

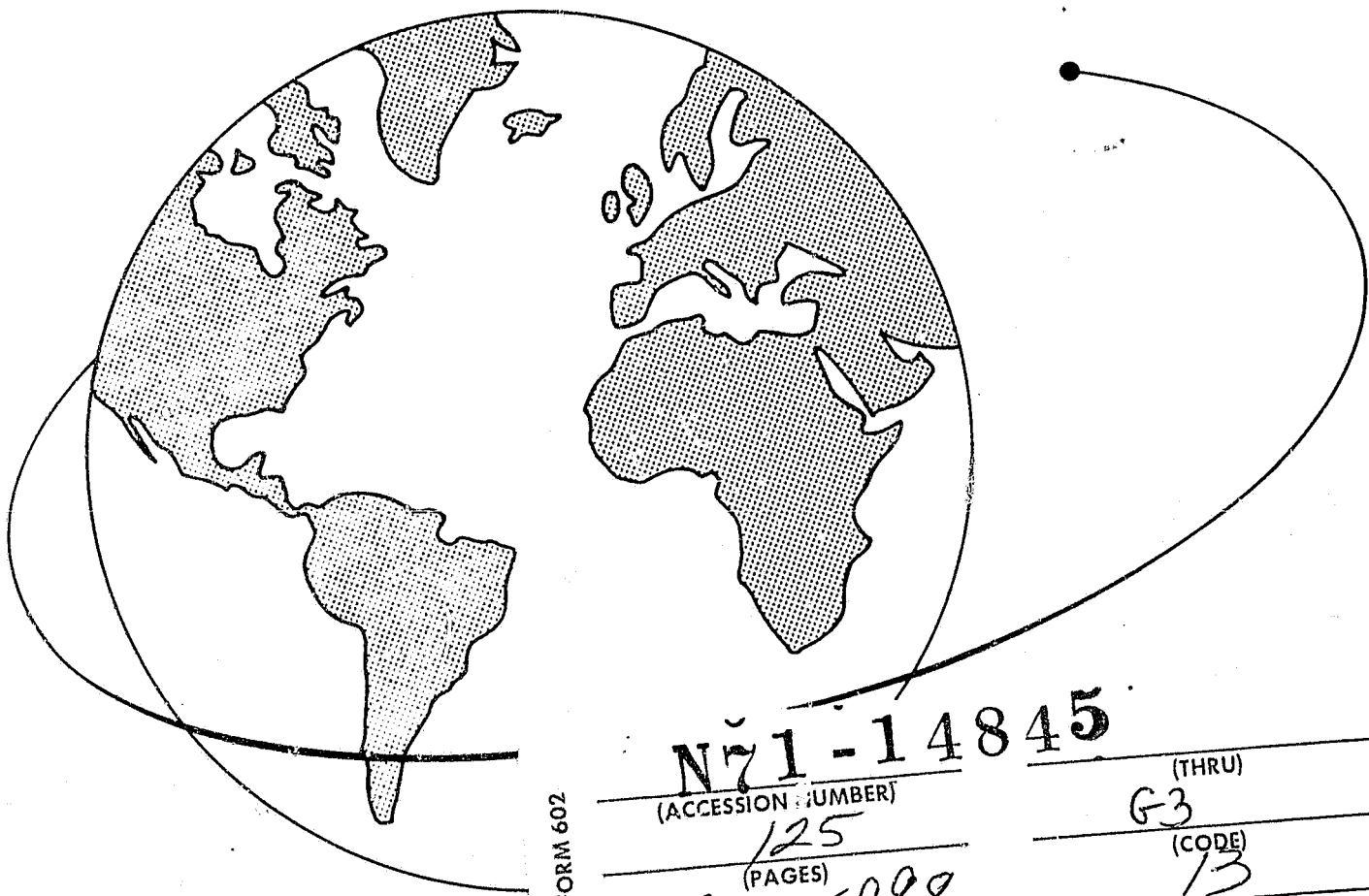
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ATMOSPHERIC DENSITIES FROM DRAG ON FIVE SATELLITES

L. G. JACCHIA and J. W. SLOWEY



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A CATALOG OF ATMOSPHERIC DENSITIES FROM THE DRAG
ON FIVE ARTIFICIAL SATELLITES

Luigi G. Jacchia and Jack W. Slowey

October 16, 1970

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ABSTRACT

Densities derived from atmospheric drag are presented for five artificial satellites with perigee heights between 250 and 560 km. The data from each of four of these satellites cover an interval of 1300 days. The data extend and supplement those published by the authors in 1965.

RÉSUMÉ

On présente les densités dérivées de l'étude de l'accélération par l'atmosphère pour cinq satellites artificiels avec des hauteurs de périgée comprises entre 250 et 560 km. Les données à partir de chacun de quatre de ces satellites couvrent un intervalle de 1300 jours. Les données élargissent et augmentent celles qui furent publiées par les auteurs en 1965.

КОНСПЕКТ

Приводятся плотности выведенные из атмосферного драга, для пяти искусственных спутников с высотой перигея между 250 и 560 км. Данные каждого из четырех из этих спутников распространяются на интервал в 1300 дней. Данные расширяют и дополняют те которые были опубликованы авторами в 1965г.

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1. INTRODUCTION

In this paper we present a catalog of atmospheric densities determined from satellite drag. This catalog extends and supplements an earlier one (Jacchia and Slowey, 1965) that gave densities determined from six satellites over the intervals from near the time of launch to, in most cases, a terminal date of MJD 38300 (MJD = Modified Julian Day = $JD - 2,400,000.5$). Two of these satellites, 1958 $\beta 2$ (Vanguard 1) and 1959 Eta (Vanguard 3), were dropped from our list: the first because of tracking difficulties, and the second because of its odd shape that made it difficult to evaluate the effect of solar-radiation pressure on its motion. A third satellite in the earlier catalog, 1961 $\delta 1$ (Explorer 9), came down on MJD 38494, and so densities could be determined only to that date. The catalog includes data from the remaining three satellites, 1958 Alpha (Explorer 1), 1959 $\alpha 1$ (Vanguard 2), and 1960 $\xi 1$ (Explorer 8), to MJD 39600. In addition, densities determined from 1962 $\beta \tau 2$ (Injun 3) are included from MJD 38013 to MJD 39595.

The five satellites from which densities were obtained are listed in Table 1. In Table 3, we give the density reduced to a standard height, in addition to the density at the height of perigee. This is done to facilitate analysis. The standard heights to which densities were reduced for each

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satellite are given in the second column of Table 1. Many different standard heights were used for 1961 $\delta 1$ because of the large variation in its perigee height. These standard heights and the intervals to which they apply are given separately in Table 2. The third column of Table 1 gives the area-to-mass ratio that was assumed for each satellite. The remaining columns in the table need no explanation.

As was the case with the earlier catalog, the densities given here were determined mainly from field-reduced Baker-Nunn observations, which have a topocentric accuracy of a few minutes of arc. Results from precision-reduced Baker-Nunn photographs for selected satellites will be published separately.

2. METHOD OF COMPUTATION

The method by which we determine atmospheric densities from satellite observations has been described in detail in an earlier paper (Jacchia and Slowey, 1963) and need not be repeated here. As before, the contribution of solar-radiation pressure to the observed acceleration was computed for those satellites for which it is important; Kozai's (1961) formulation of the effect was used. Specular reflection from a spherical surface and a value of the solar constant of $2.00 \text{ cal cm}^{-2} \text{ min}^{-1}$ were assumed. Densities were computed from the observed accelerations by evaluating Sterne's (1958, 1959) integral in the form including atmospheric rotation. In all cases, the atmosphere was assumed to rotate with the earth. A drag coefficient of 2.2 was assumed for all the satellites.

The computation of a single density from an observed acceleration requires a knowledge of the variation of density around the satellite's orbit. The reduction of densities to a standard height also requires the use of a model of some sort. For the earlier catalog, densities were computed with a model due to Nicolet (referred to as Nicolet II). For this catalog, we have used the model of Jacchia (1965, generally referred to as J65).

3. EXPLANATION OF TABLES

The numerical results from each of the five satellites are given in Table 3, which is identical in form to that of the earlier catalog. The time, in Modified Julian Days, is listed in the first column. The observed rate of change of the anomalistic period, or "acceleration," is given in the second column. 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 for both 1958 Alpha and 1962 β_2 ; at the heights of these satellites, the effect of radiation pressure is negligible compared to that of atmospheric drag. The common logarithms of the perigee density, in grams per cubic centimeter, at the actual perigee height and reduced to the standard height are in columns five and six, respectively. The local exospheric temperature in the J65 model that corresponds to the computed perigee density 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 last column contains the exospheric temperature reduced to the corresponding global minimum value by use of the model of the diurnal variation described as part of the J65 model.

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4. PLOTS OF DENSITIES

The logarithms of the perigee density at standard height and the corresponding exospheric temperatures according to the J65 model are plotted for four of the satellites in Figures 1 through 4. Results from 1961 51 are not plotted, both because the interval covered is quite small and because reduction to a single standard height would have been rather meaningless. Each figure also includes plots of the diurnal variation for that satellite and the semiannual variation according to the temperature models of these variations associated with the J65 model and plots of the 10.7-cm solar flux and the daily geomagnetic index A_p . The diurnal variation has been normalized to a constant maximum amplitude, and the semiannual variation is shown reduced to a constant value of the 10.7-cm flux of 100.

5. ACKNOWLEDGMENTS

The authors are indebted to Mrs. Margaret Anderson, Mrs. Helene Cornelius, and Mrs. Mary Thorndike for their assistance in the rather tedious work involved in obtaining the data presented in this report.

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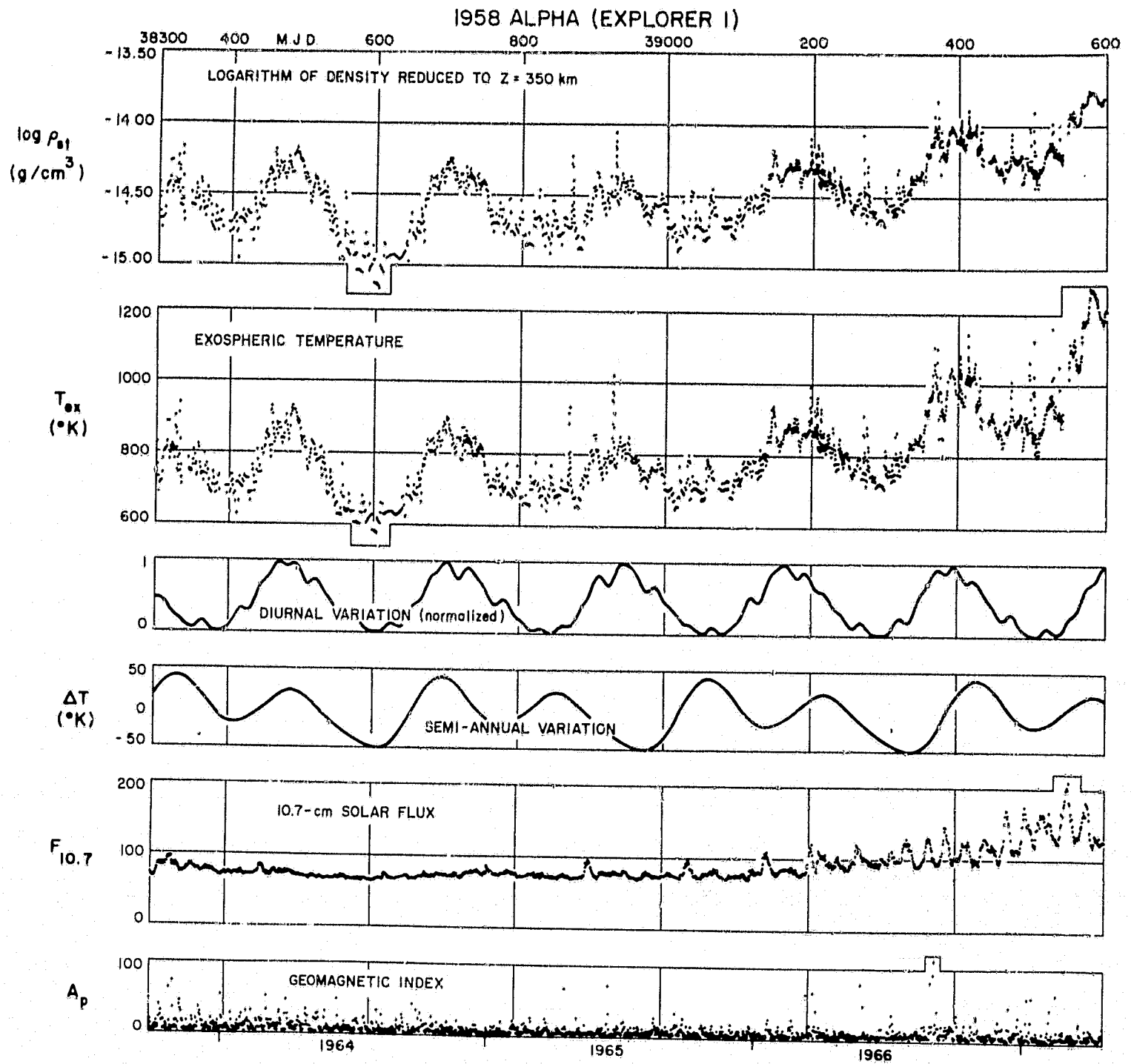


Figure 1. 1958 Alpha (Explorer 1).

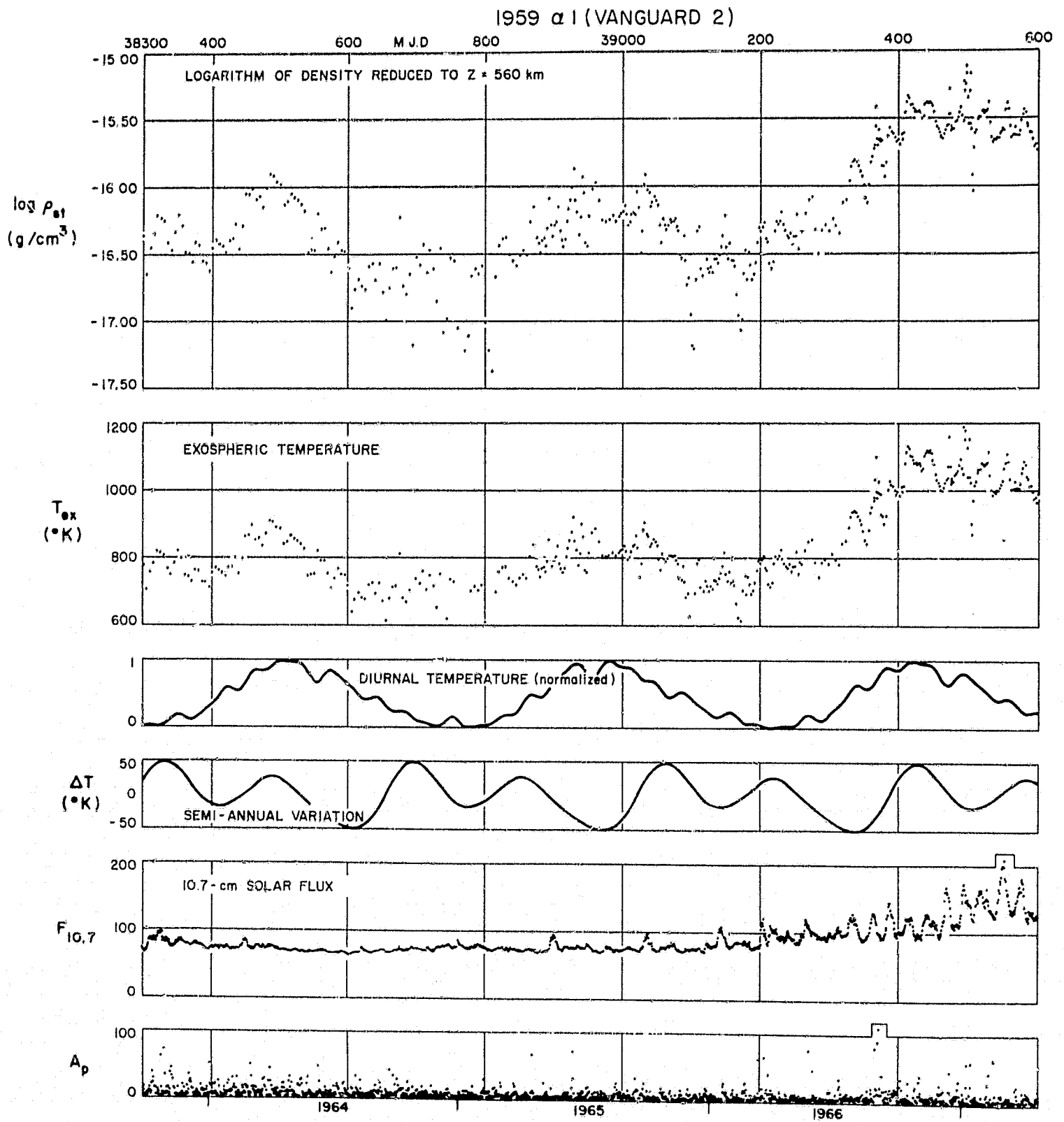


Figure 2. 1959 α 1 (Vanguard 2).

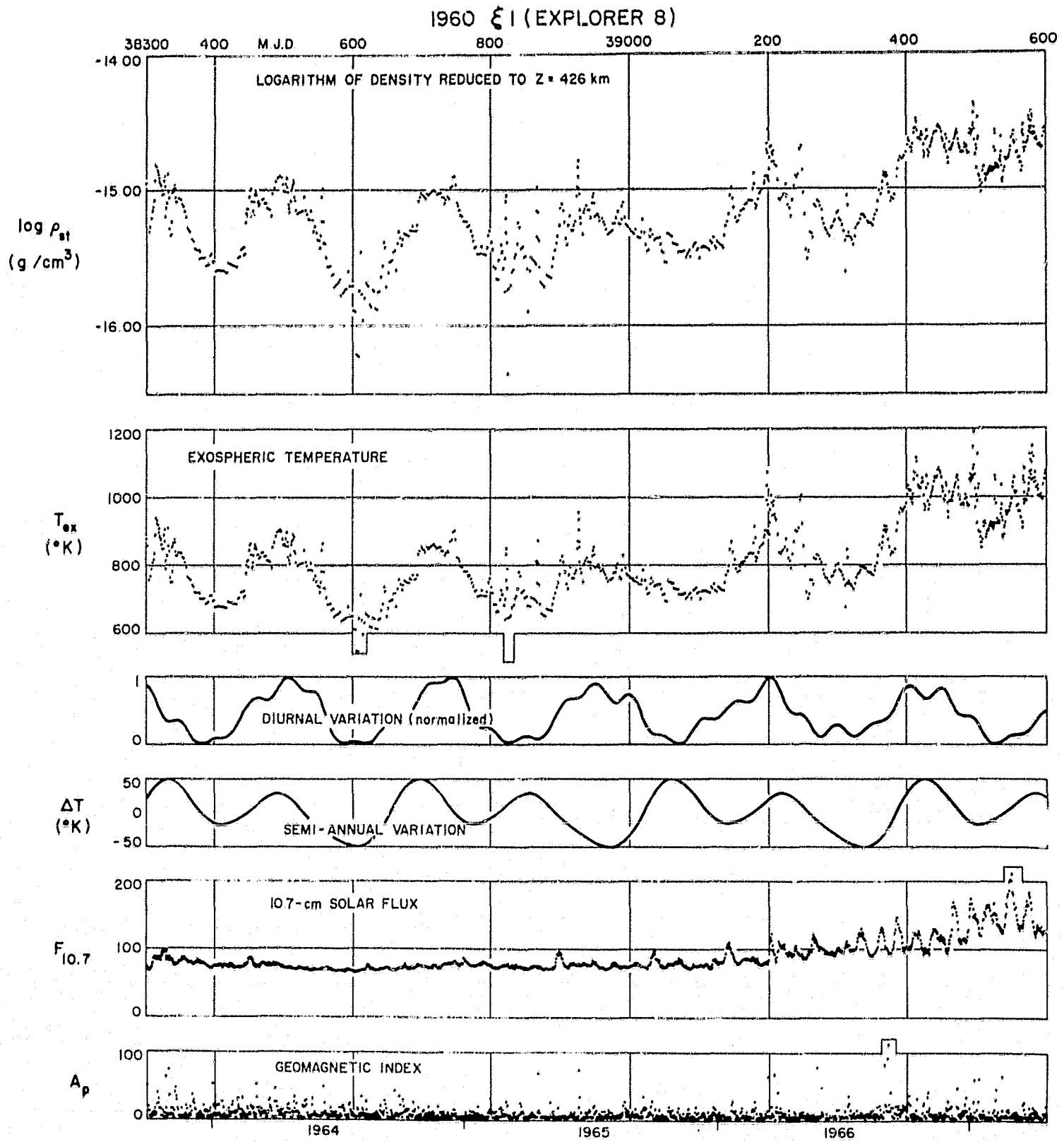


Figure 3. 1960 ξ 1 (Explorer 8).

