	2.7	.07	.52	1127	707.0	36.3	38.5
63.75	2.0	0.3	2.3	.14	.59	1099	707.2	35.8	38.9
64.00	1.3	0.3	1.6	.29	.74	1038	707.4	35.3	39.4
64.25	3.8	0.3	4.2	-15.88	.33	1203	707.5	34.7	39.8
64.50	2.3	0.3	2.6	-16.10	.54	1129	707.7	34.2	40.2
64.75	2.1	0.3	2.5	.12	.56	1126	707.9	33.6	40.6
40265.00	1.96	0.36	2.3	-16.15	-16.60	1108	708.1	33.1	41.0
65.50	1.87	0.37	2.2	.17	.61	1098	708.5	32.0	41.8
66.00	1.82	0.39	2.2	.17	.61	1099	709.2	30.9	42.7
66.50	1.79	0.41	2.2	.18	.61	1099	709.6	29.9	43.5
67.00	2.09	0.42	2.5	.12	.55	1119	710.0	28.8	44.3
67.50	2.52	0.44	3.0	.04	.47	1146	710.4	27.7	45.1
68.00	2.06	0.45	2.5	.12	.55	1115	710.9	26.6	45.9
68.50	1.96	0.46	2.4	.14	.57	1108	711.3	25.5	46.8
69.00	1.73	0.48	2.2	.19	.61	1096	711.7	24.4	47.6
69.50	1.72	0.49	2.2	.19	.61	1099	712.1	23.2	48.4
70.00	1.74	0.50	2.2	.19	.61	1100	712.6	22.1	49.2
70.50	1.69	0.52	2.2	.20	.61	1101	713.0	21.0	50.0
71.00	1.69	0.53	2.2	.20	.61	1100	713.5	19.9	50.8
71.50	1.92	0.54	2.5	.14	.55	1118	714.0	18.7	51.6
72.00	2.37	0.55	2.9	.07	.48	1142	714.4	17.6	52.4
72.50	2.54	0.56	3.1	.04	.45	1153	714.9	16.4	53.2
73.00	2.67	0.58	3.2	.03	.43	1158	715.4	15.3	54.1
73.50	2.78	0.59	3.4	.00	.40	1169	715.9	14.1	54.9
74.00	2.87	0.60	3.5	-15.99	.39	1177	716.4	12.9	55.7
74.50	2.89	0.60	3.5	-16.00	.39	1178	716.9	11.7	56.5
75.00	2.92	0.61	3.5	-15.99	.39	1177	717.4	10.5	57.3
75.50	3.27	0.62	3.9	.94	.33	1194	717.9	9.3	58.1
76.00	3.34	0.63	4.0	.93	.32	1199	718.4	8.1	58.9
76.50	3.12	0.64	3.8	.95	.34	1192	718.9	6.8	59.6
77.00	2.79	0.65	3.4	-16.00	.39	1173	719.4	5.6	60.4
77.50	2.54	0.66	3.2	.03	.41	1163	719.9	4.3	61.2
78.00	2.87	0.66	3.5	-15.99	.37	1177	720.5	3.0	62.0
78.50	3.25	0.67	3.9	.95	.32	1194	721.0	1.7	62.8
79.00	3.65	0.68	4.3	.91	.28	1209	721.5	0.3	63.6
79.50	4.02	0.69	4.7	.87	.24	1221	722.0	359.0	64.4
80.00	4.49	0.69	5.2	.83	.19	1237	722.5	357.6	65.2
80.50	3.13	0.70	3.8	.97	.33	1183	723.1	356.1	65.9
81.00	2.45	0.70	3.2	-16.05	.41	1154	723.6	354.7	66.7
81.50	2.31	0.71	3.0	.08	.44	1143	724.1	353.2	67.5
82.00	2.19	0.71	2.9	.10	.46	1135	724.6	351.7	68.2
82.50	1.86	0.72	2.6	.15	.51	1115	725.1	350.1	69.0
83.00	1.47	0.72	2.2	.24	.58	1090	725.6	348.5	69.8
83.50	1.16	0.73	1.9	.31	.65	1067	726.1	346.9	70.5
84.00	0.85	0.73	1.6	.39	.73	1038	726.7	345.2	71.3
84.50	0.99	0.73	1.7	.37	.70	1049	727.2	343.4	72.0
85.00	1.11	0.73	1.8	.34	.67	1054	727.7	341.5	72.7
85.50	1.20	0.74	1.9	.32	.65	1058	728.1	339.6	73.5
86.00	1.47	0.74	2.2	.26	.58	1084	728.6	337.6	74.2
86.50	1.40	0.74	2.1	.28	.60	1075	729.1	335.5	74.9
87.00	1.23	0.75	2.0	.30	.62	1065	729.6	333.3	75.6
87.50	1.16	0.75	1.9	.32	.64	1056	730.1	331.0	76.3
88.00	1.09	0.75	1.8	.35	.67	1047	730.5	328.5	77.0
88.50	1.00	0.75	1.7	.38	.69	1039	731.0	325.9	77.7
89.00	0.88	0.75	1.6	.41	.72	1030	731.5	323.0	78.3
89.50	0.76	0.75	1.5	.44	.75	1019	731.9	320.0	78.9
90.00	0.76	0.75	1.5	.44	.75	1020	732.3	316.8	79.5
90.50	0.80	0.75	1.6	.42	.72	1034	732.8	313.3	80.1