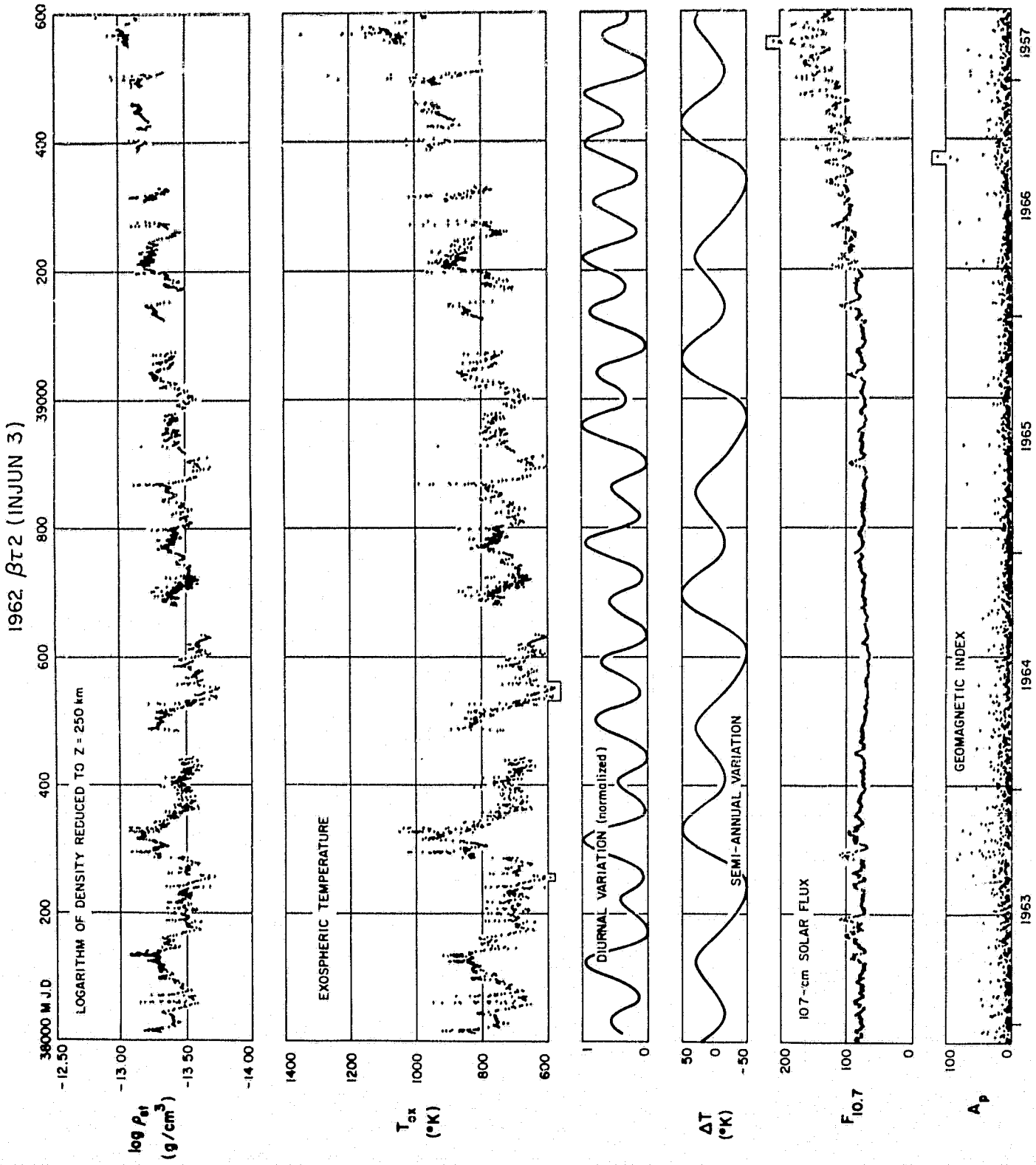


Figure 4. 1962 $\beta\tau_2$ (Injun 3).

Table 1. Basic data on satellites.

Satellite [*]	\bar{z}_π (km)	A/m ($\text{cm}^2 \text{g}^{-1}$)	Eccentricity	Interval	Resolution (days) ^{**}
1962 $\beta\tau 2$ (Injun 3)	250	0.0699	0.16-0.10	1962 Dec. 15-1967 Apr. 15	0.5-1.0 (0.2)
1958 Alpha (Explorer 1)	350	0.170	0.09-0.07	1963 Sept. 29-1967 Apr. 20	0.5-1.0 (0.2)
1960 $\xi 1$ (Explorer 8)	426	0.110	0.12	1963 Sept. 30-1967 Apr. 20	1.0-2.0 (0.2)
1961 $\delta 1$ (Explorer 9)	435-270 [†]	15.84	0.13-0.03	1963 Sept. 28-1964 Apr. 9	0.2-0.5
1959 $\alpha 1$ (Vanguard 2)	563	0.236	0.16	1963 Oct. 3-1967 Apr. 20	2.0-5.0 (1.0)

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

† A detailed tabulation of the standard heights for 1961 $\delta 1$ appears in Table 2.

Table 2. Standard heights for 1961 δ 1 (Explorer 9).

Interval (MJD)	\bar{z}_π (km)
38300.0–38310.5	435
311.0– 325.8	425
326.0– 340.8	414
341.0– 356.0	408
356.5– 370.0	390
370.5– 386.0	375
386.5– 399.5	365
400.0– 413.5	366
414.0– 430.6	355
430.8– 447.5	337
448.0– 454.6	330
454.8– 458.0	323
458.2– 466.0	318
466.2– 468.8	322
469.0– 477.2	315
477.4– 481.8	313
482.0– 483.4	305
483.6– 488.4	300
488.6– 494.2	270

Table 3. Acceleration, drag, atmospheric densities, atmospheric temperatures, and geometric parameters.

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$u_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38300.00	1.33		1.3	-14.36	-14.42	812	343.4	124.1	23.5	716
01.00	1.32		1.3	.36	.43	811	343.0	125.3	20.4	716
02.00	0.97		1.0	.46	.54	765	342.3	126.2	17.1	675
03.00	0.84		0.8	.55	.63	730	342.2	126.9	13.6	645
04.00	0.76		0.8	.55	.63	730	342.2	127.4	9.9	645
05.00	0.62		0.6	.66	.75	690	342.5	127.8	6.2	610
06.00	0.70		0.7	.60	.68	713	343.0	128.2	2.4	630
07.00	0.67		0.7	.60	.67	715	343.7	128.6	-1.4	632
08.00	0.65		0.7	.61	.67	718	344.6	129.1	-5.1	635
09.00	0.77		0.8	.56	.60	740	345.6	129.8	-8.7	656
10.00	0.96		1.0	.47	.50	779	346.8	130.7	-12.1	691
11.00	1.05		1.1	.43	.45	799	348.0	131.9	-15.3	710
12.00	1.08		1.1	.44	.45	803	349.2	133.4	-18.1	715
13.00	1.10		1.1	.44	.44	807	350.3	135.3	-20.5	720
14.00	1.12		1.1	.44	.43	810	351.3	137.5	-22.5	725
15.00	1.23		1.2	.41	.39	827	352.0	140.2	-24.0	744
16.00	1.62		1.6	.30	.27	884	352.5	143.1	-24.8	798
17.00	1.56		1.6	.30	.27	885	352.7	146.2	-25.0	802
18.00	0.94		0.9	.52	.50	781	352.6	149.3	-24.5	711
19.00	0.95		1.0	.48	.46	797	352.3	152.3	-23.4	728
20.00	1.11		1.1	.44	.43	811	351.6	155.2	-21.6	744
21.00	1.14		1.1	.44	.43	808	350.7	157.7	-19.3	745
22.00	1.19		1.2	.40	.41	819	349.7	159.8	-16.4	759
23.00	1.21		1.2	.40	.42	815	348.5	161.6	-13.1	758
24.00	1.18		1.2	.40	.43	811	347.2	162.9	-9.4	757
25.00	1.08		1.1	.43	.47	792	346.0	164.0	-5.4	741
38325.50	1.20		1.2	-14.40	-14.44	805	345.4	164.4	-3.4	754
26.00	1.69		1.7	.26	.31	868	344.8	164.8	-1.2	814
26.50	2.03		2.0	.19	.24	900	344.3	165.1	0.9	845
27.00	1.69		1.7	.25	.31	864	343.8	165.3	3.1	812
27.50	1.64		1.6	.28	.34	850	343.3	165.6	5.3	800
28.00	1.32		1.3	.36	.43	810	342.9	165.8	7.6	763
28.50	1.13		1.1	.43	.50	780	342.6	165.9	9.8	735
29.00	0.92		0.9	.51	.59	746	342.3	166.1	12.1	704
29.50	0.90		0.9	.51	.59	745	342.0	166.2	14.4	704
30.00	0.85		0.9	.51	.59	745	341.8	166.4	16.6	704
30.50	0.98		1.0	.46	.55	761	341.7	166.6	18.9	720
31.00	0.89		0.9	.51	.59	744	341.7	166.8	21.1	704
31.50	1.23		1.2	.39	.48	790	341.6	167.0	23.3	749
32.00	2.21		2.2	.15	.23	908	341.7	167.3	25.4	862
32.50	2.46		2.5	.10	.17	938	341.8	167.6	27.6	891
33.00	1.52		1.5	.30	.38	831	341.9	168.0	29.6	790
33.50	1.04		1.0	.47	.55	761	342.1	168.4	31.6	724
34.00	0.82		0.8	.56	.64	727	342.3	168.9	33.6	692
38335.00	0.71		0.7	-14.61	-14.69	708	342.8	170.1	37.3	677
38344.00	1.08		1.1	-14.44	-14.49	782	344.3	192.6	47.3	768
45.00	0.90		0.9	.51	.58	749	343.9	194.8	45.4	737
46.00	0.85		0.9	.51	.58	748	343.4	196.6	43.0	737
47.00	0.90		0.9	.51	.59	747	342.9	198.1	40.2	736
48.00	0.89		0.9	.51	.59	746	342.5	199.2	37.0	736
49.00	0.97		1.0	.47	.55	762	342.1	200.0	33.6	752
50.00	1.13		1.1	.43	.51	777	342.0	200.6	29.9	767
51.00	1.31		1.3	.36	.44	806	342.0	201.0	26.1	795
52.00	1.17		1.2	.39	.47	793	342.2	201.3	22.2	781
53.00	1.03		1.0	.46	.54	764	342.6	201.6	18.3	751
54.00	0.99		1.0	.47	.54	766	343.3	201.8	14.3	752

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38355.00	0.81		0.8	-14.56	-14.62	734	344.1	202.2	10.4	719
56.00	0.84		0.8	.56	.61	737	345.2	202.7	6.7	720
57.00	1.25		1.3	.37	.40	821	346.3	203.4	3.1	799
58.00	1.18		1.2	.40	.43	812	347.5	204.5	-0.3	787
59.00	0.94		0.9	.52	.53	767	348.7	205.8	-3.3	742
60.00	0.80		0.8	.57	.57	753	349.8	207.5	-6.0	726
61.00	0.69		0.7	.62	.61	736	350.7	209.6	-8.2	708
62.00	0.71		0.7	.62	.61	738	351.5	212.1	-9.9	709
63.00	0.66		0.7	.62	.60	740	352.0	214.8	-11.0	710
64.00	0.61		0.6	.69	.66	719	352.2	217.8	-11.5	689
65.00	0.75		0.7	.63	.60	740	352.1	220.8	-11.3	710
66.00	1.00		1.0	.48	.46	795	351.8	223.7	-10.4	764
67.00	0.84		0.8	.57	.56	758	351.2	226.4	-8.9	730
68.00	0.73		0.7	.62	.62	735	350.3	228.8	-6.8	710
69.00	0.89		0.9	.52	.53	769	349.2	230.8	-4.2	746
70.00	0.78		0.8	.56	.58	747	348.0	232.4	-1.2	728
71.00	0.62		0.6	.68	.71	702	346.8	233.7	2.3	686
72.00	0.66		0.7	.61	.66	719	345.5	234.6	6.0	706
73.00	0.64		0.6	.67	.74	694	344.4	235.3	9.9	684
74.00	0.63		0.6	.67	.75	691	343.3	235.7	14.0	683
75.00	0.58		0.6	.67	.75	688	342.5	236.0	18.2	682
76.00	0.56		0.6	.67	.76	686	341.8	236.2	22.5	682
77.00	0.66		0.7	.61	.70	706	341.4	236.4	26.7	703
78.00	0.90		0.9	.51	.60	742	341.2	236.6	30.9	741
79.00	0.80		0.8	.55	.65	724	341.2	237.0	35.0	724
80.00	0.67		0.7	.61	.70	705	341.5	237.5	38.9	705
81.00	0.58		0.6	.67	.76	685	341.9	238.3	42.6	685
82.00	0.59		0.6	.67	.76	686	342.4	239.4	46.0	686
83.00	0.57		0.7	.61	.69	709	342.9	240.8	49.1	709
84.00	0.69		0.7	.62	.69	710	343.5	242.6	51.7	710
85.00	0.80		0.8	.55	.63	731	344.0	244.8	53.8	730
86.00	0.77		0.8	.57	.63	732	344.4	247.2	55.4	731
87.00	0.63		0.6	.68	.74	691	344.6	250.0	56.3	690
38396.00	0.68		0.7	-14.62	-14.70	704	342.0	268.0	38.2	696
97.00	0.64		0.6	.68	.77	683	341.8	268.5	34.2	674
98.00	0.71		0.7	.62	.70	704	341.9	268.8	30.0	694
99.00	0.67		0.7	.61	.71	703	341.6	269.1	25.8	692
38400.00	0.65		0.7	.61	.70	705	342.0	269.3	21.5	692
01.00	0.65		0.6	.68	.76	686	342.7	269.5	17.2	671
02.00	0.60		0.6	.68	.75	689	343.7	269.8	13.0	672
03.00	0.66		0.7	.62	.68	713	344.8	270.2	8.9	693
04.00	0.84		0.8	.57	.61	737	346.0	270.9	4.9	713
05.00	0.72		0.7	.63	.66	721	347.3	271.9	1.2	694
06.00	0.59		0.6	.69	.71	704	348.5	273.2	-2.2	674
07.00	0.51		0.5	.77	.77	683	349.7	274.9	-5.2	650
08.00	0.54		0.5	.77	.76	685	350.8	277.0	-7.8	649
09.00	0.43		0.4	.86	.84	660	351.7	279.4	-9.9	622
10.00	0.60		0.6	.70	.68	714	352.3	282.1	-11.3	669
11.00	0.31		0.3	.98	.95	629	352.6	285.1	-12.2	586
12.00	0.65		0.6	.70	.67	714	352.6	288.0	-12.3	663
13.00	0.41		0.4	.86	.84	662	352.4	291.0	-11.8	612
14.00	0.57		0.6	.70	.68	713	351.8	293.7	-10.7	657
15.00	0.67		0.7	.63	.62	733	351.0	296.1	-9.0	674
16.00	0.64		0.6	.69	.69	708	350.0	298.1	-6.7	650
17.00	0.62		0.6	.69	.70	705	348.9	299.8	-4.0	647
18.00	0.61		0.6	.69	.71	702	347.6	301.1	-1.0	643
19.00	0.66		0.7	.62	.66	720	346.4	302.1	2.4	660
20.00	0.72		0.7	.62	.67	717	345.2	302.8	6.0	658

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38421.00	0.75		0.8	-14.56	-14.62	733	344.2	303.3	9.7	674
22.00	0.76		0.8	.56	.63	730	343.3	303.6	13.6	673
23.00	0.75		0.8	.56	.64	728	342.6	303.9	17.5	672
24.00	0.76		0.8	.55	.64	727	342.1	304.1	21.4	671
25.00	0.83		0.8	.55	.64	726	341.8	304.4	25.3	671
26.00	0.78		0.8	.56	.64	726	341.8	304.9	29.1	671
27.00	0.61		0.6	.67	.76	685	341.9	305.5	32.7	634
28.00	0.55		0.6	.67	.76	686	342.3	306.4	36.0	634
29.00	0.55		0.6	.68	.76	686	342.7	307.5	39.1	634
30.00	0.50		0.5	.75	.83	664	343.1	309.1	41.9	612
31.00	0.57		0.6	.68	.75	688	343.6	311.0	44.2	633
32.00	0.98		1.0	.48	.54	764	344.0	313.2	46.0	700
33.00	0.94		0.9	.52	.58	749	344.3	315.8	47.3	682
34.00	0.82		0.8	.57	.63	731	344.5	318.6	47.9	662
35.00	0.73		0.7	.62	.68	712	344.5	321.6	47.9	640
36.00	0.64		0.6	.68	.75	690	344.4	324.6	47.2	616
37.00	0.68		0.7	.62	.68	711	344.1	327.4	45.9	630
38.00	0.95		0.9	.52	.58	748	343.8	330.0	44.0	657
39.00	1.25		1.3	.37	.43	808	343.3	332.3	41.5	705
40.00	1.05		1.1	.43	.50	778	342.8	334.2	38.5	674
41.00	0.91		0.9	.51	.59	745	342.3	335.7	35.1	641
42.00	0.88		0.9	.51	.59	744	341.9	336.9	31.3	636
43.00	0.96		1.0	.46	.55	761	341.5	337.8	27.3	647
44.00	0.89		0.9	.50	.59	744	341.4	338.5	23.0	630
45.00	0.89		0.9	.50	.59	745	341.4	339.0	18.6	628
46.00	1.34		1.3	.35	.43	808	341.6	339.3	14.1	679
47.00	1.24		1.2	.38	.46	796	342.1	339.7	9.5	667
48.00	1.29		1.3	.35	.42	814	342.9	340.0	5.0	680
49.00	1.29		1.3	.35	.41	817	343.8	340.5	0.5	682
50.00	1.36		1.4	.32	.37	835	344.9	341.1	-3.9	696
51.00	1.49		1.5	.30	.33	853	346.1	341.9	-8.1	710
52.00	1.49		1.5	.30	.32	858	347.4	343.1	-12.0	713
53.00	1.43		1.4	.33	.34	850	348.6	344.5	-15.7	705
54.00	1.35		1.3	.36	.36	841	349.8	346.4	-18.9	695
55.00	1.25		1.3	.36	.35	845	350.9	348.6	-21.7	696
56.00	1.11		1.1	.43	.41	818	351.7	351.2	-24.0	672
57.00	0.97		1.0	.47	.45	803	352.3	354.1	-25.6	657
38457.50	0.90		0.9	-14.51	-14.49	786	352.5	355.6	-26.2	642
58.00	1.12		1.1	.43	.41	820	352.6	357.1	-26.6	669
58.50	1.84		1.8	.24	.21	917	352.6	358.7	-26.9	746
59.00	1.87		1.9	.21	.19	930	352.6	0.3	-27.0	755
59.50	1.67		1.7	.26	.23	906	352.5	1.8	-26.9	733
60.00	1.50		1.5	.30	.28	879	352.3	3.4	-26.7	710
38461.00	1.43		1.4	-14.33	-14.31	863	351.7	6.2	-25.7	694
62.00	1.33		1.3	.36	.35	846	350.9	8.8	-24.1	678
63.00	1.22		1.2	.39	.39	828	349.8	11.0	-22.0	660
64.00	1.32		1.3	.35	.37	838	348.6	12.8	-19.5	666
65.00	1.52		1.5	.29	.32	861	347.4	14.2	-16.6	682
66.00	1.74		1.7	.24	.28	882	346.1	15.3	-13.3	697
67.00	1.72		1.7	.24	.29	878	344.9	16.2	-9.9	692
68.00	1.55		1.5	.29	.34	849	343.8	16.8	-6.3	668
69.00	1.62		1.6	.26	.33	858	342.9	17.3	-2.5	674
70.00	1.81		1.8	.21	.28	879	342.3	17.6	1.3	691
71.00	1.69		1.7	.23	.31	866	341.8	18.0	5.1	680
72.00	1.51		1.5	.28	.36	840	341.5	18.5	8.8	661
73.00	1.44		1.4	.31	.39	826	341.5	19.0	12.5	651
74.00	1.45		1.5	.28	.36	839	341.7	19.8	16.0	662
75.00	1.54		1.5	.29	.36	840	342.0	20.8	19.3	664

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38476.00	1.64		1.6	-14.26	-14.33	854	342.4	22.1	22.2	676
77.00	1.76		1.8	.22	.28	879	342.9	23.8	24.9	697
78.00	1.95		2.0	.18	.24	903	343.4	25.9	27.1	717
79.00	1.79		1.8	.22	.27	884	344.4	28.1	28.7	703
80.00	1.72		1.7	.24	.29	874	344.7	30.8	29.9	695
81.00	1.60		1.6	.27	.32	862	345.0	33.8	30.4	686
82.00	1.50		1.5	.29	.34	850	345.0	36.8	30.3	676
83.00	1.39		1.4	.32	.37	836	344.9	39.9	29.5	665
84.00	1.71		1.7	.25	.30	873	344.6	42.8	28.0	694
85.00	1.95		2.0	.18	.23	905	344.3	45.4	26.0	719
86.00	2.05		2.1	.16	.22	914	343.8	47.7	23.4	725
87.00	2.24		2.2	.14	.20	923	343.2	49.7	20.3	731
88.00	2.32		2.3	.12	.19	931	342.7	51.2	16.8	737
89.00	2.23		2.2	.14	.21	919	342.2	52.5	13.0	726
90.00	2.21		2.2	.13	.21	918	341.8	53.4	8.9	725
91.00	2.19		2.2	.13	.21	918	341.6	54.1	4.6	724
92.00	2.10		2.1	.15	.23	907	341.6	54.6	0.2	716
93.00	2.03		2.0	.17	.25	897	341.8	55.0	-4.4	708
94.00	1.94		1.9	.19	.27	888	342.2	55.4	-9.0	702
95.00	1.89		1.9	.19	.26	890	342.8	55.8	-13.5	705
96.00	1.83		1.8	.22	.28	882	343.7	56.3	-18.0	701
97.00	1.76		1.8	.22	.27	885	344.7	57.0	-22.4	706
98.00	1.62		1.6	.27	.31	865	345.8	57.9	-26.5	693
99.00	1.45		1.4	.33	.36	843	347.0	59.0	-30.5	679
38500.00	1.28		1.3	.36	.38	832	348.2	60.6	-34.1	675
01.00	1.17		1.2	.40	.40	821	349.3	62.5	-37.3	670
02.00	1.31		1.3	.37	.37	839	350.2	64.8	-40.0	688
03.00	1.33		1.3	.37	.35	841	351.0	67.4	-42.2	694
04.00	1.23		1.2	.40	.39	828	351.5	70.3	-43.7	687
05.00	1.12		1.1	.44	.42	813	351.7	73.4	-44.6	678
06.00	1.05		1.1	.44	.42	813	351.7	76.6	-44.8	680
07.00	0.90		0.9	.52	.50	778	351.4	79.6	-44.4	654
08.00	0.82		0.8	.56	.56	758	350.7	82.5	-43.3	638
09.00	0.77		0.8	.56	.56	755	349.9	85.0	-41.6	636
10.00	0.91		0.9	.51	.53	770	348.8	87.1	-39.4	649
11.00	1.04		1.0	.47	.49	784	347.6	88.9	-36.7	660
12.00	1.13		1.1	.43	.46	796	346.4	90.3	-33.7	670
13.00	1.25		1.2	.39	.44	807	345.2	91.3	-30.3	678
14.00	1.41		1.4	.32	.38	831	344.1	92.1	-26.8	697
15.00	1.40		1.4	.32	.39	828	343.1	92.6	-23.0	692
16.00	1.38		1.4	.32	.40	825	342.3	93.1	-19.2	688
17.00	1.38		1.4	.32	.40	822	341.7	93.4	-15.3	685
18.00	1.27		1.3	.35	.44	807	341.3	93.7	-11.4	672
19.00	1.23		1.2	.38	.47	792	341.2	94.1	-7.5	659
20.00	1.17		1.2	.38	.47	792	341.3	94.7	-3.8	658
21.00	1.14		1.1	.42	.51	778	341.5	95.4	-0.2	646
22.00	1.12		1.1	.42	.50	778	341.9	96.4	3.2	647
23.00	1.11		1.1	.42	.50	780	342.5	97.7	6.2	649
24.00	1.10		1.1	.43	.50	781	343.0	99.3	8.9	652
25.00	1.07		1.1	.43	.50	782	343.6	101.4	11.2	655
38526.00	1.12		1.1	-14.43	-14.49	783	344.0	103.8	12.9	658
26.50	1.32		1.3	.37	.42	813	344.2	105.1	13.6	684
27.00	1.30		1.3	.37	.42	814	344.4	106.4	14.1	686
27.50	1.10		1.1	.43	.49	785	344.5	107.9	14.5	663
28.00	0.85		0.9	.51	.57	753	344.6	109.3	14.7	637
28.50	0.82		0.8	.56	.62	735	344.7	110.8	14.7	623
29.00	0.83		0.8	.56	.62	735	344.7	112.3	14.6	625
29.50	0.83		0.8	.56	.62	735	344.7	113.8	14.3	626
30.00	0.99		1.0	.47	.53	769	344.6	115.3	13.8	657

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	P_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38530.50	1.08		1.1	-14.43	-14.49	785	344.5	116.7	13.2	672
31.00	1.18		1.2	.40	.45	799	344.4	118.1	12.5	686
31.50	1.02		1.0	.47	.53	768	344.2	119.4	11.5	660
32.00	0.96		1.0	.47	.53	768	344.0	120.6	10.5	661
32.50	0.93		0.9	.51	.58	750	343.8	121.7	9.3	648
33.00	0.88		0.9	.51	.58	750	343.6	122.8	7.9	649
33.50	0.80		0.8	.56	.63	731	343.3	123.7	6.5	634
38534.00	0.76		0.8	-14.56	-14.63	730	343.1	124.6	5.0	634
35.00	0.69		0.7	.61	.69	709	342.6	126.0	1.6	619
36.00	0.65		0.6	.67	.76	687	342.2	127.1	-2.1	601
37.00	0.57		0.6	.67	.76	686	341.9	127.9	-6.1	602
38.00	0.64		0.6	.67	.76	686	341.7	128.5	-10.3	604
38538.50	0.63		0.6	-14.67	-14.76	686	341.7	128.7	-12.4	605
39.00	0.70		0.7	.61	.70	707	341.8	128.9	-14.6	625
39.50	0.73		0.7	.61	.69	707	341.9	129.1	-16.7	626
40.00	0.93		0.9	.51	.59	745	342.1	129.2	-18.9	661
40.50	0.88		0.9	.51	.59	746	342.3	129.3	-21.1	663
41.00	0.79		0.8	.55	.63	729	342.6	129.5	-23.3	648
41.50	0.75		0.8	.56	.63	730	342.9	129.6	-25.5	650
42.00	0.72		0.7	.61	.68	711	343.3	129.8	-27.7	635
42.50	0.67		0.7	.61	.68	713	343.7	130.0	-29.8	637
38543.00	0.66		0.7	-14.61	-14.68	714	344.2	130.2	-31.9	640
44.00	0.62		0.6	.68	.73	696	345.3	130.8	-36.1	626
45.00	0.54		0.5	.76	.80	675	346.5	131.7	-40.0	610
46.00	0.50		0.5	.76	.78	678	347.7	132.8	-43.7	615
47.00	0.44		0.4	.85	.87	653	348.8	134.3	-47.0	596
48.00	0.39		0.4	.86	.86	656	349.9	136.2	-49.9	602
49.00	0.37		0.4	.86	.85	659	350.9	138.5	-52.3	607
50.00	0.34		0.3	.98	.96	627	351.6	141.1	-54.1	581
51.00	0.32		0.3	.98	.95	628	352.0	144.0	-55.3	585
52.00	0.29		0.3	.98	.95	629	352.2	147.0	-55.8	588
53.00	0.32		0.3	.97	.95	629	352.0	150.1	-55.7	590
54.00	0.33		0.3	.97	.95	628	351.6	153.0	-54.8	591
38555.00	0.33		0.3	-14.97	-14.96	626	350.9	155.7	-53.4	591
55.50	0.35		0.3	.97	.96	625	350.5	156.9	-52.4	591
56.00	0.53		0.5	.76	.76	685	350.0	158.0	-51.3	649
56.50	0.97		1.0	.48	.49	785	349.4	159.0	-50.1	744
57.00	0.92		0.9	.52	.53	767	348.9	160.0	-48.7	727
57.50	0.58		0.6	.68	.70	706	348.3	160.8	-47.3	669
58.00	0.56		0.6	.68	.71	704	347.7	161.6	-45.7	667
58.50	0.54		0.5	.75	.79	678	347.0	162.2	-44.1	643
59.00	0.50		0.5	.75	.79	676	346.4	162.8	-42.4	641
59.50	0.41		0.4	.84	.89	646	345.8	163.3	-40.6	613
38560.00	0.42		0.4	-14.84	-14.89	645	345.2	163.7	-38.7	611
61.00	0.36		0.4	.84	.91	641	344.0	164.3	-34.8	607
62.00	0.36		0.4	.83	.92	638	343.0	164.7	-30.8	604
63.00	0.38		0.4	.83	.92	636	342.2	165.1	-26.6	600
64.00	0.40		0.4	.83	.93	634	341.7	165.3	-22.5	597
65.00	0.47		0.5	.74	.84	660	341.3	165.6	-18.3	620
66.00	0.51		0.5	.74	.84	660	341.2	165.9	-14.2	618
67.00	0.56		0.6	.67	.77	684	341.3	166.4	-10.2	638
68.00	0.53		0.5	.74	.84	660	341.5	167.1	-6.4	615
69.00	0.41		0.4	.84	.93	634	341.9	168.1	-2.8	589
70.00	0.37		0.4	.84	.93	635	342.4	169.4	0.5	590
71.00	0.36		0.4	.84	.92	636	342.9	171.1	3.4	590

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38572.00	0.36		0.4	-14.84	-14.92	637	343.3	173.1	5.9	591
73.00	0.34		0.3	.96	-15.04	606	343.8	175.5	7.8	562
74.00	0.34		0.3	.96	.03	606	344.1	178.2	9.1	564
75.00	0.32		0.3	.96	.03	607	344.2	181.0	9.9	565
76.00	0.32		0.3	.96	.03	607	344.2	184.0	9.9	567
77.00	0.31		0.3	.96	.03	606	344.0	186.9	9.3	569
78.00	0.29		0.3	.96	.04	605	343.7	189.6	8.1	571
79.00	0.28		0.3	.96	.04	604	343.3	192.0	6.3	572
80.00	0.30		0.3	.96	.05	603	342.8	194.0	4.0	574
81.00	0.34		0.3	.96	.05	602	342.3	195.7	1.2	576
82.00	0.37		0.4	.84	-14.94	633	341.8	197.0	-1.9	609
83.00	0.43		0.4	.84	.94	632	341.4	198.0	-5.4	611
84.00	0.49		0.5	.75	.85	658	341.1	198.8	-9.1	639
85.00	0.56		0.6	.67	.77	681	341.0	199.3	-13.0	664
86.00	0.53		0.5	.75	.85	658	341.1	199.6	-17.0	644
87.00	0.52		0.5	.75	.85	659	341.4	199.9	-21.1	647
88.00	0.40		0.4	.84	.93	634	342.0	200.2	-25.2	623
89.00	0.36		0.4	.84	.92	636	342.8	200.5	-29.2	627
90.00	0.31		0.3	.96	-15.03	606	343.7	201.0	-33.1	598
91.00	0.30		0.3	.96	.02	609	344.8	201.7	-36.9	602
92.00	0.28		0.3	.96	.01	612	346.0	202.6	-40.5	606
93.00	0.27		0.3	.97	.00	615	347.3	203.8	-43.7	610
94.00	0.35		0.3	.97	-14.99	619	348.4	205.4	-46.7	613
95.00	0.42		0.4	.85	.86	655	349.5	207.4	-49.1	650
96.00	0.34		0.3	.97	.97	624	350.4	209.8	-51.1	620
97.00	0.26		0.3	.97	.96	626	351.1	212.5	-52.5	622
98.00	0.21		0.2	-15.14	-15.12	584	351.5	215.5	-53.3	582
99.00	0.21		0.2	.14	.12	585	351.6	218.6	-53.3	583
38600.00	0.20		0.2	.14	.12	584	351.4	221.7	-52.7	583
01.00	0.22		0.2	.14	.13	583	350.9	224.6	-51.4	582
02.00	0.21		0.2	.14	.13	581	350.2	227.2	-49.5	581
03.00	0.20		0.2	.13	.14	579	349.2	229.6	-47.0	579
04.00	0.21		0.2	.13	.16	576	348.1	231.5	-44.0	576
05.00	0.27		0.3	-14.96	.00	615	346.9	233.0	-40.6	615
06.00	0.29		0.3	.96	.01	612	345.6	234.2	-36.9	612
07.00	0.28		0.3	.96	.02	609	344.4	235.1	-32.9	609
08.00	0.31		0.3	.95	.04	606	343.3	235.8	-28.6	605
09.00	0.35		0.3	.95	.05	603	342.3	236.3	-24.3	602
10.00	0.39		0.4	.83	-14.93	633	341.6	236.6	-19.8	632
11.00	0.45		0.5	.74	.85	659	341.1	237.0	-15.3	657
12.00	0.48		0.5	.74	.85	658	340.8	237.3	-10.9	655
13.00	0.44		0.4	.83	.94	630	340.7	237.8	-6.5	626
14.00	0.42		0.4	.84	.94	631	340.9	238.4	-2.3	624
15.00	0.39		0.4	.84	.94	631	341.2	239.2	1.8	623
16.00	0.40		0.4	.84	.94	632	341.6	240.4	5.6	622
17.00	0.41		0.4	.84	.93	633	342.1	241.8	9.0	621
18.00	0.40		0.4	.84	.93	635	342.6	243.7	12.1	621
19.00	0.43		0.4	.84	.92	636	343.1	245.9	14.7	620
20.00	0.42		0.4	.84	.92	637	343.5	248.5	16.8	619
21.00	0.39		0.4	.85	.92	637	343.8	251.3	18.2	619
22.00	0.40		0.4	.85	.92	637	343.9	254.3	19.1	618
23.00	0.40		0.4	.85	.92	637	343.9	257.3	19.2	617
24.00	0.43		0.4	.85	.92	636	343.7	260.3	18.7	616
25.00	0.42		0.4	.85	.93	635	343.4	263.0	17.6	616
26.00	0.43		0.4	.85	.93	634	343.0	265.4	15.9	615
27.00	0.42		0.4	.85	.94	632	342.5	267.5	13.7	614
28.00	0.42		0.4	.85	.94	631	342.0	269.2	11.1	614
29.00	0.41		0.4	.85	.95	630	341.5	270.6	8.1	614
30.00	0.42		0.4	.84	.95	629	341.1	271.6	4.8	614
31.00	0.41		0.4	.84	.95	629	340.9	272.4	1.2	614

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38632.00	0.41		0.4	-14.84	-14.95	629	340.9	272.9	-2.4	615
33.00	0.43		0.4	.84	.95	630	341.1	273.4	-6.2	617
34.00	0.43		0.4	.84	.94	631	341.5	273.8	-10.1	618
35.00	0.43		0.4	.84	.93	633	342.1	274.2	-14.0	620
36.00	0.43		0.4	.84	.93	635	343.0	274.6	-17.8	623
37.00	0.41		0.4	.85	.92	638	344.0	275.2	-21.5	625
38.00	0.40		0.4	.85	.91	641	345.2	276.0	-25.0	627
39.00	0.42		0.4	.85	.89	644	346.4	277.1	-28.3	629
40.00	0.46		0.5	.77	.79	675	347.7	278.6	-31.3	658
41.00	0.46		0.5	.77	.78	678	348.9	280.4	-33.9	659
42.00	0.40		0.4	.86	.86	653	349.9	282.6	-36.1	632
43.00	0.30		0.3	.98	.97	622	350.8	285.1	-37.7	599
44.00	0.32		0.3	.99	.97	623	351.4	288.0	-38.8	597
45.00	0.48		0.5	.78	.76	685	351.8	291.1	-39.2	652
46.00	0.63		0.6	.71	.69	710	351.9	294.3	-38.9	672
47.00	0.65		0.7	.64	.63	731	351.6	297.5	-38.0	687
48.00	0.59		0.6	.70	.69	708	351.1	300.4	-36.3	661
49.00	0.53		0.5	.78	.77	682	350.3	303.1	-34.1	633
50.00	0.51		0.5	.77	.78	679	349.3	305.4	-31.3	626
51.00	0.49		0.5	.77	.79	676	348.2	307.3	-28.1	620
52.00	0.50		0.5	.76	.80	673	347.0	308.9	-24.4	615
53.00	0.55		0.5	.76	.81	670	345.8	310.1	-20.5	610
54.00	0.61		0.6	.68	.74	692	344.6	311.0	-16.2	627
55.00	0.66		0.7	.62	.69	710	343.6	311.7	-11.8	642
56.00	0.65		0.6	.68	.76	687	342.7	312.2	-7.3	619
57.00	0.60		0.6	.67	.76	685	342.0	312.6	-2.7	617
58.00	0.55		0.6	.67	.77	684	341.6	313.0	1.9	615
59.00	0.60		0.6	.67	.77	683	341.4	313.5	6.4	614
38659.50	0.66		0.7	-14.61	-14.70	704	341.4	313.7	8.7	633
60.00	0.72		0.7	.61	.70	704	341.4	314.0	10.9	632
60.50	0.86		0.9	.51	.60	742	341.5	314.3	13.1	665
61.00	0.92		0.9	.51	.60	742	341.6	314.7	15.2	665
61.50	0.81		0.8	.56	.65	724	341.8	315.2	17.3	649
62.00	0.79		0.8	.56	.64	725	341.9	315.7	19.3	649
62.50	0.79		0.8	.56	.64	726	342.2	316.3	21.3	649
63.00	0.72		0.7	.61	.70	707	342.4	317.0	23.1	631
63.50	0.68		0.7	.61	.69	708	342.7	317.8	24.9	631
64.00	0.66		0.7	.62	.69	708	342.9	318.6	26.6	630
64.50	0.66		0.7	.62	.69	709	343.2	319.6	28.2	630
38665.00	0.62		0.6	-14.68	-14.75	688	343.4	320.6	29.6	610
66.00	0.86		0.9	.52	.58	748	343.9	323.0	32.2	660
67.00	1.04		1.0	.48	.53	766	344.2	325.6	34.2	673
68.00	1.02		1.0	.48	.53	767	344.4	328.6	35.6	669
69.00	1.07		1.1	.44	.49	783	344.5	331.6	36.3	679
70.00	1.05		1.0	.47	.53	768	344.4	334.7	36.4	661
71.00	1.13		1.1	.43	.49	783	344.2	337.6	35.8	670
72.00	1.23		1.2	.40	.46	797	343.8	340.3	34.6	677
73.00	1.41		1.4	.33	.40	823	343.3	342.7	32.8	695
74.00	1.49		1.5	.30	.37	835	342.8	344.7	30.5	701
75.00	1.33		1.3	.36	.43	808	342.2	346.3	27.8	674
76.00	1.25		1.3	.35	.44	807	341.8	347.6	24.8	670
77.00	1.46		1.5	.30	.38	833	341.4	348.5	21.4	688
78.00	1.34		1.3	.35	.44	806	341.2	349.2	17.9	664
79.00	1.30		1.3	.35	.44	807	341.2	349.8	14.2	662
80.00	1.45		1.5	.29	.37	835	341.4	350.2	10.4	684
81.00	1.48		1.5	.29	.37	837	341.9	350.6	6.5	684
82.00	1.37		1.4	.32	.39	827	342.5	351.0	2.7	675
83.00	1.24		1.2	.38	.45	803	343.4	351.4	-1.1	654

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38684.00	1.22		1.2	-14.38	-14.44	807	344.5	352.1	-4.7	657
85.00	1.13		1.1	.42	.46	796	345.7	353.0	-8.2	647
86.00	1.19		1.2	.39	.42	816	347.0	354.1	-11.4	662
87.00	1.33		1.3	.36	.37	835	348.2	355.6	-14.3	677
88.00	1.44		1.4	.33	.33	854	349.4	357.5	-16.8	690
89.00	1.40		1.4	.33	.33	858	350.4	359.8	-18.9	692
90.00	1.32		1.3	.36	.35	847	351.2	2.4	-20.4	681
91.00	1.19		1.2	.39	.38	834	351.8	5.4	-21.2	669
92.00	1.08		1.1	.43	.41	820	352.1	8.5	-21.5	655
93.00	1.17		1.2	.39	.37	835	352.1	11.6	-21.0	665
94.00	1.43		1.4	.33	.31	863	351.8	14.7	-19.9	685
95.00	1.47		1.5	.30	.29	875	351.2	17.5	-18.1	692
96.00	1.58		1.6	.27	.27	885	350.3	20.0	-15.7	697
97.00	1.59		1.6	.27	.28	881	349.3	22.1	-12.9	693
98.00	1.54		1.5	.30	.31	864	348.1	23.9	-9.5	678
99.00	1.55		1.5	.29	.32	859	346.9	25.2	-5.8	673
38700.00	1.76		1.8	.22	.26	892	345.7	26.2	-1.8	698
01.00	1.92		1.9	.19	.24	899	344.6	27.0	2.4	703
02.00	1.92		1.9	.19	.25	895	343.6	27.5	6.8	701
03.00	1.75		1.8	.21	.28	880	342.8	27.9	11.3	690
04.00	1.73		1.7	.23	.31	866	342.2	28.2	15.8	680
05.00	1.68		1.7	.24	.31	864	341.8	28.5	20.3	681
06.00	1.62		1.6	.26	.34	851	341.6	28.9	24.8	673
07.00	1.44		1.4	.31	.40	825	341.7	29.4	29.1	656
08.00	1.63		1.6	.26	.34	851	341.9	30.1	33.3	680
09.00	1.50		1.5	.29	.37	839	342.3	31.1	37.2	674
10.00	1.39		1.4	.32	.39	827	342.8	32.4	40.8	668
11.00	1.27		1.3	.35	.42	814	343.3	34.0	44.0	661
12.00	1.24		1.2	.39	.45	802	343.8	36.0	46.8	654
13.00	1.23		1.2	.39	.45	803	344.2	38.4	49.0	658
14.00	1.27		1.3	.36	.41	818	344.5	41.0	50.7	672
15.00	1.48		1.5	.30	.35	845	344.7	43.9	51.7	697
16.00	1.51		1.5	.30	.35	845	344.7	46.9	52.1	698
17.00	1.48		1.5	.30	.35	844	344.5	49.8	51.8	698
18.00	1.27		1.3	.36	.42	816	344.2	52.5	50.8	675
19.00	1.15		1.1	.42	.49	786	343.8	55.0	49.2	649
20.00	1.13		1.1	.42	.49	784	343.3	57.1	47.1	646
21.00	1.22		1.2	.39	.46	798	342.8	58.8	44.5	655
38721.50	1.14		1.1	-14.42	-14.50	782	342.5	59.5	43.0	642
22.00	1.44		1.4	.32	.40	824	342.2	60.2	41.5	674
22.50	1.76		1.8	.22	.30	872	342.0	60.7	39.9	713
23.00	1.85		1.8	.22	.30	872	341.8	61.2	38.2	711
23.50	1.58		1.6	.27	.35	848	341.6	61.6	36.4	690
24.00	1.54		1.5	.29	.37	835	341.5	61.9	34.6	678
24.50	1.50		1.5	.29	.37	835	341.4	62.2	32.7	677
25.00	1.33		1.3	.35	.43	809	341.3	62.4	30.7	654
25.50	1.48		1.5	.29	.37	835	341.3	62.6	28.8	674
26.00	1.50		1.5	.29	.37	836	341.4	62.7	26.8	673
26.50	1.54		1.5	.29	.37	836	341.5	62.9	24.8	673
27.00	1.66		1.7	.24	.32	861	341.7	63.0	22.8	692
27.50	1.56		1.6	.26	.34	850	341.9	63.1	20.8	682
28.00	1.53		1.5	.29	.36	839	342.2	63.2	18.7	672
38729.00	1.51		1.5	-14.29	-14.36	842	342.9	63.5	14.7	672
30.00	1.42		1.4	.32	.38	832	343.9	63.9	10.7	663
31.00	1.37		1.4	.32	.37	836	345.0	64.5	6.9	666
32.00	1.31		1.3	.36	.39	826	346.2	65.3	3.3	658
33.00	1.27		1.3	.36	.38	830	347.4	66.4	0.0	662
34.00	1.19		1.2	.39	.41	820	348.6	67.9	-3.0	654