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40291.00	0.80	0.75	1.6	-16.42	-16.72	1036	733.2	309.4	80.6
91.50	0.86	0.75	1.6	.42	.72	1033	733.6	305.3	81.1
92.00	1.15	0.75	1.9	.33	.63	1055	734.0	300.8	81.6
92.50	1.18	0.75	1.9	.32	.63	1052	734.4	295.8	82.0
93.00	0.66	0.74	1.4	.47	.76	1006	734.8	290.5	82.4
93.50	0.60	0.74	1.3	.51	.80	1001	735.2	284.6	82.6
94.00	0.43	0.74	1.2	.54	.83	989	735.5	278.4	82.8
94.50	0.61	0.74	1.3	.51	.79	1004	735.9	271.8	82.9
95.00	0.61	0.74	1.3	.50	.79	1004	736.2	264.9	82.9
95.50	1.09	0.73	1.8	.35	.83	1057	736.7	257.8	82.8
96.00	1.26	0.73	2.0	.30	.78	1076	737.0	250.6	82.6
96.50	1.40	0.72	2.1	.26	.76	1085	737.3	243.6	82.2
97.00	1.55	0.72	2.3	.22	.71	1101	737.5	236.8	81.8
97.50	1.73	0.71	2.4	.19	.69	1108	737.8	230.3	81.3
98.00	1.80	0.71	2.5	.16	.67	1117	738.0	224.3	80.6
98.50	1.67	0.70	2.4	.18	.69	1115	738.2	218.6	79.9
40299.00	1.6	0.7	2.2	-16.22	-16.72	1106	738.4	213.5	79.2
99.25	1.6	0.7	2.3	.20	.70	1114	738.5	211.0	78.8
99.50	1.3	0.7	2.0	.26	.76	1091	738.6	208.7	78.3
99.75	2.3	0.7	3.0	.08	.59	1157	738.7	206.5	77.9
40300.00	2.6	0.7	3.3	.03	.54	1169	738.8	204.3	77.5
00.25	2.9	0.7	3.6	-15.99	.50	1178	738.9	202.3	77.0
00.50	2.8	0.7	3.4	-16.02	.53	1171	739.0	200.3	76.6
00.75	2.8	0.7	3.4	.02	.53	1174	739.0	198.5	76.1
01.00	2.5	0.7	3.1	.06	.57	1158	739.1	196.7	75.6
01.25	2.4	0.7	3.0	.07	.59	1152	739.2	194.9	75.1
01.50	2.4	0.7	3.0	.07	.59	1152	739.3	193.3	74.6
01.75	2.3	0.7	2.9	.09	.60	1149	739.3	191.7	74.1
02.00	2.1	0.7	2.7	.12	.63	1138	739.4	190.1	73.6
02.25	1.9	0.7	2.6	.13	.65	1131	739.4	188.6	73.1
02.50	1.9	0.6	2.6	.13	.65	1131	739.5	187.2	72.6
02.75	2.0	0.6	2.7	.12	.63	1139	739.5	185.8	72.0
03.00	2.0	0.6	2.7	.12	.63	1139	739.6	184.5	71.5
03.25	1.9	0.6	2.6	.14	.65	1133	739.6	183.2	71.0
03.50	1.9	0.6	2.5	.16	.67	1127	739.7	181.9	70.4
40303.60	1.3	0.6	2.0	-16.26	-16.76	1091	739.7	181.4	70.2
03.80	3.0	0.6	3.6	.00	.51	1183	739.7	180.4	69.8
04.00	6.0	0.6	6.6	-15.73	.24	1281	739.8	179.5	69.3
04.20	10.1	0.6	10.7	.51	.02	1360	739.8	178.6	68.9
04.40	7.6	0.6	8.2	.62	.14	1307	739.8	177.7	68.5
04.60	3.3	0.6	3.9	.95	.46	1179	739.9	176.8	68.0
04.80	2.8	0.6	3.4	-16.02	.53	1160	739.9	175.9	67.6
40305.00	2.38	0.61	3.0	-16.08	-16.59	1145	739.9	175.1	67.1
05.50	2.23	0.60	2.8	.12	.62	1136	739.9	173.0	66.0
06.00	1.89	0.59	2.5	.17	.67	1115	740.0	171.1	64.9
06.50	1.68	0.58	2.3	.22	.71	1104	740.0	169.2	63.8
07.00	1.46	0.57	2.0	.28	.78	1082	740.0	167.4	62.6
07.50	1.08	0.56	1.6	.38	.87	1048	740.1	165.6	61.5
08.00	0.97	0.55	1.5	.41	.90	1040	740.1	164.0	60.3
08.50	1.01	0.54	1.5	.41	.90	1039	740.1	162.3	59.2
09.00	1.34	0.53	1.9	.31	.80	1075	740.1	160.8	58.0
09.50	1.59	0.52	2.1	.26	.76	1089	740.0	159.2	56.8
10.00	1.57	0.51	2.1	.26	.76	1086	740.0	157.7	55.7
10.50	1.35	0.50	1.8	.33	.83	1063	740.0	156.3	54.5
11.00	1.06	0.48	1.5	.40	.90	1033	740.0	154.9	53.3
11.50	0.73	0.47	1.2	.50	-17.00	996	739.9	153.5	52.2
12.00	0.85	0.46	1.3	.46	-16.97	1011	739.9	152.1	51.0

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40312.50	1.36	0.45	1.8	-16.32	-16.83	1063	739.8	150.8	49.8
13.00	1.41	0.43	1.8	.32	.82	1061	739.8	149.5	48.6
13.50	1.35	0.42	1.8	.32	.83	1061	739.7	148.2	47.4
14.00	1.45	0.41	1.9	.29	.80	1070	739.6	146.9	46.2
14.50	1.58	0.40	2.0	.27	.78	1079	739.6	145.6	45.1
15.00	1.37	0.38	1.7	.34	.85	1055	739.5	144.4	43.9
15.50	1.14	0.37	1.5	.39	.91	1035	739.4	143.2	42.7
16.00	1.04	0.36	1.4	.43	.94	1025	739.3	142.0	41.5
16.50	0.93	0.34	1.3	.46	.97	1013	739.3	140.8	40.3
17.00	0.90	0.33	1.2	.50	-17.01	1000	739.2	139.6	39.1
17.50	0.88	0.31	1.2	.50	.01	1000	739.1	138.4	37.9
18.00	1.08	0.30	1.4	.43	-16.94	1023	739.0	137.3	36.7
18.50	1.18	0.28	1.5	.40	.91	1031	738.9	136.1	35.5
19.00	1.07	0.26	1.3	.46	.97	1009	738.8	135.0	34.3
19.50	0.82	0.25	1.1	.54	-17.05	985	738.7	133.9	33.1
20.00	0.70	0.23	0.9	.64	.13	953	738.6	132.7	31.9
20.50	1.03	0.22	1.2	.51	.01	999	738.5	131.6	30.7
21.00	1.15	0.20	1.3	.47	-16.97	1012	738.4	130.5	29.5
21.50	1.23	0.18	1.4	.45	.94	1025	738.3	129.4	28.3
22.00	1.00	0.16	1.2	.51	-17.01	1001	738.2	128.3	27.2
22.50	1.04	0.14	1.2	.51	.01	1001	738.0	127.2	26.0
23.00	1.13	0.11	1.2	.51	.01	1004	737.9	126.2	24.8
23.50	1.26	0.08	1.3	.48	-16.97	1019	737.8	125.1	23.6
24.00	1.42	0.06	1.5	.40	.91	1036	737.7	124.0	22.4
24.50	1.68	0.03	1.7	.34	.86	1053	737.4	122.9	21.2
25.00	1.80	0.02	1.8	.31	.83	1063	737.3	121.9	20.0
25.50	1.96	0.00	2.0	.26	.78	1082	737.2	120.8	18.8
40326.00	1.91	0.00	1.91	-16.27	-16.80	1076	737.0	119.8	17.6
27.00	2.02	0.00	2.02	.24	.77	1087	736.8	117.7	15.2
28.00	2.10	0.00	2.10	.22	.76	1093	736.7	115.6	12.8
29.00	2.05	0.00	2.05	.24	.77	1087	736.5	113.5	10.4
30.00	1.76	0.00	1.76	.31	.84	1067	736.4	111.4	8.0
31.00	1.67	0.00	1.67	.34	.86	1061	736.3	109.4	5.6
32.00	1.85	0.00	1.85	.30	.81	1078	736.2	107.3	3.3
33.00	1.96	0.00	1.96	.26	.79	1087	736.2	105.3	0.9
34.00	2.05	0.00	2.05	.24	.76	1097	736.3	103.2	-1.5
35.00	2.06	0.00	2.06	.24	.76	1099	736.4	101.2	-3.8
36.00	1.86	0.00	1.86	.28	.80	1082	736.6	99.1	-6.2
37.00	1.82	0.00	1.82	.29	.81	1081	736.8	97.1	-8.6
40337.50	1.78	0.00	1.8	-16.30	-16.81	1082	736.9	96.1	-9.7
38.00	1.87	0.00	1.9	.27	.79	1089	737.1	95.1	-10.9
38.50	1.98	0.00	2.0	.25	.76	1096	737.2	94.0	-12.1
39.00	2.02	0.00	2.0	.25	.76	1095	737.4	93.0	-13.3
39.50	2.13	0.00	2.1	.22	.74	1097	737.6	92.0	-14.4
40.00	1.98	0.00	2.0	.24	.76	1091	737.8	91.0	-15.6
40.50	1.93	0.00	1.9	.28	.78	1090	738.0	89.9	-16.8
41.00	1.81	0.00	1.8	.30	.80	1079	738.3	88.9	-18.0
41.50	1.74	0.00	1.7	.32	.82	1067	738.5	87.9	-19.1
42.00	1.67	0.00	1.7	.32	.82	1069	738.8	86.9	-20.3
42.50	1.58	0.00	1.6	.35	.85	1063	739.1	85.9	-21.5
43.00	1.54	0.00	1.5	.39	.88	1055	739.4	84.8	-22.6
43.50	1.50	0.00	1.5	.38	.87	1053	739.7	83.8	-23.8
44.00	1.52	0.00	1.5	.38	.87	1050	740.0	82.8	-25.0
44.50	1.59	0.00	1.6	.35	.84	1062	740.4	81.7	-26.1
45.00	1.51	0.00	1.5	.38	.87	1054	740.7	80.7	-27.3
45.50	1.46	0.00	1.5	.39	.86	1058	741.1	79.7	-28.4
46.00	1.43	0.00	1.4	.42	.89	1047	741.5	78.6	-29.6
46.50	1.44	0.00	1.4	.42	.89	1047	741.9	77.6	-30.8