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38735.00	1.12		1.1	-14.43	-14.43	808	349.7	69.8	-5.6	646
36.00	1.03		1.0	.47	.47	794	350.7	72.1	-7.7	637
37.00	1.27		1.3	.37	.36	843	351.4	74.7	-9.2	678
38.00	1.25		1.3	.37	.35	844	351.8	77.6	-10.1	682
39.00	1.19		1.2	.40	.38	830	352.0	80.6	-10.3	672
40.00	1.09		1.1	.44	.42	814	351.8	83.6	-9.8	662
41.00	1.05		1.0	.48	.46	796	351.4	86.4	-8.7	649
42.00	1.08		1.1	.44	.43	809	350.7	89.0	-7.0	663
43.00	1.10		1.1	.44	.44	806	349.7	91.2	-4.6	663
44.00	1.22		1.2	.40	.41	818	348.6	93.0	-1.8	674
45.00	1.20		1.2	.40	.42	813	347.4	94.5	1.4	673
46.00	1.31		1.3	.36	.40	823	346.2	95.6	4.9	683
47.00	1.35		1.3	.36	.41	819	345.0	96.4	8.7	682
48.00	1.28		1.3	.36	.42	815	343.9	96.9	12.7	680
49.00	1.25		1.3	.36	.43	811	343.0	97.2	16.9	679
50.00	1.21		1.2	.39	.46	795	342.4	97.5	21.1	668
51.00	1.15		1.2	.39	.47	792	341.7	97.7	25.3	668
52.00	1.11		1.1	.42	.51	775	341.3	97.9	29.5	657
53.00	0.97		1.0	.46	.56	758	341.1	98.2	33.6	645
54.00	0.93		0.9	.51	.60	741	341.2	98.7	37.6	634
55.00	0.87		0.9	.51	.60	741	341.4	99.4	41.4	637
56.00	0.85		0.9	.51	.60	741	341.7	100.4	44.8	641
57.00	0.82		0.8	.56	.65	724	342.2	101.7	48.0	630
58.00	0.78		0.8	.56	.64	725	342.6	103.4	50.7	635
59.00	0.74		0.7	.62	.70	707	343.0	105.5	53.0	622
60.00	0.68		0.7	.62	.69	708	343.4	107.9	54.6	627
61.00	0.63		0.6	.68	.75	688	343.6	110.6	55.7	612
62.00	0.68		0.7	.62	.69	709	343.7	113.4	56.1	634
63.00	0.71		0.7	.62	.69	709	343.7	116.3	55.9	636
64.00	0.76		0.8	.57	.64	728	343.5	119.1	54.9	655
65.00	0.70		0.7	.62	.69	708	343.1	121.7	53.3	638
66.00	0.67		0.7	.61	.69	708	342.7	123.9	51.2	638
67.00	0.65		0.7	.61	.70	707	342.2	125.8	48.5	637
68.00	0.83		0.8	.56	.65	725	341.7	127.3	45.4	653
69.00	0.96		1.0	.46	.56	758	341.2	128.5	41.9	683
70.00	0.87		0.9	.50	.60	741	340.8	129.4	38.0	666
71.00	0.86		0.9	.50	.60	741	340.6	130.0	34.0	664
72.00	0.85		0.8	.55	.65	723	340.6	130.4	29.8	647
73.00	0.88		0.9	.50	.60	742	340.8	130.6	25.4	662
74.00	0.72		0.7	.60	.70	706	341.2	130.9	21.0	628
75.00	0.63		0.6	.67	.76	687	341.9	131.1	16.6	610
76.00	0.67		0.7	.61	.69	710	342.7	131.4	12.3	630
77.00	0.69		0.7	.61	.68	713	343.8	131.9	8.0	631
78.00	0.64		0.6	.67	.73	695	344.9	132.6	3.9	615
79.00	0.58		0.6	.68	.72	699	346.1	133.6	0.1	617
80.00	0.60		0.6	.68	.71	702	347.4	134.9	-3.5	621
81.00	0.63		0.6	.68	.70	706	348.5	136.6	-6.6	624
82.00	0.86		0.9	.52	.53	768	349.5	138.7	-9.3	681
83.00	0.87		0.9	.53	.52	771	350.3	141.2	-11.5	686
84.00	0.68		0.7	.63	.62	735	350.9	144.0	-13.1	655
85.00	0.51		0.5	.76	.75	689	351.2	147.0	-14.0	617
86.00	0.51		0.5	.77	.75	688	351.1	150.1	-14.3	620
87.00	0.52		0.5	.76	.76	687	350.8	153.1	-13.9	622
88.00	0.53		0.5	.76	.76	685	350.2	155.9	-12.8	624
89.00	0.53		0.5	.76	.77	683	349.3	158.4	-11.1	625
90.00	0.54		0.5	.76	.78	680	348.2	160.5	-8.9	625
91.00	0.56		0.6	.68	.72	700	347.0	162.2	-6.2	647
92.00	0.57		0.6	.68	.73	696	345.7	163.6	-3.1	647
93.00	0.57		0.6	.68	.74	692	344.5	164.7	0.2	646
94.00	0.62		0.6	.68	.75	689	343.3	165.4	3.8	645

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38795.00	0.64		0.6	-14.67	-14.76	685	342.2	165.9	7.6	644
96.00	0.73		0.7	.61	.71	704	341.3	166.3	11.5	663
97.00	0.81		0.8	.56	.66	720	340.6	166.6	15.4	680
98.00	1.14		1.1	.43	.53	768	340.2	166.9	19.3	727
99.00	0.75		0.8	.56	.66	718	340.0	167.3	23.2	681
38800.00	0.95		0.9	.51	.62	735	340.0	167.8	26.9	698
01.00	0.75		0.8	.56	.66	718	340.2	168.5	30.5	683
02.00	0.62		0.6	.68	.78	679	340.6	169.4	33.8	647
03.00	0.58		0.6	.68	.78	680	341.1	170.7	36.9	650
04.00	0.55		0.6	.68	.78	681	341.6	172.4	39.6	653
05.00	0.52		0.5	.76	.85	659	342.1	174.4	41.8	633
06.00	0.50		0.5	.76	.84	660	342.6	176.7	43.5	636
07.00	0.54		0.5	.76	.84	661	343.0	179.4	44.6	639
08.00	0.54		0.5	.76	.84	662	343.2	182.4	45.1	641
09.00	0.56		0.6	.69	.76	686	343.3	185.4	45.0	666
10.00	0.52		0.5	.76	.84	662	343.2	188.4	44.1	645
11.00	0.48		0.5	.76	.84	661	342.9	191.2	42.6	646
12.00	0.46		0.5	.76	.84	660	342.6	193.8	40.5	647
13.00	0.48		0.5	.75	.84	659	342.1	196.0	37.8	647
14.00	0.55		0.5	.75	.85	658	341.6	197.9	34.6	648
15.00	0.74		0.7	.62	.71	702	341.2	199.4	31.1	691
16.00	0.95		0.9	.51	.61	738	340.8	200.6	27.2	728
17.00	0.78		0.8	.56	.66	719	340.5	201.4	23.0	710
18.00	0.72		0.7	.61	.72	700	340.3	202.1	18.6	692
19.00	0.75		0.8	.56	.66	720	340.4	202.5	14.1	711
20.00	0.77		0.8	.56	.66	721	340.7	202.9	9.6	712
21.00	0.78		0.8	.56	.65	722	341.2	203.3	4.9	713
22.00	0.79		0.8	.56	.65	725	341.9	203.7	0.3	715
23.00	1.09		1.1	.43	.51	777	342.8	204.2	-4.2	767
24.00	1.21		1.2	.40	.46	796	343.9	204.9	-8.5	785
25.00	0.70		0.7	.62	.67	715	345.1	205.9	-12.7	704
26.00	0.67		0.7	.62	.66	718	346.3	207.2	-16.6	707
27.00	0.61		0.6	.69	.72	701	347.4	208.9	-20.2	689
28.00	0.58		0.6	.69	.71	704	348.4	210.9	-23.3	691
29.00	0.50		0.5	.76	.77	682	349.3	213.3	-25.9	670
30.00	0.46		0.5	.77	.77	684	349.9	216.1	-28.0	672
31.00	0.41		0.4	.86	.85	657	350.3	219.1	-29.4	646
32.00	0.48		0.5	.77	.76	685	350.3	222.3	-30.1	674
33.00	0.62		0.6	.69	.69	709	350.0	225.5	-30.2	698
34.00	0.73		0.7	.63	.63	729	349.4	228.6	-29.5	719
35.00	0.59		0.6	.69	.70	704	348.6	231.3	-28.3	697
36.00	0.49		0.5	.76	.79	677	347.5	233.8	-26.4	671
37.00	0.46		0.5	.76	.80	673	346.2	235.8	-24.1	668
38.00	0.39		0.4	.84	.91	641	344.9	237.5	-21.3	638
39.00	0.47		0.5	.75	.83	665	343.4	238.8	-18.2	663
40.00	0.57		0.6	.68	.76	684	342.1	239.8	-14.8	683
38841.00	0.60		0.6	-14.67	-14.77	682	341.4	240.5	-11.2	682
41.50	0.72		0.7	.61	.71	702	340.9	240.8	-9.4	702
42.00	0.86		0.9	.51	.61	738	340.5	241.1	-7.5	737
42.50	1.07		1.1	.43	.53	768	340.1	241.3	-5.6	768
43.00	1.06		1.1	.43	.53	767	339.8	241.5	-3.7	767
43.50	0.83		0.8	.55	.67	717	339.6	241.7	-1.8	717
44.00	0.78		0.8	.55	.67	716	339.4	241.9	0.2	716
44.50	0.93		0.9	.51	.62	734	339.3	242.1	2.1	733
45.00	0.84		0.8	.55	.67	716	339.3	242.3	4.0	715
45.50	0.80		0.8	.56	.67	715	339.3	242.5	5.9	715
46.00	0.77		0.8	.56	.67	716	339.3	242.8	7.7	715
46.50	0.75		0.8	.56	.67	716	339.5	243.1	9.5	714

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (kr.)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38847.00	0.72		0.7	-14.61	-14.73	697	339.6	243.5	11.3	695
48.00	0.67		0.7	.61	.72	698	340.1	244.4	14.7	695
49.00	0.61		0.6	.68	.78	679	340.7	245.6	17.9	674
50.00	0.61		0.6	.68	.78	680	341.3	247.1	20.7	674
51.00	0.59		0.6	.68	.77	682	342.0	249.0	23.1	674
52.00	0.57		0.6	.68	.77	683	342.6	251.3	25.0	673
53.00	0.56		0.6	.69	.76	684	343.1	253.9	26.4	672
54.00	0.55		0.6	.69	.76	685	343.5	256.8	27.1	671
55.00	0.55		0.5	.76	.84	662	343.7	259.9	27.3	647
56.00	0.59		0.6	.69	.76	685	343.8	263.0	26.7	668
57.00	0.67		0.7	.63	.70	706	343.6	266.0	25.5	687
58.00	0.75		0.8	.58	.65	724	343.3	268.7	23.6	703
59.00	0.78		0.8	.57	.65	723	342.9	271.2	21.2	702
60.00	0.82		0.8	.57	.66	721	342.4	273.3	18.2	700
61.00	0.77		0.8	.57	.66	720	341.9	275.0	14.8	698
62.00	0.74		0.7	.62	.72	700	341.4	276.3	11.1	679
63.00	0.72		0.7	.62	.72	699	340.9	277.3	7.0	678
64.00	0.73		0.7	.62	.72	698	340.7	278.1	2.8	678
65.00	0.70		0.7	.62	.72	699	340.6	278.6	-1.7	678
66.00	0.72		0.7	.62	.72	699	340.7	279.1	-6.2	679
67.00	0.82		0.8	.56	.66	720	341.0	279.4	-10.8	699
38867.20	0.7		0.7	-14.62	-14.71	701	341.1	279.5	-11.7	681
67.40	0.8		0.8	.56	.66	720	341.2	279.6	-12.6	700
67.60	0.9		0.9	.52	.61	738	341.3	279.7	-13.6	718
67.80	0.9		0.9	.52	.61	739	341.5	279.7	-14.5	718
68.00	1.0		1.0	.47	.56	756	341.6	279.8	-15.4	734
68.20	1.3		1.3	.37	.45	800	341.7	279.9	-16.3	778
68.40	2.0		2.0	.20	.27	883	341.9	280.0	-17.2	858
68.60	2.3		2.3	.14	.22	914	342.0	280.1	-18.1	889
68.80	2.3		2.3	.14	.21	915	342.2	280.2	-19.0	889
69.00	1.9		1.9	.22	.29	875	342.4	280.3	-19.9	850
69.20	1.5		1.5	.31	.39	829	342.6	280.4	-20.8	806
69.40	1.3		1.3	.37	.44	804	342.7	280.5	-21.7	781
69.60	1.2		1.2	.40	.48	790	342.9	280.6	-22.6	768
69.80	0.9		0.9	.52	.59	744	343.1	280.8	-23.4	723
70.00	1.0		1.0	.48	.55	761	343.3	280.9	-24.3	739
70.20	0.8		0.8	.57	.64	728	343.5	281.1	-25.2	707
38871.00	0.66		0.7	-14.62	-14.69	711	344.4	281.8	-28.5	690
72.00	0.61		0.6	.69	.74	693	345.6	282.9	-32.5	671
73.00	0.58		0.6	.69	.73	696	346.8	284.3	-36.2	673
74.00	0.51		0.5	.77	.79	675	347.9	286.2	-39.5	651
75.00	0.46		0.5	.77	.79	677	348.9	288.4	-42.3	651
76.00	0.47		0.5	.78	.78	679	349.7	291.0	-44.5	650
77.00	0.44		0.4	.87	.87	653	350.3	293.9	-46.2	622
78.00	0.39		0.4	.87	.86	653	350.6	297.0	-47.1	619
79.00	0.41		0.4	.87	.86	653	350.6	300.2	-47.4	615
80.00	0.41		0.4	.87	.87	653	350.4	303.3	-47.0	611
81.00	0.44		0.4	.87	.87	651	349.8	306.2	-46.0	606
82.00	0.46		0.5	.78	.79	677	349.1	308.7	-44.3	625
83.00	0.47		0.5	.77	.79	675	348.1	310.9	-42.1	620
84.00	0.51		0.5	.77	.80	672	347.0	312.7	-39.4	613
85.00	0.71		0.7	.63	.67	715	345.9	314.1	-36.3	649
86.00	0.76		0.8	.57	.63	731	344.8	315.2	-32.9	661
87.00	0.74		0.7	.62	.69	709	343.7	316.0	-29.3	638
88.00	0.79		0.8	.56	.64	726	342.8	316.6	-25.5	651
89.00	0.95		0.9	.51	.60	742	342.0	317.0	-21.6	663
90.00	0.99		1.0	.47	.56	757	341.5	317.3	-17.6	674
91.00	0.92		0.9	.51	.61	739	341.1	317.7	-13.6	656

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38892.00	0.88		0.9	-14.51	-14.61	739	341.0	318.1	-9.7	654
93.00	0.89		0.9	.51	.61	739	341.1	318.6	-5.9	652
94.00	0.82		0.8	.56	.65	722	341.1	319.3	-2.2	634
95.00	0.98		1.0	.47	.56	757	341.5	320.3	1.2	662
96.00	1.13		1.1	.43	.51	775	342.1	321.6	4.3	674
97.00	1.27		1.3	.37	.44	806	342.7	323.3	7.1	697
98.00	1.26		1.3	.37	.43	808	343.2	325.3	9.4	695
99.00	1.20		1.2	.40	.46	796	343.7	327.7	11.2	680
38900.00	1.13		1.1	.43	.49	782	344.1	330.4	12.4	664
01.00	1.23		1.2	.40	.46	798	344.3	333.4	12.9	673
02.00	1.57		1.6	.28	.34	852	344.3	336.4	12.9	713
03.00	1.60		1.6	.28	.34	852	344.2	339.3	12.1	709
04.00	1.49		1.5	.31	.36	840	343.9	342.1	10.7	694
05.00	1.35		1.3	.36	.42	812	343.5	344.6	8.7	668
06.00	1.29		1.3	.36	.43	811	343.0	346.8	6.1	664
07.00	1.27		1.3	.36	.43	810	342.5	348.5	3.1	661
08.00	1.19		1.2	.38	.47	795	342.0	349.9	-0.3	647
09.00	1.15		1.1	.42	.50	779	341.5	351.0	-4.0	634
10.00	1.04		1.0	.45	.54	762	341.2	351.7	-8.0	620
11.00	0.97		1.0	.45	.54	762	341.0	352.3	-12.2	621
12.00	0.95		0.9	.49	.59	746	341.1	352.7	-16.5	609
13.00	0.85		0.9	.49	.58	748	341.4	353.0	-20.8	612
14.00	0.84		0.8	.54	.63	731	341.9	353.3	-25.2	600
15.00	1.00		1.0	.45	.53	769	342.7	353.6	-29.5	633
16.00	1.06		1.1	.42	.48	788	343.6	354.0	-33.8	652
17.00	1.04		1.0	.46	.51	776	344.7	354.7	-37.8	644
18.00	0.93		0.9	.50	.54	763	345.9	355.6	-41.7	636
19.00	0.83		0.8	.55	.58	748	347.2	356.8	-45.3	626
20.00	0.96		1.0	.47	.48	787	348.3	358.4	-48.5	660
21.00	1.11		1.1	.43	.44	807	349.4	0.4	-51.2	678
22.00	1.01		1.0	.47	.47	794	350.4	2.8	-53.5	668
23.00	0.91		0.9	.51	.50	779	351.0	5.5	-55.1	655
24.00	0.88		0.9	.52	.50	780	351.5	8.5	-56.1	655
25.00	0.89		0.9	.52	.50	780	351.6	11.6	-56.4	654
26.00	0.91		0.9	.52	.50	780	351.4	14.6	-56.0	651
38926.20	1.0		1.0	-14.47	-14.46	797	351.3	15.2	-55.9	665
26.40	0.9		0.9	.52	.50	779	351.3	15.8	-55.7	650
26.60	1.0		1.0	.47	.46	796	351.2	16.4	-55.5	663
26.80	1.0		1.0	.47	.46	796	351.1	17.0	-55.2	663
27.00	1.3		1.3	.37	.36	842	351.0	17.5	-55.0	700
27.20	1.6		1.6	.29	.28	882	350.8	18.1	-54.7	733
27.40	2.2		2.2	.16	.15	951	350.7	18.6	-54.3	789
27.60	2.4		2.4	.12	.12	971	350.5	19.1	-54.0	806
27.80	2.9		2.9	.05	.05	1019	350.4	19.7	-53.6	845
28.00	2.9		2.9	.05	.05	1019	350.2	20.2	-53.2	844
28.20	2.4		2.4	.12	.12	970	350.1	20.6	-52.8	802
28.40	2.2		2.2	.16	.16	946	349.8	21.1	-52.4	782
28.60	2.2		2.2	.16	.16	947	349.6	21.6	-51.9	781
28.80	1.9		1.9	.21	.22	913	349.4	22.0	-51.5	753
29.00	1.6		1.6	.28	.29	876	349.2	22.4	-50.9	722
29.20	1.3		1.3	.36	.37	835	348.9	22.8	-50.4	687
29.40	1.2		1.2	.40	.41	820	348.7	23.2	-49.9	673
29.60	1.3		1.3	.36	.38	833	348.5	23.6	-49.3	684
29.80	1.0		1.0	.47	.48	787	348.3	24.0	-48.8	645
30.00	0.9		0.9	.51	.53	768	348.0	24.3	-48.2	629
38931.00	0.93		0.9	-14.51	-14.54	765	346.8	25.8	-44.9	622
32.00	0.89		0.9	.50	.55	761	345.6	26.9	-41.4	615
33.00	1.01		1.0	.46	.52	774	344.4	27.7	-37.6	623

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38934.00	1.20		1.2	-14.38	-14.45	802	343.3	28.3	-33.5	641
35.00	1.30		1.3	.35	.42	813	342.4	28.7	-29.4	647
36.00	1.40		1.4	.32	.40	824	341.7	29.0	-25.1	653
37.00	1.59		1.6	.26	.35	848	341.2	29.3	-20.8	669
38.00	1.53		1.5	.29	.37	835	340.9	29.6	-16.6	656
39.00	1.35		1.4	.31	.40	822	340.9	30.0	-12.4	644
40.00	1.24		1.2	.38	.47	795	341.1	30.6	-8.4	622
41.00	1.30		1.3	.35	.43	810	341.5	31.4	-4.6	633
42.00	1.38		1.4	.32	.40	825	341.9	32.6	-1.0	644
43.00	1.38		1.4	.32	.39	826	342.4	34.0	2.2	645
44.00	1.31		1.3	.35	.42	814	342.9	35.9	4.9	636
45.00	1.19		1.2	.38	.45	801	343.4	38.1	7.2	627
46.00	1.07		1.1	.42	.48	787	343.7	40.7	9.0	617
47.00	1.22		1.2	.39	.45	802	344.0	43.5	10.1	629
48.00	1.40		1.4	.33	.38	830	344.0	46.5	10.6	652
49.00	1.48		1.5	.30	.36	843	343.9	49.5	10.3	663
50.00	1.38		1.4	.33	.39	829	343.7	52.3	9.5	653
51.00	1.32		1.3	.35	.42	814	343.3	54.9	8.0	642
52.00	1.21		1.2	.39	.46	798	342.8	57.2	5.9	630
53.00	1.15		1.2	.38	.46	796	342.3	59.1	3.4	630
54.00	1.12		1.1	.42	.50	779	341.7	60.6	0.4	617
55.00	1.10		1.1	.42	.51	778	341.2	61.8	-2.9	617
56.00	1.15		1.1	.42	.51	777	340.9	62.7	-6.5	617
57.00	1.23		1.2	.38	.47	791	340.7	63.3	-10.3	630
58.00	1.18		1.2	.38	.47	791	340.7	63.7	-14.3	631
59.00	1.14		1.1	.42	.51	779	341.1	64.1	-18.3	624
60.00	1.13		1.1	.42	.50	781	341.6	64.4	-22.4	628
61.00	1.12		1.1	.42	.50	783	342.3	64.7	-26.5	632
62.00	1.06		1.1	.42	.49	786	343.2	65.2	-30.4	637
63.00	0.99		1.0	.46	.52	773	344.2	65.8	-34.3	630
64.00	0.93		0.9	.51	.56	759	345.4	66.6	-37.9	623
65.00	0.89		0.9	.51	.55	763	346.6	67.8	-41.3	629
66.00	0.79		0.8	.56	.59	748	347.8	69.3	-44.3	621
67.00	0.72		0.7	.62	.63	731	348.9	71.2	-47.0	610
68.00	0.70		0.7	.62	.63	734	349.8	73.5	-49.1	616
69.00	0.79		0.8	.57	.57	756	350.6	76.2	-50.7	638
70.00	0.80		0.8	.57	.56	757	351.0	79.1	-51.6	643
71.00	0.72		0.7	.63	.62	738	351.2	82.3	-51.8	628
72.00	0.67		0.7	.63	.62	737	351.0	85.4	-51.3	630
73.00	0.64		0.6	.69	.68	714	350.6	88.4	-50.2	611
74.00	0.65		0.6	.69	.69	712	349.8	91.2	-48.4	610
75.00	0.67		0.7	.62	.63	731	348.9	93.7	-46.0	627
76.00	0.70		0.7	.62	.64	728	347.7	95.8	-43.0	624
77.00	0.76		0.8	.56	.60	744	346.5	97.5	-39.7	637
78.00	0.80		0.8	.56	.61	740	345.2	98.8	-35.9	632
79.00	0.87		0.9	.51	.57	755	344.0	99.8	-31.9	643
80.00	0.94		0.9	.50	.58	751	342.8	100.5	-27.6	638
81.00	0.99		1.0	.46	.54	764	341.8	101.1	-23.2	648
82.00	1.02		1.0	.46	.55	762	341.0	101.5	-18.7	644
83.00	1.02		1.0	.46	.56	759	340.5	101.8	-14.2	641
84.00	1.03		1.0	.46	.56	758	340.1	102.2	-9.6	639
85.00	1.04		1.0	.46	.56	757	340.0	102.7	-5.2	638
86.00	1.03		1.0	.46	.56	757	340.2	103.3	-0.8	638
87.00	1.05		1.0	.46	.56	757	340.5	104.1	3.3	639
88.00	0.99		1.0	.47	.56	758	340.9	105.3	7.2	640
89.00	0.99		1.0	.47	.56	759	341.4	106.8	10.8	643
90.00	1.05		1.1	.43	.52	776	341.9	108.6	13.9	659
91.00	1.20		1.2	.40	.48	792	342.4	110.8	16.6	676
92.00	1.10		1.1	.44	.51	778	342.9	113.4	18.8	667
93.00	1.02		1.0	.48	.55	763	343.2	116.3	20.3	657