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40347.00	1.64	0.00	1.64	-16.34	-16.82	1076	742.3	76.6	-31.9
48.00	1.67	0.00	1.67	.33	.80	1082	743.2	74.5	-34.2
49.00	1.72	0.00	1.72	.34	.79	1089	744.1	72.4	-36.5
50.00	1.79	0.00	1.79	.32	.77	1096	745.0	70.3	-38.8
51.00	1.86	0.00	1.86	.30	.75	1101	746.1	68.1	-41.1
52.00	1.97	0.00	1.97	.28	.72	1113	747.1	66.0	-43.4
53.00	2.09	0.00	2.09	.26	.69	1129	748.2	63.8	-45.7
40353.50	2.17	0.00	2.2	-16.24	-16.66	1140	748.7	62.7	-46.8
54.00	2.33	0.00	2.3	.21	.64	1144	749.3	61.7	-48.0
54.50	2.60	0.00	2.6	.15	.58	1159	749.9	60.6	-49.1
55.00	2.74	0.00	2.7	.13	.56	1165	750.5	59.5	-50.3
55.50	2.90	0.00	2.9	.11	.53	1180	751.0	58.4	-51.4
40355.75	3.1	0.0	3.1	-16.08	-16.50	1195	751.2	57.8	-52.0
56.00	3.4	0.0	3.4	.04	.46	1207	751.5	57.2	-52.5
56.25	4.3	0.0	4.3	-15.93	.35	1242	751.8	56.7	-53.1
56.50	3.7	0.0	3.7	.99	.41	1214	752.1	56.1	-53.6
56.75	3.5	0.0	3.5	-16.01	.43	1202	752.4	55.6	-54.2
57.00	2.8	0.0	2.8	.11	.53	1161	752.7	55.0	-54.8
57.25	2.5	0.0	2.5	.17	.58	1145	753.0	54.4	-55.3
57.50	2.1	0.0	2.1	.25	.66	1116	753.3	53.9	-55.9
57.75	1.9	0.0	1.9	.30	.70	1105	753.6	53.3	-56.5
40358.00	1.89	0.00	1.9	-16.30	-16.70	1108	754.0	52.7	-57.0
58.50	1.69	0.00	1.7	.36	.75	1092	754.6	51.6	-58.1
59.00	1.71	0.00	1.7	.36	.75	1093	755.2	50.4	-59.3
59.50	1.75	0.00	1.8	.34	.72	1103	755.9	49.3	-60.4
60.00	1.85	0.00	1.9	.32	.70	1112	756.5	48.1	-61.5
60.50	1.63	0.00	1.6	.39	.77	1081	757.2	46.9	-62.6
61.00	1.53	0.00	1.5	.43	.79	1070	757.8	45.7	-63.7
61.50	1.50	0.00	1.5	.44	.79	1072	758.5	44.5	-64.8
62.00	1.58	0.00	1.6	.41	.76	1085	759.1	43.3	-66.0
62.50	1.64	0.10	1.7	.38	.73	1094	759.8	42.1	-67.1
63.00	1.59	0.18	1.8	.36	.71	1107	760.5	40.8	-68.2
63.50	1.23	0.25	1.5	.44	.78	1071	761.2	39.6	-69.3
64.00	1.02	0.30	1.3	.50	.84	1042	761.8	38.3	-70.4
64.50	0.90	0.33	1.2	.54	.88	1025	762.5	37.0	-71.5
65.00	0.86	0.37	1.2	.54	.87	1025	763.2	35.7	-72.6
65.50	0.85	0.39	1.2	.55	.87	1026	763.8	34.4	-73.7
66.00	0.74	0.42	1.2	.55	.87	1023	764.5	33.0	-74.7
66.50	0.71	0.44	1.1	.59	.91	1008	765.2	31.6	-75.8
67.00	0.68	0.46	1.1	.60	.90	1012	765.8	30.2	-76.9
67.50	0.60	0.48	1.1	.60	.90	1012	766.5	28.8	-78.0
68.00	0.58	0.49	1.1	.61	.90	1014	767.2	27.3	-79.1
68.50	0.50	0.51	1.0	.66	.94	993	767.8	25.8	-80.1
69.00	0.40	0.52	0.9	.71	.98	966	768.5	24.3	-81.2
69.50	0.39	0.53	0.9	.71	.98	959	769.1	22.7	-82.3
70.00	0.40	0.54	0.9	.71	.98	960	769.7	21.1	-83.3
70.50	0.39	0.55	0.9	.72	.98	966	770.3	19.5	-84.4
71.00	0.38	0.56	0.9	.73	.97	964	771.0	17.8	-85.4
71.50	0.29	0.57	0.9	.73	.97	959	771.6	16.0	-86.5
72.00	0.21	0.58	0.8	.79	-17.02	927	772.2	14.1	-87.5
72.50	0.16	0.58	0.7	.85	.08	894	772.8	12.2	-88.5
73.00	0.19	0.59	0.8	.79	.02	928	773.3	10.2	-89.5
73.50	0.17	0.59	0.8	.80	.02	934	773.9	8.2	-90.5
74.00	0.15	0.60	0.7	.86	.07	905	774.5	6.0	-91.5
74.50	0.11	0.60	0.7	.86	.07	903	775.0	3.7	-92.5
75.00	0.12	0.61	0.7	.87	.07	902	775.5	1.2	-93.5
75.50	0.14	0.61	0.8	.81	.01	939	776.1	358.6	-94.4

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40376.00	0.22	0.61	0.8	-16.81	-17.01	937	776.6	355.9	-95.4
76.50	0.24	0.61	0.9	.76	-16.96	964	777.0	352.9	-96.3
77.00	0.32	0.61	0.9	.76	.96	965	777.5	349.7	-97.2
77.50	0.35	0.61	1.0	.71	.92	991	778.0	346.3	-98.1
78.00	0.36	0.61	1.0	.71	.92	992	778.4	342.6	-98.9
78.50	0.37	0.61	1.0	.71	.92	994	778.8	338.5	-99.7
79.00	0.39	0.61	1.0	.71	.92	989	779.3	334.1	-100.5
79.50	0.38	0.61	1.0	.70	.92	982	779.7	329.2	-101.2
80.00	0.46	0.61	1.1	.66	.88	1005	780.0	323.9	-101.8
80.50	0.53	0.61	1.1	.66	.88	1003	780.4	318.2	-102.4
81.00	0.64	0.60	1.2	.62	.84	1020	780.7	312.0	-102.9
81.50	0.59	0.60	1.2	.62	.84	1021	781.0	305.3	-103.3
82.00	0.47	0.60	1.1	.65	.88	996	781.3	298.3	-103.6
82.50	0.38	0.59	1.0	.70	.92	970	781.6	291.0	-103.7
83.00	0.34	0.59	0.9	.75	.97	951	781.9	283.6	-103.8
83.50	0.50	0.59	1.1	.66	.88	1009	782.1	276.3	-103.7
84.00	0.63	0.59	1.2	.62	.84	1027	782.3	269.1	-103.6
84.50	0.76	0.58	1.3	.58	.80	1046	782.5	262.3	-103.3
85.00	0.64	0.57	1.2	.62	.84	1027	782.7	255.8	-102.9
85.50	0.62	0.57	1.2	.62	.84	1031	782.9	249.9	-102.4
40386.00	0.58	0.56	1.14	-16.64	-16.86	1015	782.9	244.4	-101.9
87.00	0.58	0.55	1.13	.65	.86	1019	783.2	234.8	-100.6
88.00	0.49	0.53	1.02	.70	.90	1000	783.4	226.7	-99.1
89.00	0.38	0.52	0.90	.76	.96	971	783.5	219.8	-97.5
90.00	0.30	0.50	0.80	.83	-17.01	953	783.6	213.9	-95.8
91.00	0.25	0.48	0.73	.88	.05	941	783.5	208.7	-94.0
92.00	0.23	0.46	0.69	.91	.08	925	783.4	204.1	-92.2
93.00	0.22	0.44	0.66	.93	.10	917	783.3	199.9	-90.3
94.00	0.20	0.43	0.62	.96	.13	911	783.0	196.1	-88.3
95.00	0.19	0.40	0.60	.98	.15	908	782.7	192.5	-86.4
96.00	0.19	0.38	0.57	-17.01	.17	892	782.4	189.2	-84.4
97.00	0.18	0.36	0.53	.04	.21	873	781.9	186.0	-82.3
98.00	0.15	0.34	0.49	.08	.25	858	781.4	183.0	-80.3
99.00	0.15	0.31	0.47	.10	.27	855	780.9	180.1	-78.2
40400.00	0.16	0.29	0.44	.13	.30	847	780.3	177.4	-76.2
01.00	0.19	0.26	0.45	.12	.30	860	779.6	174.7	-74.1
02.00	0.21	0.23	0.45	.13	.30	865	778.9	172.1	-72.0
03.00	0.25	0.21	0.46	.11	.30	868	778.2	169.5	-69.9
04.00	0.33	0.18	0.51	.06	.26	894	777.4	167.0	-67.7
05.00	0.36	0.15	0.51	.06	.26	906	776.6	164.6	-65.6
06.00	0.38	0.13	0.50	.07	.28	910	775.8	162.2	-63.5
07.00	0.40	0.10	0.50	.06	.28	915	774.9	159.8	-61.3
08.00	0.42	0.07	0.50	.06	.28	920	774.0	157.5	-59.2
09.00	0.46	0.04	0.51	.05	.28	926	773.1	155.2	-57.0
10.00	0.50	0.02	0.52	.04	.27	934	772.2	152.9	-54.8
11.00	0.54	-0.01	0.53	.02	.27	943	771.3	150.7	-52.6
12.00	0.61	-0.04	0.57	-16.99	.24	964	770.3	148.4	-50.4
13.00	0.64	-0.06	0.58	.98	.24	975	769.4	146.2	-48.2
14.00	0.65	-0.09	0.56	.99	.26	969	768.5	144.0	-46.0
15.00	0.66	-0.12	0.54	-17.00	.28	959	767.6	141.9	-43.8
16.00	0.68	-0.14	0.53	.00	.29	956	766.6	139.7	-41.6
17.00	0.67	-0.17	0.50	.03	.32	954	765.8	137.5	-39.4
18.00	0.66	-0.19	0.47	.07	.34	949	764.9	135.4	-37.2
19.00	0.65	-0.22	0.43	.10	.39	933	764.0	133.3	-34.9
20.00	0.60	-0.24	0.36	.18	.47	900	763.2	131.1	-32.7
21.00	0.61	-0.27	0.35	.19	.48	901	762.4	129.0	-30.4
22.00	0.64	-0.28	0.36	.18	.47	913	761.7	126.9	-28.2
23.00	0.68	-0.30	0.38	.15	.45	928	760.9	124.8	-25.9
24.00	0.69	-0.31	0.38	.14	.45	927	760.2	122.7	-23.7