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38994.00	0.97		1.0	-14.48	-14.55	764	343.3	119.4	21.2	661
95.00	0.95		1.0	.48	.55	764	343.3	122.5	21.4	664
96.00	0.88		0.9	.52	.59	747	343.2	125.5	21.0	653
97.00	0.94		0.9	.52	.59	746	342.9	128.3	19.9	656
98.00	0.85		0.9	.52	.60	745	342.4	130.7	18.2	658
99.00	0.79		0.8	.56	.65	726	342.0	132.9	16.0	643
39000.00	0.74		0.7	.61	.71	705	341.5	134.6	13.4	627
01.00	0.70		0.7	.61	.71	704	341.0	136.0	10.3	628
02.00	0.66		0.7	.61	.71	703	340.6	137.0	7.0	629
03.00	0.75		0.7	.61	.72	702	340.4	137.8	3.5	630
04.00	0.74		0.7	.61	.72	702	340.3	138.4	-0.3	631
05.00	0.69		0.7	.61	.71	703	340.5	138.9	-4.1	633
06.00	0.64		0.6	.67	.77	683	340.9	139.3	-8.0	616
07.00	0.71		0.7	.61	.70	706	341.5	139.7	-11.9	638
08.00	0.71		0.7	.61	.70	709	342.4	140.2	-15.7	641
09.00	0.65		0.6	.68	.75	690	343.4	140.9	-19.4	626
10.00	0.58		0.6	.68	.74	693	344.5	141.7	-23.0	630
11.00	0.54		0.5	.76	.81	672	345.7	142.9	-26.2	613
12.00	0.51		0.5	.76	.80	675	347.0	144.4	-29.2	618
13.00	0.43		0.4	.86	.88	651	348.1	146.3	-31.8	597
14.00	0.40		0.4	.86	.87	653	349.1	148.6	-33.9	602
15.00	0.39		0.4	.86	.86	656	349.9	151.3	-35.5	607
16.00	0.45		0.4	.85	.86	657	350.5	154.2	-36.4	611
17.00	0.46		0.5	.77	.76	687	350.8	157.4	-36.7	640
18.00	0.47		0.5	.77	.76	685	350.6	160.6	-36.3	642
39018.50	0.51		0.5	-14.77	-14.76	685	350.5	162.2	-35.8	643
19.00	0.54		0.5	.77	.76	684	350.4	163.8	-35.2	644
19.50	0.91		0.9	.53	.53	768	350.2	165.3	-34.4	724
20.00	0.89		0.9	.53	.53	767	349.9	166.8	-33.4	724
20.50	0.73		0.7	.63	.64	728	349.5	168.1	-32.3	689
21.00	0.69		0.7	.63	.64	727	349.1	169.4	-31.0	689
21.50	0.67		0.7	.63	.64	725	348.6	170.6	-29.6	689
39022.00	0.63		0.6	-14.69	-14.71	702	348.1	171.7	-28.1	668
23.00	0.60		0.6	.69	.72	699	347.0	173.5	-24.7	667
24.00	0.59		0.6	.68	.73	696	345.9	175.0	-20.9	665
25.00	0.56		0.6	.68	.74	692	344.7	176.1	-16.8	663
26.00	0.61		0.6	.68	.75	689	343.6	177.0	-12.5	661
27.00	0.69		0.7	.61	.70	707	342.6	177.6	-8.0	679
28.00	0.74		0.7	.61	.70	705	341.8	178.1	-3.4	677
29.00	0.81		0.8	.56	.65	722	341.2	178.6	1.2	694
39029.50	0.82		0.8	-14.56	-14.66	721	341.0	178.8	3.6	694
30.00	1.05		1.1	.43	.53	770	340.8	179.0	5.9	741
30.50	1.16		1.2	.40	.49	784	340.7	179.2	8.2	755
31.00	1.23		1.2	.40	.49	784	340.7	179.4	10.5	755
31.50	1.34		1.3	.37	.46	797	340.7	179.7	12.7	768
32.00	1.24		1.2	.40	.49	783	340.7	180.1	14.9	755
32.50	1.16		1.2	.40	.49	783	340.8	180.4	17.1	755
33.00	0.83		0.8	.56	.66	720	341.0	180.9	19.2	694
33.50	0.65		0.6	.68	.78	680	341.1	181.4	21.3	656
39034.00	0.60		0.6	-14.68	-14.78	680	341.3	182.0	23.2	657
35.00	0.62		0.6	.68	.77	681	341.7	183.4	27.0	658
36.00	0.74		0.7	.62	.71	703	342.2	185.2	30.3	681
37.00	0.87		0.9	.52	.60	741	342.6	187.3	33.2	719
38.00	0.80		0.8	.57	.65	724	342.9	189.9	35.6	704
39.00	0.73		0.7	.63	.70	706	343.1	192.7	37.3	688
40.00	0.72		0.7	.63	.70	706	343.2	195.7	38.4	689

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39041.00	0.70		0.7	-14.63	-14.70	706	343.1	198.8	38.9	691
42.00	0.70		0.7	.62	.70	705	342.8	201.9	38.6	692
43.00	0.76		0.8	.57	.65	723	342.4	204.7	37.7	712
44.00	0.76		0.8	.57	.66	721	341.9	207.3	36.2	712
45.00	0.73		0.7	.62	.72	701	341.3	209.5	34.1	694
46.00	0.70		0.7	.62	.72	699	340.7	211.3	31.6	693
47.00	0.68		0.7	.62	.72	697	340.1	212.7	28.7	693
48.00	0.67		0.7	.61	.73	696	339.6	213.8	25.5	693
49.00	0.63		0.6	.67	.79	675	339.3	214.7	22.0	672
50.00	0.63		0.6	.67	.80	675	339.2	215.3	18.3	672
51.00	0.63		0.6	.67	.79	675	339.2	215.8	14.5	672
52.00	0.66		0.7	.61	.73	697	339.6	216.1	10.6	694
53.00	0.64		0.6	.67	.78	678	340.2	216.5	6.7	675
54.00	0.64		0.6	.68	.78	680	341.0	216.9	2.8	676
55.00	0.67		0.7	.62	.70	705	342.1	217.5	-0.9	699
39055.50	0.67		0.7	-14.62	-14.70	707	342.7	217.9	-2.8	700
56.00	0.78		0.8	.57	.64	728	343.3	218.3	-4.6	720
56.50	0.99		1.0	.48	.54	764	344.0	218.8	-6.3	756
57.00	1.06		1.1	.44	.50	782	344.6	219.4	-7.9	772
57.50	1.14		1.1	.44	.49	784	345.3	220.0	-9.5	773
58.00	1.02		1.0	.48	.52	771	346.0	220.7	-11.0	759
58.50	0.96		1.0	.48	.52	773	346.7	221.6	-12.4	760
59.00	0.83		0.8	.57	.60	741	347.3	222.5	-13.8	727
59.50	0.81		0.8	.57	.60	743	348.0	223.5	-15.0	728
39060.00	0.90		0.9	-14.53	-14.54	763	348.6	224.6	-16.0	747
61.00	0.88		0.9	.53	.53	767	349.6	227.2	-17.8	748
62.00	0.81		0.8	.58	.57	751	350.4	230.0	-18.9	732
63.00	0.75		0.8	.58	.57	753	350.9	233.1	-19.4	733
64.00	0.69		0.7	.63	.62	734	351.1	236.3	-19.2	713
65.00	0.70		0.7	.63	.62	733	351.0	239.5	-18.3	713
66.00	0.71		0.7	.63	.63	732	350.6	242.4	-16.7	713
39074.00	0.75		0.7	-14.62	-14.70	707	342.9	253.5	12.1	702
75.00	0.72		0.7	.62	.70	705	342.3	253.9	16.6	701
76.00	0.71		0.7	.62	.71	704	342.0	254.2	21.2	701
77.00	0.72		0.7	.62	.71	703	341.8	254.5	25.7	701
78.00	0.77		0.8	.56	.65	722	341.9	255.0	30.0	720
79.00	0.77		0.8	.57	.65	723	342.1	255.6	34.2	720
80.00	0.75		0.7	.62	.70	704	342.4	256.5	38.2	702
81.00	0.74		0.7	.62	.70	705	342.9	257.8	41.8	702
82.00	0.72		0.7	.63	.70	706	343.3	259.4	45.1	702
83.00	0.75		0.8	.58	.64	725	343.8	261.3	48.0	721
84.00	0.78		0.8	.58	.64	726	344.1	263.6	50.3	720
85.00	0.76		0.8	.58	.64	726	344.4	266.3	52.0	719
86.00	0.66		0.7	.64	.70	707	344.5	269.1	53.0	698
87.00	0.64		0.6	.70	.76	685	344.4	272.1	53.4	675
88.00	0.59		0.6	.70	.77	684	344.1	275.0	53.1	672
89.00	0.56		0.6	.70	.77	683	343.7	277.8	52.2	669
90.00	0.56		0.6	.70	.77	681	343.2	280.2	50.6	665
91.00	0.61		0.6	.70	.78	680	342.6	282.4	48.4	662
92.00	0.68		0.7	.63	.72	699	342.0	284.1	45.8	678
93.00	0.79		0.8	.58	.67	716	341.3	285.5	42.7	693
94.00	0.83		0.8	.57	.67	715	340.8	286.5	39.4	690
95.00	0.90		0.9	.52	.63	732	340.4	287.2	35.7	704
96.00	0.93		0.9	.52	.63	731	340.1	287.7	31.9	702
97.00	0.97		1.0	.48	.58	748	340.1	288.1	27.8	717
98.00	0.94		0.9	.52	.62	733	340.4	288.3	23.7	700

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39099.00	0.85		0.9	-14.52	-14.62	734	340.9	288.5	19.6	700
39100.00	0.77		0.8	.57	.66	719	341.6	288.8	15.5	683
01.00	0.77		0.8	.57	.65	722	342.6	289.2	11.4	683
02.00	0.74		0.7	.63	.70	707	343.7	289.8	7.6	665
03.00	0.78		0.8	.58	.63	730	344.9	290.6	3.9	684
04.00	0.81		0.8	.58	.62	734	346.2	291.8	0.5	683
05.00	0.88		0.9	.53	.56	756	347.4	293.3	-2.6	699
06.00	1.04		1.0	.49	.51	776	348.6	295.2	-5.2	713
07.00	0.98		1.0	.50	.50	780	349.5	297.6	-7.3	711
08.00	0.90		0.9	.54	.54	765	350.3	300.2	-8.8	693
09.00	0.85		0.9	.54	.53	767	350.8	303.1	-9.7	690
10.00	0.82		0.8	.59	.58	750	350.9	306.2	-9.9	670
11.00	0.80		0.8	.59	.58	750	350.8	309.2	-9.4	666
12.00	0.89		0.9	.54	.53	767	350.3	312.0	-8.2	677
13.00	0.96		1.0	.49	.49	783	349.6	314.6	-6.4	688
14.00	0.99		1.0	.49	.50	780	348.7	316.8	-4.1	683
15.00	0.99		1.0	.48	.51	777	347.6	318.6	-1.2	679
16.00	0.91		0.9	.52	.56	757	346.4	320.0	2.0	660
17.00	0.88		0.9	.52	.57	753	345.1	321.1	5.6	657
18.00	0.85		0.8	.56	.63	732	343.9	321.8	9.5	638
19.00	0.92		0.9	.51	.59	746	342.5	322.3	13.5	652
20.00	1.05		1.0	.47	.55	759	341.6	322.6	17.7	665
21.00	1.25		1.2	.39	.48	787	340.9	322.9	21.9	691
22.00	1.22		1.2	.39	.49	786	340.4	323.1	26.1	692
23.00	1.17		1.2	.39	.49	785	340.1	323.3	30.3	693
24.00	1.04		1.0	.46	.57	754	340.1	323.7	34.4	668
25.00	1.02		1.0	.46	.56	755	340.3	324.2	38.3	669
26.00	0.98		1.0	.47	.56	756	340.7	325.0	41.9	671
27.00	0.92		0.9	.51	.60	740	341.2	326.1	45.3	658
39127.50	0.92		0.9	-14.51	-14.60	741	341.5	326.8	46.9	659
28.00	0.96		1.0	.47	.56	758	341.8	327.6	48.4	674
28.50	1.01		1.0	.47	.55	759	342.0	328.4	49.7	674
29.00	1.17		1.2	.40	.48	790	342.3	329.4	51.0	701
29.50	1.38		1.4	.34	.41	818	342.6	330.5	52.1	725
30.00	1.25		1.2	.40	.47	791	342.8	331.6	53.0	701
30.50	1.12		1.1	.44	.51	777	343.0	332.9	53.8	687
31.00	0.96		1.0	.47	.55	762	343.2	334.2	54.5	673
31.50	0.94		0.9	.52	.59	746	343.4	335.6	55.0	657
32.00	1.02		1.0	.48	.54	763	343.5	337.0	55.4	670
32.50	1.07		1.1	.44	.50	779	343.6	338.4	55.5	683
33.00	1.11		1.1	.44	.50	779	343.6	339.9	55.5	681
33.50	1.19		1.2	.40	.47	794	343.6	341.4	55.3	692
34.00	1.22		1.2	.40	.47	794	343.6	342.8	55.0	689
34.50	1.28		1.3	.37	.44	808	343.5	344.3	54.5	699
35.00	1.32		1.3	.37	.44	807	343.4	345.6	53.8	697
35.50	1.31		1.3	.37	.44	807	343.2	346.9	52.9	694
36.00	1.35		1.3	.37	.44	806	343.0	348.1	51.9	691
36.50	1.34		1.3	.37	.44	806	342.8	349.3	50.8	688
37.00	1.25		1.2	.40	.47	791	342.6	350.3	49.5	673
37.50	1.14		1.1	.43	.51	776	342.4	351.3	48.1	657
38.00	1.11		1.1	.43	.51	775	342.2	352.1	46.6	655
38.50	1.19		1.2	.40	.48	790	341.9	352.9	45.0	664
39.00	1.28		1.3	.36	.44	803	341.7	353.5	43.3	673
39.50	1.63		1.6	.28	.36	841	341.5	354.1	41.4	703
40.00	1.68		1.7	.25	.34	853	341.3	354.6	39.5	710
40.50	1.73		1.7	.25	.34	853	341.1	355.0	37.6	708
41.00	1.62		1.6	.27	.36	841	341.0	355.4	35.6	696
41.50	1.61		1.6	.27	.36	841	340.9	355.7	33.5	694
42.00	1.64		1.6	.27	.36	842	340.9	355.9	31.4	692

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39142.50	1.71		1.7	-14.25	-14.33	854	340.9	356.2	29.2	700
43.00	1.74		1.7	.25	.33	855	341.0	356.3	27.0	699
43.50	1.75		1.7	.25	.33	856	341.1	356.5	24.8	698
44.00	1.80		1.8	.22	.30	868	341.3	356.6	22.6	707
44.50	1.93		1.9	.20	.28	881	341.6	356.7	20.3	716
45.00	2.00		2.0	.18	.26	893	341.9	356.8	18.1	725
45.50	2.13		2.1	.16	.23	906	342.2	357.0	15.8	734
46.00	2.26		2.3	.12	.19	928	342.6	357.1	13.6	751
46.50	2.31		2.3	.13	.19	931	343.1	357.3	11.4	751
47.00	2.34		2.3	.13	.18	933	343.6	357.6	9.2	752
47.50	2.19		2.2	.14	.20	925	344.2	357.8	7.1	745
48.00	2.09		2.1	.16	.21	917	344.8	358.2	5.0	738
48.50	2.10		2.1	.16	.21	920	345.4	358.6	2.9	739
49.00	2.02		2.0	.18	.22	912	346.0	359.0	0.9	732
49.50	1.83		1.8	.23	.26	892	346.6	359.6	-1.0	715
39150.00	1.68		1.7	-14.25	-14.28	883	347.3	0.2	-2.9	707
51.00	1.45		1.4	.33	.34	849	348.5	1.8	-6.3	679
52.00	1.31		1.3	.36	.36	839	349.6	3.7	-9.3	669
53.00	1.29		1.3	.36	.36	843	350.6	6.1	-11.8	671
54.00	1.25		1.2	.40	.38	831	351.3	8.8	-13.8	660
55.00	1.15		1.2	.40	.38	832	351.7	11.7	-15.0	659
56.00	1.12		1.1	.43	.41	817	351.8	14.9	-15.6	646
57.00	1.20		1.2	.40	.38	832	351.6	18.0	-15.5	656
58.00	1.26		1.3	.36	.35	845	351.2	20.9	-14.8	665
59.00	1.27		1.3	.36	.36	842	350.4	23.6	-13.3	662
60.00	1.40		1.4	.33	.34	853	349.4	26.0	-11.3	669
61.00	1.55		1.5	.30	.32	862	348.2	27.9	-8.8	675
62.00	1.60		1.6	.27	.30	870	347.0	29.5	-5.9	680
63.00	1.65		1.7	.25	.29	877	345.7	30.7	-2.6	685
64.00	1.71		1.7	.24	.30	872	344.4	31.6	0.9	682
65.00	1.77		1.8	.22	.28	880	343.3	32.2	4.6	687
66.00	1.83		1.8	.22	.29	876	342.3	32.7	8.5	685
67.00	1.86		1.9	.19	.27	884	341.5	33.0	12.4	692
68.00	2.00		2.0	.17	.26	892	341.0	33.4	16.3	701
69.00	2.04		2.0	.17	.26	890	340.7	33.7	20.3	701
70.00	1.94		1.9	.20	.28	878	340.6	34.2	24.1	694
71.00	1.88		1.9	.20	.28	878	340.7	34.9	27.7	697
72.00	1.77		1.8	.22	.31	867	341.0	35.8	31.2	691
73.00	1.78		1.8	.22	.30	868	341.5	37.0	34.3	695
74.00	1.78		1.8	.23	.30	869	341.9	38.5	37.1	699
39174.50	1.80		1.8	-14.23	-14.30	870	342.2	39.5	38.4	701
75.00	1.87		1.9	.21	.28	882	342.4	40.5	39.5	711
75.50	1.94		1.9	.21	.28	882	342.6	41.6	40.5	713
76.00	2.04		2.0	.19	.25	894	342.8	42.8	41.4	724
76.50	2.13		2.1	.17	.23	905	343.0	44.1	42.1	734
77.00	2.02		2.0	.19	.25	895	343.1	45.5	42.6	727
77.50	1.82		1.8	.23	.30	873	343.3	47.0	43.1	710
78.00	1.81		1.8	.23	.30	873	343.3	48.4	43.3	711
78.50	1.84		1.8	.23	.30	873	343.4	50.0	43.4	711
79.00	1.91		1.9	.21	.27	884	343.3	51.5	43.3	721
79.50	2.09		2.1	.17	.23	905	343.3	53.1	43.0	739
80.00	2.06		2.1	.17	.23	905	343.2	54.6	42.5	739
80.50	1.96		2.0	.19	.25	894	343.1	56.1	41.9	730
81.00	1.89		1.9	.21	.28	882	342.9	57.5	41.1	720
81.50	1.84		1.8	.23	.30	870	342.7	58.9	40.2	710
82.00	1.78		1.8	.23	.30	869	342.4	60.2	39.1	709
82.50	1.63		1.6	.28	.35	845	342.2	61.4	37.9	689
83.00	1.49		1.5	.30	.38	832	341.9	62.6	36.5	678