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40425.00	0.72	-0.32	0.39	-17.12	-17.44	934	759.6	120.6	-21.4
26.00	0.72	-0.33	0.39	.11	.44	938	759.0	118.6	-19.2
40426.50	0.74	-0.33	0.4	-17.08	-17.42	950	758.7	117.5	-18.0
27.00	0.73	-0.33	0.4	.10	.43	949	758.4	116.5	-16.9
27.50	0.76	-0.33	0.4	.06	.40	965	758.1	115.4	-15.8
28.00	0.82	-0.33	0.5	-16.99	.34	994	757.9	114.4	-14.6
28.50	0.86	-0.32	0.5	.94	.30	1002	757.6	113.3	-13.5
29.00	0.92	-0.31	0.6	.87	.25	1015	757.4	112.3	-12.4
29.50	0.87	-0.30	0.6	.89	.28	1002	757.2	111.3	-11.2
30.00	0.86	-0.28	0.6	.90	.28	1011	757.0	110.2	-10.1
30.50	0.84	-0.26	0.6	.90	.28	1019	756.8	109.2	-9.0
31.00	0.79	-0.24	0.6	.91	.29	1016	756.6	108.1	-7.8
31.50	0.74	-0.20	0.5	.92	.30	1014	756.4	107.1	-6.7
32.00	0.75	-0.14	0.6	.86	.26	1033	756.3	106.0	-5.5
32.50	0.73	-0.06	0.7	.81	.21	1046	756.1	105.0	-4.4
33.00	0.70	0.00	0.7	.77	.18	1051	756.0	104.0	-3.3
33.50	0.73	0.00	0.7	.75	.16	1060	755.9	102.9	-2.1
34.00	0.74	0.00	0.7	.74	.16	1067	755.7	101.9	-1.0
34.50	0.82	0.00	0.8	.69	.12	1081	755.5	100.8	0.2
35.00	0.96	0.00	1.0	.59	.02	1120	755.4	99.8	1.3
35.50	1.00	0.00	1.0	.58	.02	1120	755.3	98.7	2.5
36.00	1.05	0.00	1.0	.57	.01	1118	755.2	97.7	3.6
36.50	1.51	0.00	1.5	.38	-16.83	1182	755.1	96.6	4.8
37.00	1.58	0.00	1.6	.35	.80	1191	755.0	95.5	5.9
37.50	1.61	0.00	1.6	.35	.80	1191	755.0	94.5	7.0
38.00	1.56	0.00	1.6	.35	.80	1194	754.9	93.4	8.2
38.50	1.48	0.00	1.5	.37	.82	1185	754.9	92.4	9.3
39.00	1.45	0.00	1.4	.40	.85	1175	754.9	91.3	10.5
39.50	1.49	0.00	1.5	.38	.83	1188	754.9	90.2	11.6
40.00	1.62	0.00	1.6	.35	.80	1198	754.9	89.2	12.8
40.50	1.66	0.00	1.7	.33	.77	1206	754.9	88.1	13.9
41.00	1.75	0.00	1.7	.33	.77	1204	755.0	87.0	15.0
41.50	1.76	0.00	1.8	.30	.75	1212	755.1	85.9	16.2
42.00	1.74	0.00	1.7	.33	.77	1201	755.1	84.8	17.3
42.50	1.67	0.00	1.7	.33	.78	1200	755.2	83.7	18.5
43.00	1.49	0.00	1.5	.39	.83	1180	755.3	82.6	19.6
43.50	1.41	0.00	1.4	.42	.86	1169	755.5	81.5	20.8
44.00	1.30	0.00	1.3	.46	.90	1160	755.6	80.4	21.9
44.50	1.23	0.00	1.2	.50	.93	1149	755.7	79.3	23.0
45.00	1.30	0.00	1.3	.46	.90	1158	755.9	78.2	24.2
45.50	1.33	0.00	1.3	.45	.89	1153	756.1	77.1	25.3
46.00	1.33	0.00	1.3	.45	.89	1152	756.2	75.9	26.5
46.50	1.09	0.00	1.1	.53	.97	1129	756.4	74.8	27.6
47.00	0.95	0.00	1.0	.58	-17.01	1115	756.6	73.6	28.8
47.50	0.87	0.00	0.9	.63	.05	1098	756.8	72.5	29.9
48.00	0.79	0.00	0.8	.68	.11	1081	757.0	71.3	31.0
48.50	0.79	0.00	0.8	.69	.11	1082	757.3	70.1	32.2
49.00	0.78	0.00	0.8	.69	.11	1080	757.5	68.9	33.3
49.50	0.70	0.00	0.7	.75	.17	1060	757.7	67.7	34.5
50.00	0.70	0.00	0.7	.75	.16	1057	758.0	66.5	35.6
50.50	0.68	0.00	0.7	.75	.16	1056	758.3	65.3	36.8
51.00	0.63	0.00	0.6	.82	.23	1033	758.5	64.0	37.9
51.50	0.63	0.00	0.6	.82	.23	1031	758.8	62.7	39.0
52.00	0.64	0.00	0.6	.82	.23	1030	759.1	61.4	40.2
52.50	0.59	0.00	0.6	.82	.23	1028	759.4	60.1	41.3
53.00	0.60	0.00	0.6	.82	.23	1025	759.6	58.8	42.4
53.50	0.61	0.00	0.6	.82	.23	1026	759.9	57.5	43.6
54.00	0.57	0.00	0.6	.83	.23	1028	760.2	56.1	44.7
54.50	0.59	0.00	0.6	.83	.23	1029	760.5	54.7	45.8

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40455.00	0.66	0.00	0.7	-16.76	-17.16	1053	760.8	53.3	47.0
55.50	0.65	0.00	0.7	.76	.16	1053	761.1	51.8	48.1
56.00	0.68	0.00	0.7	.75	.15	1050	761.5	50.3	49.2
56.50	0.71	0.00	0.7	.75	.15	1047	761.8	48.7	50.3
57.00	0.82	0.00	0.8	.69	.09	1069	762.1	47.2	51.5
57.50	0.83	0.00	0.8	.69	.09	1070	762.4	45.5	52.6
58.00	0.87	0.00	0.9	.64	.04	1089	762.7	43.8	53.7
58.50	0.93	0.00	0.9	.64	.03	1091	763.0	42.1	54.8
59.00	0.98	0.00	1.0	.59	-16.99	1109	763.3	40.3	55.9
59.50	1.14	0.00	1.1	.54	.94	1119	763.6	38.4	57.0
60.00	1.80	0.00	1.8	.32	.72	1193	763.9	36.4	58.1
60.50	1.57	0.00	1.6	.37	.77	1173	764.2	34.3	59.2
61.00	1.48	0.00	1.5	.41	.80	1164	764.5	32.1	60.2
61.50	1.44	0.00	1.4	.44	.83	1156	764.8	29.8	61.3
62.00	1.20	0.00	1.2	.51	.90	1132	765.1	27.4	62.4
62.50	1.28	0.00	1.3	.48	.87	1144	765.4	24.8	63.4
63.00	1.42	0.03	1.5	.42	.81	1167	765.7	22.0	64.4
63.50	1.51	0.09	1.6	.39	.78	1176	766.0	19.0	65.4
64.00	1.21	0.15	1.4	.45	.84	1152	766.3	15.8	66.4
64.50	1.21	0.19	1.4	.46	.84	1150	766.5	12.4	67.4
65.00	1.13	0.24	1.4	.46	-17.02	1148	766.7	8.6	68.3
65.50	1.03	0.28	1.3	.50	.06	1136	767.0	4.5	69.2
66.00	0.97	0.32	1.3	.52	.06	1136	767.2	0.1	70.0
66.50	0.89	0.35	1.2	.56	.09	1121	767.5	355.2	70.8
67.00	0.84	0.38	1.2	.57	.09	1120	767.8	350.0	71.5
67.50	0.76	0.41	1.2	.57	.09	1118	768.0	344.2	72.2
68.00	0.72	0.43	1.1	.61	.13	1099	768.3	338.1	72.8
68.50	0.65	0.45	1.1	.62	.13	1097	768.5	331.5	73.3
69.00	0.74	0.47	1.2	.59	.10	1111	768.7	324.6	73.7
69.50	0.76	0.49	1.3	.55	.06	1119	769.0	317.5	74.0
70.00	0.78	0.51	1.3	.54	.07	1109	769.2	310.4	74.2
70.50	0.81	0.52	1.3	.55	.07	1106	769.4	303.3	74.2
71.00	0.41	0.53	0.9	.73	.22	1048	769.6	296.4	74.2
71.50	0.26	0.55	0.8	.78	.27	1027	769.9	289.9	74.1
72.00	0.24	0.56	0.8	.78	.27	1022	770.1	283.7	73.8
72.50	0.41	0.57	1.0	.69	.17	1059	770.3	278.0	73.5
73.00	0.29	0.57	0.9	.75	.21	1047	770.5	272.8	73.2
73.50	-0.06	0.59	0.5	-17.01	.47	934	770.7	267.9	72.7
74.00	-0.13	0.59	0.5	.01	.46	930	770.8	263.5	72.2
74.50	-0.12	0.60	0.5	.03	.46	935	771.0	259.5	71.7
75.00	-0.13	0.61	0.5	.03	.46	933	771.2	255.7	71.1
75.50	-0.10	0.61	0.5	.02	.46	928	771.3	252.3	70.6
76.00	-0.18	0.61	0.4	.13	.55	879	771.5	249.1	69.9
76.50	-0.20	0.62	0.4	.13	.55	880	771.7	246.2	69.3
77.00	-0.19	0.62	0.4	.14	.54	884	771.8	243.4	68.6
77.50	-0.21	0.62	0.4	.14	.54	885	771.9	240.8	67.9
78.00	-0.17	0.62	0.5	.04	.44	932	772.0	238.4	67.2
78.50	-0.13	0.62	0.5	.03	.45	927	772.2	236.1	66.5
79.00	-0.11	0.62	0.5	.02	.45	912	772.3	234.0	65.8
79.50	0.02	0.62	0.6	-16.93	.37	943	772.4	231.9	65.1
80.00	-0.01	0.62	0.6	.94	.37	947	772.5	229.9	64.4
80.50	-0.07	0.61	0.5	-17.02	.44	911	772.6	228.1	63.6
81.00	-0.10	0.61	0.5	.03	.44	917	772.6	226.3	62.9
81.50	-0.10	0.61	0.5	.03	.44	911	772.7	224.5	62.1
82.00	-0.04	0.60	0.6	-16.94	.36	942	772.8	222.8	61.3
82.50	0.02	0.60	0.6	.94	.36	936	772.8	221.2	60.6
83.00	0.00	0.59	0.6	.94	.36	932	772.9	219.6	59.8
83.50	-0.05	0.59	0.5	-17.03	.44	894	772.9	218.1	59.0
84.00	-0.04	0.58	0.5	.04	.44	900	773.0	216.6	58.2
84.50	-0.08	0.58	0.5	.04	.43	896	773.0	215.2	57.4

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6\dot{P}$	$10^6\dot{P}_r$	$-10^6\dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40485.00	-0.12	0.57	0.5	-17.04	-17.43	895	773.0	213.7	56.7
85.50	-0.08	0.56	0.5	.04	.43	898	773.0	212.4	55.9
86.00	-0.09	0.56	0.5	.04	.43	898	773.0	211.0	55.1
86.50	-0.10	0.55	0.4	.14	.53	844	773.0	209.7	54.3
87.00	-0.03	0.54	0.5	.05	.43	899	773.0	208.4	53.5
87.50	-0.04	0.53	0.5	.05	.43	893	773.0	207.1	52.7
88.00	0.01	0.53	0.5	.04	.43	882	773.0	205.8	51.9
88.50	0.06	0.52	0.6	-16.96	.35	922	773.0	204.5	51.1
89.00	0.08	0.51	0.6	.96	.35	922	772.9	203.3	50.3
89.50	0.10	0.50	0.6	.95	.35	914	772.9	202.1	49.4
90.00	0.07	0.49	0.6	.95	.35	912	772.9	200.9	48.6
90.50	0.07	0.48	0.5	-17.03	.43	870	772.8	199.7	47.8
91.00	0.07	0.47	0.5	.03	.43	873	772.7	198.5	47.0
91.50	0.09	0.45	0.5	.04	.43	874	772.7	197.4	46.2
92.00	0.12	0.44	0.6	-16.95	.35	906	772.6	196.2	45.4
92.50	0.53	0.43	1.0	.72	.13	1001	772.3	195.1	44.5
93.00	0.70	0.42	1.1	.67	.09	1015	772.3	193.9	43.7
93.50	0.48	0.40	0.9	.76	.18	968	772.2	192.8	42.9
94.00	0.74	0.39	1.1	.66	.10	996	772.1	191.7	42.1
94.50	0.68	0.38	1.1	.66	.09	994	772.0	190.6	41.3
95.00	0.47	0.37	0.8	.82	.23	938	771.9	189.5	40.4
95.50	0.20	0.35	0.6	.95	.35	879	771.8	188.4	39.6
96.00	0.17	0.34	0.5	-17.03	.42	834	771.7	187.3	38.8
96.50	0.11	0.33	0.4	.13	.52	770	771.6	186.2	38.0
97.00	0.17	0.32	0.5	.03	.42	828	771.6	185.1	37.1
97.50	0.25	0.30	0.5	.03	.42	831	771.5	184.1	36.3
98.00	0.22	0.29	0.5	.04	.42	835	771.4	183.0	35.5
98.50	0.22	0.27	0.5	.05	.42	839	771.3	181.9	34.6
40499.00	0.24	0.26	0.50	-17.05	-17.42	840	771.2	180.9	33.8
40500.00	0.27	0.23	0.50	.04	.42	835	771.0	178.8	32.1
01.00	0.30	0.20	0.50	.04	.42	830	770.9	176.7	30.5
02.00	0.35	0.17	0.53	.02	.39	852	770.8	174.6	28.8
03.00	0.41	0.14	0.55	.00	.38	864	770.6	172.6	27.1
04.00	0.46	0.11	0.57	-16.97	.37	858	770.5	170.5	25.4
05.00	0.55	0.08	0.63	.92	.32	874	770.4	168.4	23.7
06.00	0.53	0.05	0.58	.97	.36	860	770.4	166.4	22.0
07.00	0.51	0.02	0.53	-17.02	.39	846	770.3	164.4	20.3
08.00	0.52	-0.01	0.51	.04	.40	845	770.3	162.3	18.6
09.00	0.54	-0.04	0.50	.05	.41	841	770.3	160.3	16.9
10.00	0.57	-0.07	0.49	.06	.42	835	770.3	158.2	15.2
11.00	0.63	-0.10	0.53	.02	.39	855	770.4	156.2	13.5
12.00	0.69	-0.13	0.56	-16.99	.37	865	770.5	154.2	11.8
13.00	0.77	-0.16	0.61	.94	.33	880	770.6	152.1	10.1
14.00	0.83	-0.19	0.64	.91	.32	893	770.7	150.1	8.4
15.00	0.91	-0.22	0.69	.86	.29	910	770.9	148.1	6.7
16.00	1.02	-0.24	0.78	.79	.25	932	771.1	146.0	4.9
17.00	1.14	-0.27	0.87	.73	.20	959	771.3	144.0	3.2
18.00	1.26	-0.30	0.97	.67	.16	981	771.6	141.9	1.5
40518.50	1.32	-0.31	1.0	-16.64	-17.15	983	771.7	140.9	0.6
19.00	1.37	-0.32	1.0	.64	.15	985	771.8	139.8	-0.2
19.50	1.41	-0.33	1.1	.60	.10	1009	772.0	138.8	-1.1
20.00	1.46	-0.35	1.1	.59	.10	1012	772.2	137.8	-2.0
20.50	1.54	-0.36	1.2	.55	.07	1028	772.3	136.7	-2.8
21.00	1.66	-0.37	1.3	.52	.03	1045	772.5	135.7	-3.7
21.50	1.74	-0.38	1.4	.48	.00	1058	772.7	134.6	-4.6
22.00	1.77	-0.39	1.4	.47	.00	1055	772.8	133.6	-5.4
22.50	1.74	-0.40	1.3	.51	.03	1045	773.0	132.5	-6.3
23.00	1.74	-0.41	1.3	.51	.03	1048	773.2	131.5	-7.2