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39183.50	1.46		1.5	-14.30	-14.38	831	341.6	63.6	35.0	676
84.00	1.47		1.5	.30	.39	830	341.3	64.5	33.4	675
84.50	1.43		1.4	.33	.42	816	341.0	65.4	31.7	663
85.00	1.48		1.5	.30	.39	828	340.7	66.1	29.8	672
39186.00	1.55		1.6	-14.27	-14.36	840	340.5	67.3	25.9	680
87.00	1.74		1.7	.25	.34	851	340.2	68.3	21.8	687
88.00	1.85		1.8	.22	.32	862	340.0	69.0	17.4	694
89.00	1.85		1.8	.22	.32	863	340.0	69.5	12.8	693
90.00	1.82		1.8	.22	.31	864	340.2	69.9	8.2	693
91.00	1.80		1.8	.22	.31	866	340.7	70.3	3.5	694
92.00	1.73		1.7	.25	.33	857	341.4	70.7	-1.1	687
93.00	1.65		1.7	.25	.32	860	342.3	71.3	-5.7	691
94.00	1.66		1.7	.25	.31	863	343.4	72.0	-10.1	695
95.00	1.70		1.7	.26	.31	867	344.6	73.0	-14.4	700
96.00	1.67		1.7	.26	.30	871	345.8	74.3	-18.3	706
97.00	1.73		1.7	.26	.29	875	347.0	76.0	-21.9	713
39197.20	1.9		1.9	-14.22	-14.25	899	347.2	76.4	-22.6	733
97.40	1.7		1.7	.26	.29	877	347.5	76.8	-23.3	715
97.60	1.8		1.8	.24	.26	889	347.7	77.2	-23.9	726
97.80	1.8		1.8	.24	.26	890	347.9	77.6	-24.5	728
98.00	1.8		1.8	.24	.26	890	348.1	78.1	-25.1	729
98.20	2.2		2.2	.17	.18	935	348.3	78.5	-25.7	766
98.40	2.8		2.8	.07	.08	994	348.5	79.0	-26.2	816
98.60	2.5		2.5	.11	.13	967	348.7	79.5	-26.8	794
98.80	2.1		2.1	.18	.19	927	348.9	80.0	-27.3	762
99.00	2.2		2.2	.17	.18	937	349.0	80.5	-27.8	772
99.20	2.1		2.1	.19	.19	927	349.2	81.1	-28.2	764
99.40	1.9		1.9	.23	.23	906	349.4	81.6	-28.7	747
99.60	1.9		1.9	.23	.23	906	349.5	82.2	-29.1	749
99.80	1.9		1.9	.23	.23	907	349.6	82.8	-29.5	750
39200.00	1.8		1.8	.25	.25	896	349.7	83.4	-29.8	741
39200.50	1.56		1.6	-14.30	-14.30	872	350.0	84.9	-30.6	724
01.00	1.55		1.5	.32	.32	860	350.2	86.5	-31.3	716
01.50	1.52		1.5	.32	.32	860	350.3	88.1	-31.7	718
02.00	1.50		1.5	.32	.32	860	350.3	89.7	-32.0	720
02.50	1.49		1.5	.32	.32	860	350.2	91.3	-32.1	721
03.00	1.48		1.5	.32	.32	859	350.1	92.9	-32.0	723
03.50	1.64		1.6	.30	.30	871	349.9	94.5	-31.8	734
04.00	2.09		2.1	.19	.19	928	349.6	96.0	-31.3	783
04.50	1.96		2.0	.21	.21	916	349.3	97.5	-30.8	775
05.00	1.79		1.8	.25	.26	892	348.9	98.8	-30.0	756
05.50	1.70		1.7	.27	.28	878	348.4	100.1	-29.1	745
06.00	1.61		1.6	.29	.31	864	347.9	101.3	-28.1	735
06.50	1.59		1.6	.29	.32	862	347.3	102.4	-27.0	734
39206.80	1.6		1.6	-14.29	-14.32	861	347.0	103.0	-26.2	733
07.00	1.7		1.7	.27	.30	872	346.7	103.3	-25.7	743
07.20	1.8		1.8	.24	.27	883	346.5	103.7	-25.2	752
07.40	2.2		2.2	.16	.20	926	346.2	104.1	-24.6	789
07.60	2.3		2.3	.14	.18	935	346.0	104.4	-24.1	797
07.80	2.6		2.6	.09	.13	963	345.7	104.7	-23.5	821
08.00	2.5		2.5	.11	.15	953	345.5	105.0	-22.9	812
08.20	2.2		2.2	.16	.20	922	345.2	105.3	-22.3	786
08.40	1.9		1.9	.22	.26	889	345.0	105.6	-21.6	759
08.60	1.7		1.7	.26	.31	865	344.7	105.8	-21.0	738
08.80	1.4		1.4	.34	.39	827	344.5	106.1	-20.3	706
09.00	1.6		1.6	.28	.34	851	344.2	106.3	-19.7	727

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_g$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39209.50	1.38		1.4	-14.33	-14.40	824	343.6	106.8	-18.0	703
10.00	1.38		1.4	.33	.40	822	343.0	107.3	-16.2	702
10.50	1.44		1.4	.33	.41	820	342.4	107.7	-14.4	700
11.00	1.62		1.6	.28	.36	843	341.9	108.0	-12.6	720
11.50	1.43		1.4	.33	.41	816	341.4	108.3	-10.7	697
39212.00	1.5		1.5	-14.30	-14.39	827	341.0	108.6	-8.8	706
12.20	1.6		1.6	.28	.36	839	340.8	108.7	-8.0	716
12.40	1.8		1.8	.23	.32	862	340.6	108.7	-7.2	735
12.60	1.9		1.9	.21	.30	872	340.5	108.8	-6.4	744
12.80	2.2		2.2	.15	.24	903	340.4	108.9	-5.7	771
13.00	2.4		2.4	.11	.20	922	340.2	109.0	-4.9	787
13.20	2.5		2.5	.10	.19	931	340.1	109.1	-4.1	795
13.40	2.2		2.2	.15	.24	901	340.0	109.2	-3.3	770
13.60	1.8		1.8	.23	.32	859	339.9	109.2	-2.5	733
13.80	1.6		1.6	.27	.37	835	339.8	109.3	-1.8	713
39214.00	1.61		1.6	-14.27	-14.37	835	339.7	109.4	-1.0	713
14.50	1.57		1.6	.28	.38	834	339.6	109.6	1.0	712
15.00	1.55		1.5	.30	.40	821	339.5	109.8	2.9	702
15.50	1.56		1.6	.28	.38	833	339.5	110.1	4.8	712
16.00	1.60		1.6	.28	.38	832	339.5	110.4	6.6	712
16.50	1.79		1.8	.23	.33	855	339.6	110.7	8.5	732
17.00	1.87		1.9	.21	.31	866	339.7	111.1	10.3	742
17.50	1.64		1.6	.28	.38	833	339.8	111.6	12.0	714
18.00	1.61		1.6	.28	.38	833	340.0	112.1	13.7	715
18.50	1.51		1.5	.31	.40	821	340.3	112.7	15.3	706
19.00	1.47		1.5	.31	.40	822	340.5	113.4	16.8	707
19.50	1.44		1.4	.34	.43	810	340.8	114.2	18.2	698
20.00	1.48		1.5	.31	.40	823	341.0	115.0	19.6	711
20.50	1.56		1.6	.29	.37	836	341.3	116.0	20.8	723
21.00	1.62		1.6	.29	.37	837	341.6	117.1	21.9	725
21.50	1.71		1.7	.27	.34	849	341.8	118.2	22.9	737
22.00	1.79		1.8	.24	.32	861	342.0	119.5	23.7	749
22.50	1.85		1.8	.24	.32	862	342.2	120.8	24.4	751
23.00	1.83		1.8	.24	.32	862	342.4	122.2	25.0	753
23.50	1.70		1.7	.27	.34	851	342.6	123.7	25.3	745
24.00	1.59		1.6	.29	.36	840	342.7	125.2	25.6	737
24.50	1.51		1.5	.32	.39	828	342.7	126.8	25.6	728
25.00	1.51		1.5	.32	.39	828	342.7	128.4	25.5	730
25.50	1.46		1.5	.32	.39	828	342.7	129.9	25.2	731
26.00	1.46		1.5	.32	.39	827	342.6	131.5	24.7	733
26.50	1.41		1.4	.35	.42	815	342.5	133.0	24.1	723
27.00	1.35		1.3	.37	.45	801	342.4	134.4	23.3	713
27.50	1.34		1.3	.37	.45	800	342.2	135.8	22.3	714
28.00	1.38		1.4	.34	.42	813	342.0	137.1	21.2	726
28.50	1.52		1.5	.32	.40	825	341.8	138.4	20.0	739
29.00	1.95		2.0	.20	.28	881	341.5	139.5	18.6	790
29.50	2.01		2.0	.20	.28	880	341.3	140.5	17.1	791
30.00	1.86		1.9	.22	.30	869	341.0	141.5	15.4	782
30.50	1.56		1.6	.29	.38	834	340.7	142.3	13.7	752
31.00	1.51		1.5	.31	.40	821	340.5	143.1	11.9	742
31.50	1.46		1.5	.31	.41	820	340.2	143.7	10.0	742
32.00	1.37		1.4	.34	.44	807	340.0	144.3	8.0	731
32.50	1.26		1.3	.37	.47	794	339.8	144.8	5.9	720
33.00	1.21		1.2	.40	.50	779	339.7	145.2	3.8	708
33.50	1.20		1.2	.40	.50	779	339.6	145.6	1.6	708
34.00	1.15		1.1	.43	.54	765	339.5	145.9	-0.6	696
34.50	1.09		1.1	.43	.54	765	339.5	146.2	-2.8	697
35.00	1.06		1.1	.43	.54	765	339.6	146.5	-5.1	698

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39235.50	1.09		1.1	-14.43	-14.54	765	339.7	146.7	-7.4	699
36.00	1.14		1.1	.43	.54	766	339.8	146.9	-9.7	700
36.50	1.23		1.2	.40	.50	781	340.1	147.1	-12.0	715
37.00	1.46		1.5	.31	.40	822	340.3	147.3	-14.4	752
37.50	1.63		1.6	.28	.37	835	340.7	147.5	-16.7	766
38.00	1.66		1.7	.26	.35	848	341.1	147.7	-19.0	779
38.50	1.54		1.5	.31	.39	826	341.5	147.9	-21.2	759
39.00	1.44		1.4	.34	.42	815	342.0	148.2	-23.5	750
39.50	1.36		1.4	.34	.41	816	342.6	148.6	-25.7	752
40.00	1.28		1.3	.37	.44	805	343.2	149.0	-27.8	743
40.50	1.26		1.3	.37	.44	807	343.8	149.4	-29.9	746
41.00	1.24		1.2	.41	.46	795	344.4	150.0	-32.0	736
41.50	1.15		1.2	.41	.46	797	345.0	150.6	-34.0	739
42.00	1.13		1.1	.45	.49	784	345.6	151.3	-35.8	728
42.50	1.09		1.1	.45	.49	786	346.2	152.1	-37.6	732
43.00	1.03		1.0	.49	.52	772	346.8	153.0	-39.3	720
43.50	0.96		1.0	.49	.52	773	347.4	154.0	-40.9	723
44.00	1.00		1.0	.49	.51	775	347.9	155.1	-42.4	726
44.50	1.13		1.1	.45	.47	793	348.4	156.3	-43.7	744
45.00	1.23		1.2	.42	.43	809	348.9	157.5	-44.9	761
39246.00	1.16		1.2	-14.42	-14.43	809	349.1	160.3	-46.8	765
47.00	1.16		1.2	.42	.43	811	349.5	163.4	-48.1	770
48.00	1.19		1.2	.42	.43	811	349.6	166.6	-48.7	774
49.00	1.22		1.2	.42	.43	811	349.4	169.8	-48.5	776
50.00	1.14		1.1	.45	.47	795	348.9	172.8	-47.7	764
51.00	1.08		1.1	.45	.47	792	348.1	175.5	-46.2	764
52.00	1.05		1.0	.49	.52	774	347.2	177.9	-44.1	748
53.00	0.99		1.0	.48	.52	770	346.1	179.9	-41.5	746
54.00	0.94		0.9	.52	.58	750	344.9	181.4	-38.5	727
55.00	0.86		0.9	.52	.59	746	343.7	182.6	-35.2	724
56.00	0.85		0.9	.52	.60	743	342.5	183.5	-31.5	721
57.00	0.96		1.0	.47	.56	756	341.5	184.1	-27.7	733
58.00	1.02		1.0	.47	.57	753	340.6	184.6	-23.8	730
59.00	1.08		1.1	.43	.54	766	340.0	185.0	-19.7	742
60.00	1.08		1.1	.43	.54	764	339.6	185.3	-15.7	739
61.00	1.15		1.1	.43	.54	763	339.4	185.7	-11.7	737
62.00	1.18		1.2	.40	.51	778	339.4	186.2	-7.8	749
63.00	1.23		1.2	.40	.51	778	339.7	186.8	-4.0	747
64.00	1.25		1.2	.37	.47	793	340.1	187.8	-0.4	760
65.00	1.34		1.3	.37	.47	794	340.6	189.0	2.8	759
66.00	1.32		1.3	.37	.46	796	341.1	190.6	5.7	759
67.00	1.10		1.1	.44	.53	769	341.6	192.6	8.1	733
68.00	0.94		0.9	.52	.61	739	342.1	195.0	10.1	703
69.00	0.92		0.9	.52	.60	740	342.4	197.7	11.4	704
70.00	0.93		0.9	.52	.60	741	342.6	200.6	12.1	705
39270.60	1.0		1.0	-14.48	-14.56	757	342.6	202.4	12.2	721
70.80	0.9		0.9	.52	.60	741	342.6	203.0	12.2	706
71.00	1.0		1.0	.48	.56	757	342.6	203.7	12.2	722
71.20	1.3		1.3	.38	.45	801	342.6	204.3	12.1	764
71.40	1.2		1.2	.41	.48	787	342.5	204.9	12.0	751
71.60	1.8		1.8	.25	.32	861	342.5	205.5	11.9	822
71.80	3.4		3.4	.00	.06	1009	342.4	206.1	11.7	964
72.00	2.3		2.3	.15	.22	914	342.4	206.7	11.5	873
72.20	1.8		1.8	.25	.32	861	342.3	207.3	11.3	823
72.40	1.4		1.4	.35	.42	813	342.3	207.8	11.1	778
72.60	1.3		1.3	.38	.45	800	342.2	208.4	10.8	765
72.80	1.3		1.3	.38	.45	799	342.1	209.0	10.5	766
73.00	1.0		1.0	.48	.56	755	342.1	209.5	10.2	724

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39273.50	1.03		1.0	-14.48	-14.56	755	341.8	210.8	9.3	724
74.00	0.98		1.0	.48	.57	754	341.6	212.1	8.2	725
74.50	0.90		0.9	.52	.61	737	341.3	213.2	7.1	710
75.00	0.84		0.8	.57	.66	718	341.0	214.3	5.7	694
75.50	0.87		0.9	.52	.62	735	340.7	215.3	4.3	711
76.00	1.08		1.1	.44	.54	765	340.4	216.1	2.7	742
39276.20	1.1		1.1	-14.44	-14.54	765	340.3	216.4	2.1	743
76.40	1.3		1.3	.37	.47	792	340.2	216.7	1.4	770
76.60	1.9		1.9	.22	.31	863	340.0	217.0	0.8	840
76.80	1.9		1.9	.22	.32	863	339.9	217.3	0.1	840
77.00	2.1		2.1	.18	.27	883	339.8	217.6	-0.7	861
77.20	1.6		1.6	.29	.39	829	339.7	217.8	-1.4	808
77.40	1.5		1.5	.31	.42	816	339.6	218.0	-2.1	797
77.60	1.3		1.3	.37	.48	790	339.5	218.3	-2.9	772
77.80	1.1		1.1	.44	.55	762	339.4	218.5	-3.6	745
39278.00	1.27		1.3	-14.37	-14.48	790	339.3	218.7	-4.4	773
78.50	1.21		1.2	.40	.51	775	339.0	219.1	-6.4	760
79.00	1.19		1.2	.40	.51	775	338.9	219.4	-8.4	761
79.50	1.19		1.2	.40	.51	774	338.7	219.8	-10.5	762
39280.00	0.99		1.0	-14.47	-14.59	744	338.6	220.0	-12.6	735
81.00	0.98		1.0	.47	.59	745	338.6	220.4	-16.9	737
82.00	0.97		1.0	.47	.59	745	338.9	220.7	-21.3	740
83.00	0.97		1.0	.47	.58	747	339.4	221.0	-25.7	743
84.00	0.92		0.9	.52	.62	734	340.2	221.4	-30.0	731
85.00	0.89		0.9	.52	.61	737	341.1	221.8	-34.3	735
86.00	0.86		0.9	.52	.60	740	342.2	222.5	-38.4	739
87.00	0.85		0.9	.52	.59	744	343.4	223.5	-42.3	743
88.00	0.81		0.8	.57	.63	730	344.7	224.7	-45.8	730
89.00	0.74		0.7	.63	.67	715	345.9	226.4	-49.0	714
90.00	0.73		0.7	.63	.66	718	347.0	228.5	-51.7	718
91.00	0.72		0.7	.63	.66	721	347.9	230.9	-53.9	720
92.00	0.70		0.7	.64	.65	723	348.6	233.7	-55.5	722
93.00	0.69		0.7	.64	.65	724	349.1	236.7	-56.4	724
94.00	0.67		0.7	.64	.65	724	349.2	239.9	-56.6	724
95.00	0.65		0.7	.64	.65	724	349.0	243.0	-56.0	723
96.00	0.67		0.7	.64	.65	722	348.6	245.9	-54.8	721
97.00	0.68		0.7	.64	.66	720	347.8	248.5	-52.9	719
98.00	0.71		0.7	.63	.67	717	346.9	250.7	-50.5	716
99.00	0.72		0.7	.63	.68	714	345.9	252.6	-47.5	712
39300.00	0.70		0.7	-14.63	-14.69	710	344.7	254.0	-44.2	708
00.50	1.07		1.1	.45	.51	777	344.1	254.6	-42.3	775
01.00	1.43		1.4	.35	.41	817	343.6	255.1	-40.5	814
01.50	1.33		1.3	.38	.45	802	343.0	255.5	-38.5	799
02.00	1.07		1.1	.44	.52	771	342.5	255.8	-36.5	768
02.50	1.06		1.1	.44	.53	770	342.0	256.1	-34.5	766
03.00	1.03		1.0	.48	.57	753	341.5	256.4	-32.4	749
03.50	1.02		1.0	.48	.57	752	341.1	256.6	-30.2	747
39304.00	1.04		1.0	-14.48	-14.58	750	340.7	256.8	-28.1	745
05.00	1.05		1.0	.48	.58	748	340.2	257.1	-23.7	742
06.00	1.05		1.1	.44	.54	762	339.8	257.4	-19.4	753
07.00	1.06		1.1	.44	.55	762	339.7	257.7	-15.1	750
08.00	1.01		1.0	.48	.59	747	339.9	258.2	-10.9	733
09.00	0.99		1.0	.48	.58	747	340.1	258.9	-6.9	730
10.00	0.95		1.0	.48	.58	749	340.6	259.8	-3.1	728

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39310.50	0.94		0.9	-14.53	-14.62	733	340.8	260.4	-1.3	711
11.00	1.19		1.2	.41	.50	779	341.1	261.1	0.4	754
11.50	1.11		1.1	.45	.54	766	341.4	261.9	2.0	739
12.00	1.01		1.0	.49	.57	751	341.6	262.8	3.5	723
12.50	0.87		0.9	.53	.62	736	341.9	263.8	4.9	707
13.00	0.88		0.9	.53	.61	736	342.1	264.8	6.2	705
13.50	1.01		1.0	.49	.57	753	342.4	266.0	7.3	720
14.00	1.02		1.0	.49	.57	753	342.6	267.3	8.3	719
14.50	1.27		1.3	.39	.46	797	342.7	268.6	9.2	759
15.00	1.82		1.8	.26	.33	858	342.8	270.0	9.9	814
15.50	1.41		1.4	.36	.43	811	342.9	271.5	10.4	768
16.00	1.17		1.2	.42	.50	782	342.3	273.0	10.7	739
16.50	1.22		1.2	.42	.50	782	342.4	274.6	10.9	738
17.00	1.92		1.9	.24	.31	866	342.4	276.1	10.9	817
17.50	1.34		1.3	.39	.46	795	342.3	277.6	10.8	749
18.00	1.03		1.0	.49	.57	752	342.2	279.1	10.4	707
18.50	1.21		1.2	.42	.50	781	342.1	280.5	9.9	733
19.00	1.25		1.2	.42	.50	780	341.9	281.8	9.3	732
19.50	1.16		1.2	.42	.50	780	341.7	283.1	8.5	731
20.00	1.12		1.1	.45	.54	765	341.5	284.3	7.5	717
20.50	1.12		1.1	.45	.54	764	341.3	285.4	6.4	716
21.00	1.10		1.1	.45	.54	763	341.0	286.5	5.2	715
21.50	1.03		1.0	.49	.58	748	340.7	287.4	3.9	700
22.00	1.03		1.0	.48	.58	747	340.5	288.2	2.4	700
22.50	1.38		1.4	.35	.45	802	340.2	288.9	0.9	752
23.00	1.47		1.5	.32	.42	814	340.0	289.6	-0.7	764
23.50	1.44		1.4	.35	.45	802	339.8	290.1	-2.5	752
24.00	1.40		1.4	.35	.45	801	339.6	290.6	-4.2	753
24.50	1.26		1.3	.37	.48	788	339.4	291.0	-6.1	741
25.00	1.24		1.2	.41	.51	774	339.3	291.4	-8.0	729
25.50	1.18		1.2	.40	.51	774	339.2	291.7	-9.9	729
39326.00	1.15		1.2	-14.40	-14.51	774	339.2	291.9	-11.9	730
27.00	1.20		1.2	.40	.51	775	339.4	292.3	-15.9	733
28.00	1.21		1.2	.40	.51	777	339.8	292.6	-20.0	736
29.00	1.28		1.3	.37	.47	793	340.4	293.0	-24.1	752
30.00	1.32		1.3	.37	.46	796	341.3	293.4	-28.2	756
31.00	1.28		1.3	.38	.45	800	342.3	293.9	-32.1	760
39331.50	1.28		1.3	-14.38	-14.45	802	342.9	294.3	-34.0	762
32.00	1.16		1.2	.41	.48	790	343.5	294.7	-35.9	750
32.50	1.16		1.2	.41	.47	792	344.2	295.2	-37.7	752
33.00	1.27		1.3	.38	.43	808	344.8	295.7	-39.4	767
33.50	1.36		1.4	.35	.40	824	345.5	296.4	-41.0	781
34.00	1.49		1.5	.33	.37	838	346.1	297.2	-42.6	794
34.50	1.45		1.5	.33	.36	840	346.8	298.0	-44.0	795
35.00	1.42		1.4	.36	.39	829	347.4	299.0	-45.4	784
35.50	1.36		1.4	.36	.38	831	347.9	300.0	-46.6	784
36.00	1.35		1.4	.36	.38	833	348.4	301.2	-47.7	784
36.50	1.36		1.4	.36	.38	834	348.9	302.4	-48.7	784
39337.00	1.36		1.4	-14.37	-14.37	836	349.3	303.8	-49.5	783
38.00	1.32		1.3	.40	.40	824	350.0	306.7	-50.6	768
39.00	1.27		1.3	.40	.40	825	350.3	309.9	-51.1	764
40.00	1.26		1.3	.40	.40	825	350.3	313.1	-50.8	758
41.00	1.36		1.4	.37	.37	838	350.0	316.2	-49.8	764
42.00	1.46		1.5	.34	.34	849	349.4	319.2	-48.1	769
43.00	1.48		1.5	.33	.35	847	348.5	321.8	-45.8	760
44.00	1.50		1.5	.33	.36	844	347.5	324.0	-43.0	752
45.00	1.52		1.5	.33	.36	840	346.3	325.8	-39.0	743