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40523.50	1.69	-0.42	1.3	-16.51	-17.03	1050	773.4	130.4	-8.0
24.00	1.69	-0.42	1.3	.52	.03	1053	773.5	129.4	-8.9
24.50	1.68	-0.43	1.3	.53	.03	1055	773.7	128.3	-9.8
25.00	1.62	-0.43	1.2	.57	.06	1043	773.9	127.2	-10.6
25.50	1.63	-0.44	1.2	.56	.06	1041	774.1	126.2	-11.5
26.00	1.65	-0.44	1.2	.56	.06	1041	774.4	125.1	-12.4
26.50	1.63	-0.44	1.2	.57	.06	1046	774.6	124.0	-13.2
27.00	1.62	-0.45	1.2	.57	.06	1046	774.8	122.9	-14.1
27.50	1.66	-0.45	1.2	.56	.05	1043	775.0	121.8	-15.0
28.00	1.64	-0.44	1.2	.56	.06	1040	775.3	120.7	-15.8
28.50	1.65	-0.44	1.2	.55	.05	1040	775.5	119.6	-16.7
29.00	1.60	-0.43	1.2	.55	.05	1042	775.8	118.5	-17.6
29.50	1.61	-0.43	1.2	.56	.05	1047	776.0	117.4	-18.5
30.00	1.56	-0.42	1.1	.61	.09	1038	776.2	116.3	-19.3
30.50	1.54	-0.40	1.1	.60	.09	1038	776.5	115.2	-20.2
31.00	1.47	-0.39	1.1	.60	.09	1041	776.8	114.0	-21.1
31.50	1.39	-0.37	1.0	.65	.13	1029	777.0	112.9	-21.9
32.00	1.48	-0.35	1.1	.60	.08	1044	777.3	111.7	-22.8
32.50	1.56	-0.33	1.2	.54	.05	1055	777.5	110.6	-23.7
33.00	1.57	-0.30	1.3	.50	.01	1069	777.8	109.4	-24.6
33.50	1.68	-0.25	1.4	.47	-16.98	1083	778.0	108.2	-25.4
34.00	1.77	-0.20	1.6	.40	.92	1103	778.3	107.0	-26.3
34.50	1.78	-0.15	1.6	.39	.92	1098	778.6	105.8	-27.2
35.00	1.73	0.00	1.7	.37	.89	1110	778.8	104.6	-28.1
35.50	1.35	0.00	1.3	.48	-17.00	1070	779.1	103.4	-28.9
36.00	1.04	0.00	1.0	.60	.12	1030	779.4	102.1	-29.8
36.50	0.89	0.00	0.9	.65	.16	1018	779.6	100.9	-30.7
37.00	0.93	0.00	0.9	.65	.16	1021	779.9	99.6	-31.5
37.50	1.00	0.00	1.0	.61	.11	1042	780.1	98.3	-32.4
38.00	1.10	0.00	1.1	.57	.07	1061	780.4	97.0	-33.3
38.50	1.06	0.00	1.1	.57	.07	1063	780.6	95.7	-34.2
39.00	1.06	0.00	1.1	.57	.07	1064	780.9	94.4	-35.0
39.50	1.03	0.00	1.0	.61	.11	1054	781.1	93.0	-35.9
40.00	1.05	0.00	1.1	.57	.07	1073	781.4	91.6	-36.8
40.50	1.06	0.00	1.1	.56	.07	1074	781.6	90.2	-37.6
41.00	1.06	0.00	1.1	.56	.06	1076	781.9	88.7	-38.5
41.50	1.14	0.00	1.1	.55	.06	1077	782.1	87.3	-39.4
42.00	1.21	0.00	1.2	.51	.02	1091	782.3	85.8	-40.2
42.50	1.30	0.00	1.3	.47	-16.99	1106	782.6	84.2	-41.1
43.00	1.34	0.00	1.3	.46	.98	1108	782.8	82.6	-41.9
43.50	1.44	0.00	1.4	.42	.95	1121	783.0	81.0	-42.8
44.00	1.51	0.00	1.5	.39	.91	1135	783.2	79.3	-43.6
44.50	1.53	0.00	1.5	.38	.91	1137	783.4	77.6	-44.5
45.00	1.56	0.00	1.6	.34	.88	1148	783.6	75.8	-45.3
45.50	1.57	0.00	1.6	.34	.87	1151	783.8	73.9	-46.2
46.00	1.63	0.00	1.6	.34	.87	1156	784.0	72.0	-47.0
46.50	1.67	0.00	1.7	.31	.85	1167	784.2	70.0	-47.8
47.00	1.74	0.00	1.7	.31	.84	1167	784.4	67.9	-48.7
47.50	1.76	0.00	1.8	.28	.81	1176	784.6	65.7	-49.5
48.00	1.79	0.00	1.8	.28	.81	1179	784.7	63.3	-50.3
48.50	1.82	0.00	1.8	.28	.81	1182	784.9	60.9	-51.1
49.00	1.85	0.00	1.9	.25	.78	1192	785.1	58.3	-51.8
49.50	1.87	0.00	1.9	.25	.78	1193	785.2	55.5	-52.6
50.00	1.91	0.00	1.9	.25	.78	1193	785.4	52.5	-53.4
50.50	1.96	0.00	2.0	.23	.76	1202	785.5	49.3	-54.1
51.00	2.04	0.00	2.0	.23	.76	1201	785.7	45.8	-54.8
51.50	2.05	0.00	2.0	.23	.76	1200	785.7	42.1	-55.4
52.00	2.07	0.00	2.1	.22	.74	1207	785.9	38.1	-56.1
52.50	2.37	0.00	2.4	.16	.68	1226	786.0	33.6	-56.7
53.00	2.02	0.00	2.0	.24	.76	1196	786.1	28.8	-57.2

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40553.50	1.91	0.00	1.9	-16.27	-16.79	1192	786.2	23.5	-57.7
54.00	1.78	0.00	1.8	.30	.82	1184	786.4	17.8	-58.2
54.50	1.75	0.00	1.8	.30	.82	1181	786.5	11.6	-58.5
55.00	2.10	0.00	2.1	.24	.76	1202	786.6	5.0	-58.8
55.50	1.89	0.00	1.9	.29	.81	1185	786.7	358.0	-58.9
56.00	1.55	0.00	1.6	.38	.89	1160	786.8	350.8	-59.0
56.50	1.37	0.00	1.4	.45	.95	1142	786.9	343.4	-59.0
57.00	1.22	0.00	1.2	.53	-17.02	1119	787.0	336.1	-58.8
57.50	1.15	0.00	1.2	.53	.03	1119	787.1	329.0	-58.5
58.00	1.09	0.00	1.1	.58	.07	1106	787.2	322.2	-58.1
58.50	1.10	0.00	1.1	.59	.07	1108	787.2	315.8	-57.7
59.00	1.17	0.00	1.2	.55	.04	1119	787.3	309.8	-57.1
59.50	1.32	0.00	1.3	.51	.00	1127	787.4	304.3	-56.5
60.00	1.36	0.00	1.4	.48	-16.97	1140	787.4	299.3	-55.8
60.50	1.44	0.00	1.4	.48	.98	1138	787.5	294.6	-55.1
61.00	1.88	0.00	1.9	.34	.84	1180	787.5	290.4	-54.3
61.50	1.40	0.00	1.4	.48	.98	1133	787.6	286.5	-53.5
62.00	0.69	0.05	0.7	.79	-17.28	1027	787.6	282.9	-52.6
62.50	0.56	0.13	0.7	.81	.29	1032	787.6	279.5	-51.7
63.00	0.51	0.20	0.7	.82	.29	1034	787.6	276.4	-50.8
63.50	0.46	0.25	0.7	.82	.29	1035	787.6	273.5	-49.9
64.00	0.41	0.29	0.7	.83	.29	1033	787.6	270.8	-49.0
64.50	0.34	0.32	0.7	.83	.29	1031	787.6	268.3	-48.1
65.00	0.21	0.36	0.6	.91	.36	1010	787.6	265.9	-47.1
65.50	0.14	0.39	0.5	.99	.44	982	787.5	263.6	-46.1
66.00	0.10	0.41	0.5	.98	.44	976	787.5	261.4	-45.2
66.50	0.06	0.44	0.5	.98	.44	973	787.4	259.3	-44.2
67.00	0.05	0.46	0.5	.99	.44	977	787.4	257.3	-43.2
67.50	0.06	0.48	0.5	.99	.44	981	787.3	255.4	-42.2
68.00	0.06	0.50	0.6	.92	.37	1017	787.2	253.6	-41.2
68.50	-0.01	0.52	0.5	-17.00	.45	986	787.2	251.8	-40.2
69.00	-0.04	0.53	0.5	.00	.45	988	787.1	250.0	-39.2
69.50	-0.07	0.54	0.5	.00	.45	986	787.0	248.4	-38.2
70.00	-0.10	0.56	0.5	.00	.45	985	786.9	246.7	-37.2
70.50	-0.13	0.57	0.4	.09	.55	940	786.7	245.1	-36.1
71.00	-0.02	0.58	0.6	-16.91	.37	1014	786.6	243.6	-35.1
71.50	0.03	0.59	0.6	.91	.37	1011	786.5	242.0	-34.1
72.00	-0.08	0.60	0.5	.99	.45	977	786.4	240.5	-33.1
72.50	-0.15	0.60	0.5	-17.00	.45	983	786.2	239.1	-32.1
73.00	-0.17	0.61	0.4	.10	.55	940	786.1	237.6	-31.1
73.50	-0.22	0.61	0.4	.10	.55	941	785.9	236.2	-30.0
74.00	-0.24	0.62	0.4	.10	.56	943	785.8	234.8	-29.0
74.50	-0.29	0.62	0.3	.23	.68	877	785.6	233.4	-28.0
75.00	-0.25	0.62	0.4	.10	.56	941	785.4	232.1	-27.0
75.50	-0.22	0.63	0.4	.11	.56	942	785.3	230.7	-26.0
76.00	-0.20	0.63	0.4	.11	.56	941	785.1	229.4	-25.0
76.50	-0.17	0.63	0.5	.01	.46	986	784.9	228.1	-23.9
77.00	-0.07	0.63	0.6	-16.93	.39	1021	784.7	226.8	-22.9
77.50	-0.06	0.63	0.6	.92	.39	1014	784.5	225.5	-21.9
78.00	-0.07	0.63	0.6	.91	.39	1010	784.3	224.3	-20.9
78.50	-0.02	0.63	0.6	.91	.39	1009	784.1	223.0	-19.9
79.00	-0.09	0.62	0.5	.99	.47	969	783.9	221.8	-18.9
79.50	-0.23	0.62	0.4	-17.10	.57	923	783.7	220.5	-17.8
80.00	-0.13	0.62	0.5	.01	.47	974	783.5	219.3	-16.8
80.50	-0.18	0.61	0.4	.11	.57	922	783.3	218.1	-15.8
81.00	-0.14	0.61	0.5	.01	.47	972	783.1	216.9	-14.8
81.50	-0.22	0.60	0.4	.12	.57	926	782.9	215.7	-13.8
82.00	-0.19	0.60	0.4	.11	.57	919	782.7	214.5	-12.8
82.50	-0.25	0.59	0.3	.24	.70	847	782.5	213.3	-11.8
83.00	-0.30	0.58	0.3	.26	.70	859	782.2	212.1	-10.8

Table 4 (Cont.)

1968 66A (Explorer 39)

MJD	$-10^6 P$	$10^6 \dot{P}_r$	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_O$ (deg.)	$\delta_\pi - \delta_O$ (deg.)
40583.50	-0.30	0.58	0.3	-17.27	-17.70	864	782.0	210.9	-9.8
84.00	-0.32	0.57	0.2	.44	.87	737	781.8	209.7	-8.8
84.50	-0.32	0.56	0.2	.44	.88	729	781.6	208.6	-7.7
85.00	-0.32	0.55	0.2	.45	.88	734	781.4	207.4	-6.7
85.50	-0.34	0.55	0.2	.45	.88	738	781.2	206.3	-5.7
86.00	-0.31	0.54	0.2	.45	.88	735	781.0	205.1	-4.7
86.50	-0.30	0.53	0.2	.45	.88	731	780.8	204.0	-3.7
87.00	-0.35	0.52	0.2	.45	.88	723	780.6	202.8	-2.7
87.50	-0.37	0.51	0.1	.75	-18.18	690	780.4	201.7	-1.8
88.00	-0.23	0.50	0.3	.27	-17.70	834	780.2	200.5	-0.8
88.50	0.13	0.49	0.6	-16.95	.40	987	780.0	199.4	0.2
89.00	-0.05	0.48	0.4	-17.13	.58	889	779.9	198.3	1.2
89.50	-0.17	0.47	0.3	.27	.70	826	779.7	197.2	2.2
90.00	-0.24	0.46	0.2	.47	.88	699	779.5	196.0	3.2
90.50	-0.25	0.44	0.2	.48	.87	721	779.3	194.9	4.2
91.00	-0.29	0.43	0.1	.78	-18.17	687	779.2	193.8	5.2
91.50	-0.30	0.42	0.1	.78	.17	686	779.0	192.7	6.2
92.00	-0.32	0.41	0.1	.78	.17	685	778.9	191.6	7.1
92.50	-0.27	0.40	0.1	.79	.17	685	778.7	190.5	8.1
93.00	-0.29	0.39	0.1	.80	.17	684	778.6	189.4	9.1
93.50	-0.22	0.37	0.2	.50	-17.87	718	778.5	188.2	10.1
94.00	-0.17	0.36	0.2	.50	.86	710	778.3	187.1	11.1
94.50	-0.15	0.35	0.2	.50	.86	700	778.2	186.0	12.0
95.00	-0.06	0.34	0.3	.32	.69	828	778.1	184.9	13.0
95.50	-0.12	0.32	0.2	.50	.86	680	778.0	183.8	14.0
96.00	-0.10	0.31	0.2	.50	.86	679	777.9	182.7	15.0
96.50	-0.13	0.30	0.2	.50	.86	678	777.8	181.7	15.9
97.00	-0.11	0.29	0.2	.50	.86	686	777.7	180.6	16.9
97.50	-0.09	0.27	0.2	.49	.86	676	777.7	179.5	17.9
98.00	-0.02	0.26	0.2	.48	.86	676	777.6	178.4	18.8
98.50	0.11	0.25	0.4	.17	.57	879	777.5	177.3	19.8
99.00	0.11	0.24	0.3	.28	.69	802	777.5	176.2	20.7
99.50	0.13	0.22	0.4	.15	.57	873	777.4	175.1	21.7
40600.00	0.16	0.21	0.4	.15	.56	871	777.4	174.0	22.6

BIOGRAPHICAL NOTES

LUIGI G. JACCHIA received his doctorate in physics from the University of Bologna in 1932. He continued working with the University as an astronomer at its observatory.

Dr. Jacchia's affiliation with Harvard College Observatory began with his appointment as research associate in 1939. At that time he was studying variable stars. Since he joined SAO as a physicist in 1956, most of Dr. Jacchia's work has been on meteors and upper atmospheric research.

JACK W. SLOWEY received his B.S. in 1955 and his M.S. in 1956 from the University of Wisconsin.

Mr. Slowey came to SAO as a physicist in 1956 and was concurrently a lecturer in General Education at Harvard College until 1960. Since 1959 he has been an astronomer for SAO and, since 1961, a scientific consultant for IBM Corporation. His fields of concentration include orbits of artificial satellites and the earth's upper atmosphere.

NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory.

First issued to ensure the immediate dissemination of data for satellite tracking, the reports have continued to provide a rapid distribution of catalogs of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals. The Reports are also used extensively for the rapid publication of preliminary or special results in other fields of astrophysics.

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