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39346.00	1.54		1.5	-14.32	-14.37	836	345.0	327.3	-35.9	735
47.00	1.58		1.6	.29	.35	845	343.8	328.3	-31.9	738
39348.00	1.70		1.7	-14.26	-14.34	853	342.6	329.2	-27.6	741
48.50	1.71		1.7	.26	.34	852	342.0	329.5	-25.4	738
49.00	1.81		1.8	.24	.32	861	341.6	329.8	-23.2	745
49.50	1.80		1.8	.24	.32	860	341.1	330.0	-20.9	742
50.00	1.82		1.8	.24	.32	859	340.7	330.2	-18.6	740
50.50	1.75		1.8	.23	.33	858	340.4	330.4	-16.3	738
51.00	1.62		1.6	.28	.38	834	340.1	330.6	-14.0	716
51.50	1.60		1.6	.28	.38	833	339.9	330.8	-11.7	714
52.00	1.61		1.6	.28	.38	833	339.8	331.0	-9.4	713
52.50	1.57		1.6	.28	.38	833	339.7	331.2	-7.1	712
53.00	1.52		1.5	.30	.41	820	339.7	331.5	-4.8	701
53.50	1.56		1.6	.28	.38	833	339.7	331.8	-2.6	710
54.00	1.71		1.7	.25	.35	845	339.8	332.1	-0.4	720
54.50	1.90		1.9	.21	.31	868	339.9	332.5	1.7	738
55.00	2.00		2.0	.19	.28	879	340.1	332.9	3.8	746
55.50	2.12		2.1	.17	.26	890	340.3	333.5	5.8	755
56.00	2.49		2.5	.10	.19	930	340.5	334.1	7.8	787
56.50	2.39		2.4	.12	.20	922	340.8	334.8	9.6	779
57.00	2.42		2.4	.12	.20	923	341.0	335.6	11.4	779
57.50	2.39		2.4	.12	.20	924	341.3	336.5	13.1	778
58.00	2.39		2.4	.12	.20	925	341.5	337.4	14.7	777
58.50	2.33		2.3	.14	.21	917	341.8	338.5	16.1	768
59.00	2.37		2.4	.12	.19	927	342.0	339.7	17.4	776
59.50	2.40		2.4	.12	.19	928	342.2	341.0	18.6	775
60.00	2.33		2.3	.14	.21	919	342.4	342.3	19.7	765
60.50	2.38		2.4	.12	.19	930	342.5	343.8	20.5	772
61.00	2.72		2.7	.07	.14	958	342.7	345.2	21.2	794
61.50	2.83		2.8	.06	.12	968	342.7	346.8	21.8	799
62.00	2.72		2.7	.07	.14	959	342.7	348.4	22.2	790
62.50	2.72		2.7	.07	.14	959	342.7	349.9	22.4	788
63.00	2.76		2.8	.06	.12	968	342.7	351.5	22.4	793
63.50	2.69		2.7	.07	.14	959	342.5	353.1	22.2	784
64.00	2.68		2.7	.07	.14	959	342.4	354.6	21.9	781
64.50	2.85		2.8	.06	.13	967	342.2	356.0	21.4	786
65.00	2.90		2.9	.04	.11	975	342.0	357.4	20.8	791
65.50	2.96		3.0	.03	.10	983	341.7	358.7	20.0	795
66.00	2.98		3.0	.03	.10	982	341.5	359.9	19.1	792
66.50	3.24		3.2	.00	.08	998	341.2	1.1	18.0	804
67.00	3.65		3.6	-13.95	.03	1030	340.9	2.1	16.8	827
67.50	4.65		4.6	.86	-13.93	1104	340.6	3.0	15.5	885
68.00	4.64		4.6	.86	.93	1104	340.3	3.8	14.1	883
68.50	4.02		4.0	.91	.99	1058	340.0	4.6	12.6	845
69.00	3.80		3.8	.93	-14.01	1042	339.7	5.2	11.0	831
69.50	3.74		3.7	.94	.03	1033	339.5	5.8	9.4	823
70.00	3.42		3.4	.97	.06	1009	339.3	6.3	7.6	803
70.50	3.34		3.3	.98	.07	1000	339.1	6.7	5.8	795
71.00	3.24		3.2	.99	.09	992	339.0	7.1	4.0	788
71.50	3.23		3.2	.99	.09	992	338.9	7.4	2.1	787
39371.60	3.2		3.2	-13.99	-14.09	992	338.9	7.5	1.7	787
71.80	3.3		3.3	.98	.07	1000	338.9	7.6	1.0	794
72.00	3.6		3.6	.94	.04	1024	338.9	7.7	0.2	813
72.20	4.1		4.1	.89	-13.99	1063	338.9	7.8	-0.6	844
72.40	6.1		6.1	.74	.83	1203	338.9	7.9	-1.3	955
72.60	4.6		4.6	.85	.94	1101	338.9	8.0	-2.1	874
72.80	3.2		3.2	.99	-14.08	993	339.0	8.1	-2.9	788
73.00	2.9		2.9	-14.03	.12	968	339.0	8.2	-3.7	768

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39373.20	2.9		2.9	-14.03	-14.12	968	339.1	8.2	-4.5	768
73.40	2.9		2.9	.03	.12	968	339.2	8.3	-5.3	768
39373.50	2.85		2.8	-14.04	-14.14	960	339.2	8.4	-5.7	762
74.00	2.99		3.0	.02	.11	978	339.4	8.6	-7.6	777
74.50	2.16		2.2	.14	.23	906	339.7	8.8	-9.6	719
75.00	1.73		1.7	.24	.34	853	340.1	9.0	-11.6	678
75.50	2.30		2.3	.12	.21	919	340.5	9.3	-13.5	730
76.00	3.04		3.0	.02	.10	985	341.0	9.6	-15.4	784
76.50	3.42		3.4	-13.97	.04	1021	341.5	9.9	-17.3	813
77.00	2.88		2.9	-14.03	.10	982	342.0	10.3	-19.2	782
77.50	2.57		2.6	.08	.14	957	342.6	10.7	-21.0	763
78.00	2.33		2.3	.13	.19	930	343.2	11.2	-22.7	743
78.50	2.28		2.3	.13	.18	932	343.9	11.8	-24.4	745
79.00	2.21		2.2	.15	.20	925	344.5	12.5	-26.0	740
79.50	2.13		2.1	.17	.21	917	345.1	13.3	-27.5	734
80.00	2.09		2.1	.17	.21	919	345.8	14.2	-28.9	736
80.50	2.03		2.0	.19	.22	911	346.4	15.1	-30.2	730
81.00	2.00		2.0	.19	.22	913	346.9	16.2	-31.4	732
81.50	1.94		1.9	.21	.24	904	347.5	17.4	-32.5	725
82.00	1.87		1.9	.21	.23	906	348.0	18.7	-33.5	727
82.50	2.04		2.0	.19	.21	918	348.4	20.0	-34.2	737
83.00	2.15		2.1	.18	.19	931	348.8	21.5	-34.9	747
83.50	2.09		2.1	.18	.18	932	349.1	23.0	-35.3	748
84.00	2.15		2.2	.16	.17	944	349.3	24.6	-35.6	757
84.50	2.38		2.4	.13	.13	965	349.5	26.2	-35.8	774
85.00	2.50		2.5	.11	.11	975	349.7	27.9	-35.7	782
85.50	2.52		2.5	.11	.11	976	349.7	29.5	-35.5	782
39386.00	2.58		2.6	-14.09	-14.10	985	349.7	31.2	-35.1	789
87.00	2.86		2.9	.05	.06	1012	349.3	34.3	-33.7	809
88.00	3.08		3.1	.02	.03	1027	348.7	37.2	-31.7	819
89.00	3.13		3.1	.02	.04	1023	347.8	39.8	-29.0	814
90.00	3.33		3.3	-13.99	.02	1036	346.8	41.9	-25.9	822
91.00	3.53		3.5	.97	.01	1048	345.6	43.7	-22.3	829
92.00	3.47		3.5	.97	.01	1042	344.4	45.0	-18.3	822
93.00	3.43		3.4	.97	.03	1028	343.2	46.1	-14.0	810
94.00	3.43		3.4	.97	.04	1023	342.1	46.9	-9.6	804
95.00	3.43		3.4	.97	.05	1019	341.2	47.4	-5.0	800
96.00	3.29		3.3	.98	.06	1007	340.4	47.9	-0.3	790
97.00	3.11		3.1	-14.01	.09	988	339.9	48.3	4.4	776
98.00	2.99		3.0	.02	.11	977	339.7	48.8	9.1	769
99.00	2.99		3.0	.02	.11	976	339.6	49.4	13.7	770
39400.00	2.97		3.0	.02	.11	976	339.8	50.1	18.1	772
39401.00	2.98		3.0	-14.02	-14.11	977	340.2	51.1	22.4	776
01.50	2.92		2.9	.04	.12	968	340.4	51.7	24.4	771
02.00	2.93		2.9	.04	.12	969	340.6	52.4	26.3	773
39402.20	3.1		3.1	-14.01	-14.10	986	340.7	52.7	27.0	788
02.40	3.2		3.2	.00	.08	995	340.8	53.0	27.8	796
02.60	3.3		3.3	-13.99	.07	1003	340.9	53.4	28.5	803
02.80	3.7		3.7	.95	.02	1036	341.0	53.7	29.2	830
03.00	3.8		3.8	.94	.01	1044	341.1	54.1	29.8	837
03.20	4.3		4.3	.89	-13.96	1082	341.2	54.5	30.5	869
03.40	4.2		4.2	.90	.97	1075	341.4	54.9	31.1	864
03.60	4.0		4.0	.92	.99	1060	341.5	55.3	31.8	853
03.80	3.7		3.7	.95	-14.02	1037	341.6	55.7	32.4	836
04.00	3.5		3.5	.97	.04	1021	341.7	56.1	33.0	824
04.20	3.6		3.6	.96	.03	1030	341.8	56.6	33.5	831

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39404.40	3.5		3.5	-13.97	-14.04	1022	341.8	57.1	34.1	826
04.60	3.1		3.1	-14.02	.09	989	341.9	57.6	34.6	800
04.80	3.1		3.1	.02	.09	989	342.0	58.1	35.1	801
39405.00	3.05		3.1	-14.02	-14.09	990	342.1	58.6	35.6	802
05.50	2.96		3.0	.04	.10	982	342.3	59.9	36.6	798
06.00	2.76		2.8	.06	.13	964	342.4	61.4	37.6	786
06.50	2.70		2.7	.08	.14	956	342.6	62.9	38.3	781
07.00	2.69		2.7	.08	.14	956	342.6	64.4	38.9	783
07.50	2.66		2.7	.08	.14	956	342.7	66.0	39.3	784
08.00	2.67		2.7	.08	.14	955	342.6	67.6	39.6	786
08.50	2.63		2.6	.09	.16	946	342.6	69.2	39.6	779
09.00	2.60		2.6	.09	.16	945	342.5	70.7	39.5	780
39410.00	2.85		2.9	-14.05	-14.12	971	342.1	73.7	38.8	803
11.00	3.39		3.4	-13.99	.06	1011	341.7	76.4	37.4	837
12.00	3.45		3.4	.99	.06	1009	341.1	78.8	35.4	836
39412.50	3.55		3.5	-13.97	-14.05	1015	340.8	79.8	34.3	842
13.00	3.52		3.5	.97	.05	1014	340.5	80.7	33.0	841
39413.20	3.7		3.7	-13.95	-14.03	1029	340.4	81.1	32.4	853
13.40	3.7		3.7	.95	.03	1029	340.2	81.4	31.9	853
13.60	3.6		3.6	.96	.04	1021	340.1	81.7	31.3	846
13.80	3.6		3.6	.96	.04	1020	340.0	82.0	30.7	845
14.00	4.4		4.4	.88	-13.96	1080	339.9	82.3	30.1	894
14.20	4.8		4.8	.85	.93	1108	339.7	82.6	29.5	918
14.40	5.3		5.3	.81	.89	1142	339.6	82.8	28.8	946
14.60	4.3		4.3	.89	.97	1072	339.5	83.1	28.2	887
14.80	4.0		4.0	.92	-14.00	1049	339.4	83.3	27.5	868
15.00	3.9		3.9	.92	.01	1041	339.3	83.5	26.8	861
15.20	3.7		3.7	.94	.04	1026	339.2	83.7	26.2	848
15.40	3.4		3.4	.98	.07	1002	339.1	83.9	25.5	829
15.60	3.5		3.5	.97	.06	1010	339.1	84.1	24.8	834
15.80	3.5		3.5	.97	.06	1009	339.0	84.3	24.0	834
16.00	3.7		3.7	.94	.04	1025	338.9	84.4	23.3	846
39417.00	3.54		3.5	-13.96	-14.06	1009	338.7	85.1	19.6	832
18.00	3.60		3.6	.95	.05	1017	338.7	85.6	15.7	837
19.00	3.64		3.6	.95	.05	1018	338.9	86.0	11.8	837
20.00	3.62		3.6	.95	.04	1020	339.4	86.4	7.8	838
21.00	3.57		3.6	.96	.04	1023	340.1	86.8	3.8	840
22.00	3.56		3.6	.96	.03	1027	341.0	87.4	0.0	844
39423.00	3.57		3.6	-13.96	-14.04	1022	340.2	88.2	-3.7	840
23.50	3.80		3.8	.94	.02	1040	340.8	88.7	-5.5	855
24.00	3.86		3.9	.93	.00	1050	341.4	89.2	-7.2	865
24.50	3.98		4.0	.92	-13.99	1060	342.0	89.9	-8.8	874
25.00	3.29		3.3	-14.00	-14.06	1007	342.6	90.6	-10.3	832
25.50	2.59		2.6	.10	.16	949	343.2	91.5	-11.8	784
26.00	2.48		2.5	.11	.17	941	343.8	92.4	-13.1	779
26.50	2.40		2.4	.13	.18	933	344.3	93.5	-14.4	774
27.00	2.39		2.4	.13	.18	935	344.8	94.6	-15.5	777
27.50	2.41		2.4	.13	.18	937	345.3	95.9	-16.4	780
28.00	2.45		2.5	.12	.16	948	345.7	97.2	-17.2	791
28.50	2.63		2.6	.11	.14	958	346.0	98.6	-17.9	801
29.00	2.59		2.6	.11	.14	959	346.3	100.1	-18.4	804
29.50	2.71		2.7	.09	.12	969	346.5	101.7	-18.7	814
30.00	2.87		2.9	.06	.09	987	346.6	103.3	-18.9	831
30.50	3.35		3.3	.01	.04	1022	346.6	104.9	-18.8	862

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39431.00	3.26		3.3	-14.01	-14.04	1022	346.6	106.5	-18.6	864
31.50	2.51		2.5	.12	.15	950	346.4	108.2	-18.2	806
32.00	2.10		2.1	.19	.23	909	346.2	109.7	-17.6	773
32.50	1.90		1.9	.23	.27	887	345.9	111.2	-16.9	755
33.00	1.92		1.9	.23	.27	885	345.6	112.7	-16.0	756
33.50	2.11		2.1	.19	.23	905	345.2	114.1	-14.9	774
39442.00	2.39		2.4	-14.12	-14.25	897	336.0	124.0	18.2	789
43.00	2.41		2.4	.12	.25	895	335.7	124.3	22.8	790
44.00	2.46		2.5	.10	.24	903	335.6	124.7	27.4	800
45.00	2.46		2.5	.11	.24	903	335.7	125.2	31.7	802
46.00	2.52		2.5	.11	.24	903	336.0	126.0	35.9	806
47.00	2.60		2.6	.10	.22	913	336.5	127.1	39.9	819
48.00	2.65		2.7	.08	.20	923	337.1	128.4	43.4	833
49.00	2.51		2.5	.12	.23	908	337.7	130.2	46.6	823
50.00	2.37		2.4	.13	.24	900	338.3	132.4	49.3	820
51.00	2.21		2.2	.17	.28	883	338.8	134.9	51.4	809
52.00	2.09		2.1	.19	.29	875	339.1	137.7	52.8	805
53.00	2.00		2.0	.21	.31	865	339.4	140.7	53.6	801
54.00	1.97		2.0	.21	.31	866	339.4	143.8	53.6	805
55.00	1.88		1.9	.23	.33	856	339.3	146.7	53.0	798
56.00	1.90		1.9	.23	.33	855	339.1	149.4	51.6	800
57.00	1.90		2.0	.20	.31	865	338.7	151.7	49.7	811
58.00	2.06		2.1	.18	.29	874	338.3	153.7	47.2	821
59.00	2.02		2.0	.20	.31	863	337.9	155.2	44.3	811
60.00	1.92		1.9	.22	.34	852	337.5	156.4	40.9	801
61.00	1.84		1.8	.24	.36	841	337.3	157.3	37.3	790
62.00	1.70		1.7	.26	.38	831	337.3	157.9	33.4	779
63.00	1.78		1.8	.24	.36	843	337.4	158.3	29.4	789
64.00	2.26		2.3	.14	.25	895	337.8	158.5	25.2	836
65.00	2.27		2.3	.14	.25	898	338.5	158.8	21.0	837
66.00	1.95		2.0	.20	.30	872	339.4	159.0	16.8	811
67.00	1.91		1.9	.22	.31	866	340.6	159.4	12.7	803
68.00	1.89		1.9	.22	.30	871	341.9	159.9	8.7	805
69.00	1.89		1.9	.23	.29	876	343.4	160.7	4.8	809
70.00	1.90		1.9	.23	.28	882	344.9	161.8	1.3	813
71.00	1.92		1.9	.23	.27	888	346.4	163.3	-1.9	817
39472.00	1.99		2.0	-14.22	-14.24	904	347.9	165.1	-4.6	831
72.50	2.14		2.1	.20	.21	917	348.5	166.2	-5.8	844
73.00	2.47		2.5	.13	.14	960	349.1	167.4	-6.9	883
73.50	2.84		2.8	.09	.09	990	349.7	168.7	-7.8	911
74.00	3.00		3.0	.06	.06	1010	350.1	170.1	-8.5	931
74.50	2.21		2.2	.18	.18	936	350.6	171.5	-9.1	863
75.00	1.97		2.0	.22	.21	916	350.9	173.0	-9.5	846
39476.00	1.93		1.9	-14.24	-14.23	906	351.3	176.0	-9.8	839
77.00	1.88		1.9	.24	.23	907	351.5	179.0	-9.4	843
78.00	1.84		1.8	.27	.25	895	351.3	181.9	-8.2	836
79.00	1.81		1.8	.26	.26	893	350.9	184.5	-6.4	838
80.00	1.82		1.8	.26	.26	890	350.2	186.7	-4.1	840
81.00	1.88		1.9	.24	.25	898	349.4	188.5	-1.2	853
82.00	1.89		1.9	.24	.25	895	348.5	189.9	2.1	854
83.00	1.98		2.0	.22	.24	902	347.6	190.9	5.7	865
84.00	2.04		2.0	.22	.24	899	346.8	191.6	9.6	866
85.00	2.10		2.1	.19	.23	907	346.1	192.1	13.7	877
39486.00	2.56		2.6	-14.10	-14.21	917	337.2	193.8	18.3	892
86.50	2.57		2.6	.10	.22	915	336.9	193.9	20.5	891

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39487.00	2.59		2.6	-14.10	-14.22	913	336.6	194.0	22.6	891
87.50	2.32		2.3	.14	.27	885	336.3	194.2	24.8	865
88.00	2.18		2.2	.16	.29	875	336.1	194.3	26.9	856
88.50	1.68		1.7	.26	.40	823	336.0	194.4	29.1	806
89.00	1.73		1.7	.26	.40	822	336.0	194.6	31.2	806
89.50	1.82		1.8	.24	.38	833	336.0	194.8	33.2	818
90.00	1.85		1.9	.22	.35	844	336.1	195.0	35.3	829
90.50	1.88		1.9	.22	.35	845	336.3	195.3	37.3	830
91.00	2.02		2.0	.20	.33	855	336.5	195.6	39.2	842
91.50	2.35		2.4	.13	.25	895	336.7	196.0	41.1	881
92.00	2.65		2.6	.10	.22	914	337.0	196.5	42.9	900
92.50	2.48		2.5	.12	.13	911	338.7	197.0	44.6	898
93.00	2.45		2.5	.12	.13	912	339.0	197.7	46.2	900
93.50	2.35		2.3	.15	.16	895	339.3	198.5	47.8	884
94.00	2.17		2.2	.17	.17	886	339.6	199.4	49.2	876
94.50	2.18		2.2	.17	.17	887	339.9	200.3	50.5	877
95.00	2.08		2.1	.19	.19	878	340.2	201.4	51.7	869
95.50	2.09		2.1	.19	.19	879	340.5	202.6	52.7	871
96.00	2.00		2.0	.21	.21	870	340.7	203.8	53.6	862
96.50	1.98		2.0	.21	.20	871	340.9	205.1	54.3	863
97.00	1.97		2.0	.21	.20	871	341.1	206.5	54.9	865
97.50	2.33		2.3	.16	.15	901	341.2	208.0	55.2	895
98.00	3.95		3.9	-13.95	-13.94	1032	341.3	209.5	55.5	1026
98.50	4.26		4.3	.91	.90	1063	341.3	211.0	55.5	1057
99.00	3.73		3.7	.97	.96	1020	341.3	212.5	55.3	1015
99.50	2.96		3.0	-14.05	-14.04	964	341.3	214.0	55.0	960
39500.00	2.34		2.3	.16	.15	902	341.2	215.5	54.5	899
00.50	2.06		2.1	.19	.18	882	341.0	216.9	53.8	879
01.00	1.99		2.0	.21	.20	871	340.8	218.2	53.0	869
01.50	1.95		1.9	.23	.23	860	340.6	219.5	52.0	858
02.00	1.90		1.9	.23	.23	859	340.4	220.7	50.8	858
02.50	1.85		1.9	.23	.23	858	340.1	221.7	49.5	857
03.00	1.85		1.8	.25	.25	847	339.8	222.7	48.1	846
39503.20	1.8		1.8	-14.25	-14.25	847	339.7	223.1	47.5	846
03.40	1.9		1.9	.23	.23	857	339.6	223.4	46.8	856
03.60	2.0		2.0	.21	.21	867	339.5	223.8	46.2	866
03.80	3.3		3.3	.01	.02	981	339.4	224.1	45.5	980
04.00	3.3		3.3	.01	.01	982	339.3	224.4	44.9	981
04.20	3.2		3.2	.02	.03	974	339.2	224.7	44.2	973
04.40	5.3		5.3	-13.82	-13.83	1121	339.1	224.9	43.5	1120
04.60	3.9		3.9	.94	.95	1027	339.0	225.2	42.7	1027
04.80	2.8		2.8	-14.07	-14.08	940	338.9	225.4	42.0	940
05.00	2.6		2.6	.10	.11	922	338.8	225.7	41.3	921
05.20	1.5		1.5	.32	.33	810	338.7	225.9	40.5	809
05.40	2.0		2.0	.20	.22	864	338.6	226.1	39.7	863
39505.50	1.95		1.9	-14.22	-14.24	854	338.5	226.2	39.3	853
06.00	1.92		1.9	.22	.24	853	338.4	226.6	37.3	853
06.50	1.81		1.8	.24	.26	842	338.2	227.0	35.2	842
07.00	1.68		1.7	.27	.28	831	338.1	227.3	33.1	830
07.50	1.61		1.6	.29	.31	819	338.0	227.5	31.0	818
08.00	1.57		1.6	.29	.31	819	338.0	227.7	28.7	818
08.50	1.54		1.5	.31	.33	808	338.1	227.9	26.5	806
09.00	1.54		1.5	.31	.33	808	338.2	228.1	24.2	806
09.50	1.62		1.6	.29	.31	821	338.4	228.2	22.0	818
10.00	1.76		1.8	.24	.26	844	338.6	228.3	19.7	841
10.50	1.86		1.9	.22	.23	856	338.9	228.5	17.4	852
11.00	1.97		2.0	.20	.21	868	339.3	228.6	15.1	863
11.50	1.93		1.9	.22	.23	860	339.7	228.8	12.9	853

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39512.00	1.88		1.9	-14.22	-14.22	861	340.2	229.0	10.6	853
13.00	1.91		1.9	.23	.21	866	341.3	229.6	6.2	855
14.00	1.88		1.9	.23	.21	870	342.5	230.4	2.0	857
15.00	1.87		1.9	.23	.20	875	343.7	231.5	-1.9	858
16.00	1.94		1.9	.23	.19	880	345.0	233.0	-5.5	860
17.00	1.99		2.0	.22	.16	895	346.1	234.9	-8.7	872
18.00	2.07		2.1	.20	.13	910	347.1	237.3	-11.4	883
19.00	2.19		2.2	.18	.11	923	347.9	240.0	-13.4	894
20.00	2.23		2.2	.18	.11	924	348.3	243.0	-14.9	894
21.00	2.34		2.3	.17	.09	934	348.5	246.2	-15.6	903
22.00	2.42		2.4	.15	.08	943	348.3	249.4	-15.5	912
23.00	2.43		2.4	.15	.08	940	347.8	252.5	-14.8	910
39524.00	2.50		2.5	-14.13	-14.07	945	346.9	255.3	-13.4	917
24.50	2.61		2.6	.12	.06	952	346.3	256.5	-12.5	924
25.00	2.59		2.6	.12	.06	950	345.8	257.7	-11.4	923
25.50	2.62		2.6	.12	.07	947	345.1	258.8	-10.2	921
26.00	2.86		2.9	.07	.03	970	344.5	259.7	-8.9	945
26.50	2.95		2.9	.07	.04	967	343.8	260.6	-7.4	944
27.00	3.04		3.0	.06	.03	972	343.1	261.3	-5.9	950
27.50	2.90		2.9	.07	.05	961	342.4	262.0	-4.3	941
28.00	2.77		2.8	.08	.06	950	341.7	262.6	-2.5	931
28.50	3.68		3.7	-13.97	-13.96	1018	341.0	263.1	-0.8	999
29.00	5.76		5.8	.80	.79	1158	340.3	263.5	1.1	1138
29.50	3.81		3.8	.95	.96	1022	339.7	263.9	3.0	1005
30.00	3.03		3.0	-14.05	-14.05	956	339.1	264.2	4.9	941
30.50	2.77		2.8	.07	.09	936	338.6	264.4	6.8	923
31.00	2.62		2.6	.10	.12	917	338.1	264.7	8.8	905
31.50	2.59		2.6	.10	.12	915	337.7	264.8	10.8	904
32.00	2.69		2.7	.09	.11	922	337.3	265.0	12.9	911
32.50	2.82		2.8	.07	.10	929	337.0	265.2	14.9	919
33.00	2.95		3.0	.04	.07	945	336.8	265.4	16.9	934
33.50	2.71		2.7	.08	.12	919	336.6	265.6	18.9	909
34.00	2.67		2.7	.09	.12	918	336.5	265.8	20.9	908
34.50	2.65		2.7	.09	.12	918	336.4	266.0	22.8	908
35.00	2.71		2.7	.09	.12	917	336.5	266.3	24.8	908
35.50	2.68		2.7	.09	.12	917	336.5	266.6	26.6	907
36.00	2.64		2.6	.10	.13	909	336.6	267.0	28.5	899
36.50	2.71		2.7	.09	.12	917	336.8	267.5	30.3	907
37.00	2.82		2.8	.08	.10	926	337.0	268.0	32.0	915
37.50	4.48		4.5	-13.89	-13.92	1052	337.2	268.6	33.6	1039
38.00	3.60		3.6	.98	-14.00	990	337.4	269.3	35.1	977
38.50	2.62		2.6	-14.11	.13	911	337.7	270.1	36.6	898
39.00	2.70		2.7	.10	.12	919	338.0	271.0	37.9	905
39.50	2.56		2.6	.11	.13	912	338.2	272.0	39.1	896
40.00	2.49		2.5	.13	.14	903	338.5	273.1	40.2	887
40.50	2.39		2.4	.15	.16	895	338.7	274.3	41.2	877
41.00	2.34		2.3	.17	.18	886	338.9	275.6	42.0	867
41.50	2.32		2.3	.17	.18	886	339.1	277.0	42.6	865
42.00	2.54		2.5	.13	.14	904	339.2	278.5	43.1	881
42.50	2.65		2.7	.10	.11	922	339.3	280.0	43.4	896
39550.50	3.88		3.9	-13.95	-13.96	1018	338.6	299.7	26.2	952
51.00	4.44		4.4	.90	.91	1053	338.3	300.2	24.1	983
51.50	4.62		4.6	.88	.90	1066	338.0	300.7	22.0	994
52.00	5.00		5.0	.85	.87	1092	337.8	301.0	19.7	1017
52.50	5.35		5.3	.82	.84	1112	337.5	301.4	17.5	1034
53.00	5.08		5.1	.84	.86	1099	337.5	301.7	15.2	1021
53.50	5.06		5.1	.84	.86	1099	337.4	301.9	12.9	1020

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39554.00	4.98		5.0	-13.84	-13.86	1093	337.5	302.1	10.5	1013
54.50	4.98		5.0	.84	.86	1094	337.6	302.3	8.1	1013
55.00	4.94		4.9	.85	.87	1089	337.7	302.5	5.7	1008
55.50	4.77		4.8	.86	.88	1084	338.0	302.7	3.4	1002
56.00	4.87		4.9	.85	.87	1092	338.3	302.9	1.0	1009
56.50	5.16		5.2	.83	.84	1114	338.7	303.2	-1.4	1028
57.00	5.13		5.1	.84	.84	1110	339.2	303.5	-3.7	1024
57.50	5.28		5.3	.82	.83	1126	339.7	303.8	-6.0	1037
58.00	5.01		5.0	.85	.85	1109	340.2	304.1	-8.3	1021
58.50	4.76		4.8	.86	.86	1099	340.8	304.6	-10.5	1010
59.00	4.42		4.4	.90	.89	1074	341.4	305.1	-12.7	985
59.50	4.24		4.2	.92	.90	1062	342.1	305.6	-14.8	973
60.00	4.14		4.1	.93	.91	1058	342.7	306.3	-16.8	968
60.50	3.90		3.9	.95	.92	1046	343.4	307.1	-18.7	955
61.00	3.86		3.9	.95	.92	1049	344.0	307.9	-20.6	956
61.50	3.84		3.8	.97	.93	1045	344.7	308.9	-22.3	950
62.00	3.80		3.8	.97	.92	1048	345.3	309.9	-23.9	950
62.50	3.73		3.7	.98	.93	1043	345.8	311.1	-25.4	942
63.00	3.72		3.7	.98	.92	1045	346.4	312.4	-26.8	942
63.50	3.76		3.8	.97	.91	1055	346.8	313.8	-28.0	948
64.00	3.74		3.7	.98	.92	1050	347.2	315.2	-29.0	940
64.50	3.78		3.8	.97	.91	1059	347.5	316.8	-29.9	945
65.00	3.84		3.8	.97	.90	1061	347.8	318.4	-30.6	943
65.50	3.89		3.9	.96	.89	1069	347.9	320.0	-31.2	947
66.00	3.91		3.9	.96	.89	1070	348.0	321.7	-31.5	945
66.50	4.03		4.0	.95	.88	1079	348.0	323.4	-31.6	948
67.00	4.18		4.2	.93	.86	1094	348.0	325.1	-31.6	958
67.50	4.57		4.6	.89	.83	1123	347.8	326.7	-31.4	980
68.00	4.81		4.8	.87	.81	1138	347.5	328.3	-31.0	989
68.50	5.22		5.2	.84	.79	1165	347.2	329.8	-30.4	1009
69.00	5.43		5.4	.83	.77	1178	346.8	331.2	-29.7	1017
69.50	5.35		5.3	.83	.78	1170	346.4	332.5	-28.8	1006
70.00	5.36		5.4	.82	.78	1174	345.9	333.8	-27.8	1006
70.50	5.34		5.3	.83	.79	1165	345.3	334.9	-26.6	995
71.00	5.42		5.4	.82	.78	1169	344.7	335.9	-25.3	995
71.50	5.50		5.5	.81	.78	1173	344.1	336.9	-23.9	996
72.00	5.53		5.5	.81	.78	1170	343.5	337.7	-22.4	991
72.50	5.61		5.6	.80	.78	1174	342.8	338.4	-20.8	991
73.00	5.66		5.7	.79	.77	1178	342.1	339.0	-19.2	992
73.50	5.76		5.8	.78	.77	1181	341.5	339.6	-17.4	993
74.00	5.78		5.8	.78	.77	1178	340.9	340.1	-15.6	989
74.50	5.88		5.9	.77	.77	1182	340.3	340.5	-13.7	990
75.00	5.92		5.9	.77	.77	1179	339.7	340.8	-11.8	986
75.50	6.10		6.1	.76	.76	1189	339.2	341.1	-9.9	993
76.00	6.25		6.3	.74	.75	1200	338.7	341.4	-7.9	1001
76.50	6.44		6.4	.73	.75	1204	338.3	341.6	-5.9	1004
77.00	6.71		6.7	.72	.73	1221	337.9	341.9	-3.9	1017
77.50	6.97		7.0	.70	.72	1239	337.6	342.1	-1.9	1031
78.00	7.11		7.1	.69	.71	1244	337.4	342.3	0.1	1034
78.50	7.48		7.5	.67	.69	1267	337.2	342.5	2.1	1053
79.00	7.48		7.5	.67	.69	1267	337.1	342.8	4.0	1053
79.50	7.52		7.5	.67	.69	1266	337.1	343.1	6.0	1052
80.00	7.42		7.4	.68	.70	1260	337.1	343.4	7.9	1046
80.50	7.46		7.5	.67	.69	1266	337.1	343.8	9.7	1050
81.00	7.49		7.5	.67	.69	1266	337.3	344.2	11.6	1050
81.50	7.41		7.4	.68	.70	1261	337.4	344.8	13.3	1045
82.00	7.36		7.4	.68	.70	1262	337.6	345.3	15.0	1045
82.50	7.37		7.4	.68	.70	1263	337.8	346.0	16.6	1045
83.00	7.32		7.3	.69	.70	1258	338.0	346.8	18.1	1040
83.50	7.26		7.3	.69	.70	1259	338.3	347.6	19.5	1039

Table 3 (Cont.)

1958 Alpha (Explorer 1)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39584.00	7.23		7.2	-13.69	-13.70	1254	338.5	348.6	20.9	1034
84.50	7.18		7.2	.69	.70	1256	338.7	349.7	22.0	1034
85.00	7.11		7.1	.70	.71	1251	339.0	350.8	23.1	1028
85.50	7.04		7.0	.70	.71	1246	339.2	352.1	24.0	1022
86.00	6.98		7.0	.71	.71	1247	339.4	353.4	24.8	1021
86.50	6.92		6.9	.71	.71	1242	339.5	354.9	25.4	1015
87.00	6.87		6.9	.71	.71	1242	339.7	356.4	25.9	1013
87.50	6.80		6.8	.72	.72	1237	339.8	357.9	26.1	1006
88.00	6.70		6.7	.72	.72	1231	339.8	359.5	26.2	999
88.50	6.58		6.6	.73	.73	1224	339.8	1.2	26.1	992
89.00	6.48		6.5	.73	.74	1218	339.8	2.8	25.9	984
89.50	6.33		6.3	.75	.75	1206	339.9	4.4	25.4	972
90.00	6.30		6.3	.74	.75	1206	339.8	6.0	24.8	969
90.50	6.18		6.2	.75	.75	1199	339.7	7.5	24.0	961
91.00	6.13		6.1	.76	.76	1191	339.5	8.9	23.0	953
91.50	6.12		6.1	.76	.76	1190	339.3	10.3	21.9	950
92.00	6.11		6.1	.75	.76	1189	339.0	11.5	20.6	947
92.50	6.12		6.1	.75	.76	1188	338.7	12.7	19.2	944
93.00	6.11		6.1	.75	.76	1186	338.5	13.8	17.6	941
93.50	6.06		6.1	.75	.77	1185	338.2	14.8	16.0	938
94.00	5.97		6.0	.76	.77	1178	337.9	15.6	14.2	930
94.50	5.97		6.0	.76	.77	1176	337.7	16.4	12.3	928
95.00	5.94		5.9	.76	.78	1169	337.4	17.1	10.3	921
95.50	5.87		5.9	.76	.78	1168	337.2	17.7	8.3	919
96.00	6.04		6.0	.75	.78	1174	337.0	18.2	6.2	922
96.50	6.10		6.1	.75	.77	1180	336.9	18.6	4.0	927
97.00	6.29		6.3	.73	.76	1192	336.8	19.6	1.7	936
97.50	6.36		6.4	.73	.75	1199	336.7	19.3	-0.6	941
98.00	6.48		6.5	.72	.75	1206	336.7	19.6	-2.9	946
98.50	6.49		6.5	.72	.75	1207	336.8	19.9	-5.2	947
99.00	6.45		6.5	.72	.74	1208	336.9	20.1	-7.6	948
99.50	6.43		6.4	.73	.75	1203	337.1	20.3	-10.0	945
39600.00	6.40		6.4	.73	.75	1204	337.4	20.5	-12.3	947

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38300.00	0.05	0.17	0.22	-16.34	-16.38	778	556.9	228.4	17.9	776
05.00	-0.07	0.19	0.12	.63	.67	706	558.4	232.3	30.8	702
10.00	-0.03	0.21	0.18	.44	.47	756	559.5	240.0	38.2	750
15.00	0.02	0.21	0.23	.33	.36	785	559.0	248.8	38.0	780
20.00	0.09	0.22	0.31	.19	.23	820	557.3	254.5	31.2	816
25.00	0.08	0.22	0.30	.20	.25	815	556.4	256.2	20.2	812
30.00	0.04	0.24	0.28	.23	.27	808	557.8	256.2	7.6	803
35.00	-0.06	0.25	0.19	.42	.43	766	561.5	257.1	-4.2	754
40.00	-0.09	0.25	0.16	.51	.49	750	565.5	261.4	-12.8	727
45.00	-0.03	0.24	0.21	.38	.35	786	567.3	269.4	-15.4	752
50.00	0.06	0.22	0.28	.25	.23	820	565.8	277.5	-10.6	780
55.00	0.09	0.16	0.25	.29	.30	800	562.0	281.9	0.5	763
60.00	0.17	0.00	0.17	.47	.50	747	558.3	282.5	14.8	718
65.00	0.17	0.00	0.17	.47	.51	744	556.7	281.9	29.9	722
70.00	0.09	0.06	0.15	.53	.57	729	557.5	282.8	43.6	709
75.00	0.02	0.18	0.20	.41	.43	765	559.2	287.3	53.2	741
80.00	-0.03	0.22	0.19	.43	.46	760	559.9	295.0	56.1	727
85.00	-0.09	0.24	0.15	.54	.57	730	558.9	302.0	51.3	687
90.00	-0.08	0.23	0.15	.54	.58	728	557.6	305.1	40.5	678
95.00	-0.09	0.22	0.13	.61	.64	712	557.8	305.1	26.6	657
38400.00	-0.02	0.20	0.18	.45	.47	756	560.5	304.4	11.9	692
05.00	0.00	0.19	0.19	.43	.41	770	564.8	305.8	-1.2	695
10.00	-0.01	0.18	0.17	.48	.44	762	568.3	311.3	-10.1	676
15.00	0.00	0.16	0.16	.51	.46	757	568.9	319.7	-12.2	658
20.00	0.02	0.13	0.15	.53	.51	747	566.2	326.5	-7.0	641
25.00	0.09	0.10	0.19	.41	.41	771	562.2	329.2	3.2	660
30.00	0.14	0.06	0.20	.38	.40	773	559.2	329.3	15.8	666
35.00	0.22	0.03	0.25	.27	.30	800	558.7	329.3	28.2	695
40.00	0.17	0.00	0.17	.46	.48	754	560.2	331.9	38.4	656
45.00	0.24	0.00	0.24	.30	.31	798	561.7	338.7	43.4	688
50.00	0.34	0.06	0.40	.06	.07	864	561.7	347.5	41.2	729
55.00	0.33	0.08	0.41	.05	.07	866	560.2	353.9	31.8	715
60.00	0.39	0.06	0.45	.00	.03	878	559.0	356.4	17.7	713
65.00	0.34	0.02	0.36	.09	.12	852	559.8	356.7	1.6	687
70.00	0.38	-0.02	0.36	.10	.09	858	563.1	357.4	-14.2	694
75.00	0.33	-0.04	0.29	.20	.17	837	567.1	1.3	-27.3	679
80.00	0.43	-0.05	0.38	.08	.03	877	569.4	9.2	-34.8	711
85.00	0.53	-0.04	0.49	-15.96	-15.92	910	568.5	18.2	-34.7	732
90.00	0.55	-0.04	0.51	.94	.93	909	564.9	24.1	-27.9	723
95.00	0.53	-0.06	0.47	.97	.99	891	560.9	26.0	-17.0	701
38500.00	0.55	-0.08	0.47	.97	-16.00	887	558.8	26.2	-4.5	694
05.00	0.44	-0.11	0.33	-16.13	.15	841	559.2	27.3	7.2	658
10.00	0.48	-0.14	0.34	.12	.13	847	560.8	31.7	15.6	665
15.00	0.55	-0.16	0.39	.06	.07	866	561.6	39.9	18.1	682
20.00	0.54	-0.17	0.37	.08	.10	857	560.7	48.2	13.2	675
25.00	0.54	-0.18	0.36	.09	.12	850	558.9	52.8	2.1	669
30.00	0.54	-0.20	0.34	.12	.15	841	558.1	53.8	-12.4	665
35.00	0.52	-0.22	0.30	.18	.20	827	559.7	53.6	-27.8	662
40.00	0.38	-0.23	0.15	.51	.51	746	563.4	54.9	-41.8	608
45.00	0.38	-0.23	0.15	.52	.49	750	566.9	59.8	-51.9	624
50.00	0.36	-0.21	0.15	.52	.49	751	567.9	68.2	-55.2	634
55.00	0.43	-0.16	0.27	.24	.22	822	565.7	75.7	-50.8	694
60.00	0.23	-0.01	0.22	.33	.34	791	561.9	79.3	-40.4	661
65.00	0.22	0.01	0.23	.30	.33	791	558.5	79.6	-26.9	651
70.00	0.22	-0.05	0.17	.44	.48	752	557.4	79.2	-12.7	612
75.00	0.27	-0.15	0.12	.62	.65	710	558.5	80.9	0.0	576
80.00	0.36	-0.21	0.15	.52	.54	738	559.9	86.5	8.4	602
85.00	0.43	-0.24	0.19	.41	.43	767	560.1	94.9	10.0	633
90.00	0.41	-0.24	0.17	.46	.49	751	558.6	101.7	4.4	628
95.00	0.41	-0.24	0.17	.46	.50	749	557.0	104.5	-6.2	631

Table 3 (Cont.)

1959 a 1 (Vanguard 2)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log p_\pi$	$\log p_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38600.00	0.36	-0.23	0.13	-16.59	-16.63	716	557.3	104.7	-19.1	609
05.00	0.29	-0.22	0.07	.90	.92	640	560.1	104.8	-32.1	550
10.00	0.30	-0.21	0.09	.79	.78	676	564.2	107.5	-42.7	589
15.00	0.30	-0.20	0.10	.74	.71	694	567.2	114.4	-48.3	615
20.00	0.28	-0.19	0.09	.79	.76	681	567.1	123.4	-46.4	611
25.00	0.25	-0.16	0.09	.78	.78	678	564.0	130.0	-37.3	609
30.00	0.26	-0.13	0.13	.59	.61	719	560.0	132.6	-23.4	644
35.00	0.26	-0.12	0.14	.55	.57	726	557.3	132.9	-7.5	647
40.00	0.22	-0.11	0.11	.67	.69	695	557.3	133.7	8.0	619
45.00	0.26	-0.12	0.14	.56	.57	726	558.9	137.5	20.9	651
50.00	0.22	-0.13	0.09	.78	.78	672	560.1	145.2	28.4	611
55.00	0.18	-0.12	0.06	.98	.99	617	559.7	154.2	28.4	569
60.00	0.20	-0.10	0.10	.72	.74	683	558.2	160.1	21.7	638
65.00	0.20	-0.07	0.13	.59	.61	715	557.2	162.1	10.9	671
70.00	0.17	-0.04	0.13	.59	.60	717	558.6	162.3	-1.4	673
75.00	0.28	-0.01	0.27	.25	.23	813	562.3	163.5	-13.0	762
80.00	0.09	0.00	0.09	.78	.74	682	566.3	168.1	-21.4	640
85.00	0.09	-0.01	0.08	.84	.79	669	568.1	176.5	-23.7	631
90.00	0.13	-0.02	0.11	.69	.64	707	566.6	185.0	-18.4	675
95.00	0.07	-0.03	0.04	-17.19	-17.18	560	562.7	189.9	-6.9	541
38700.00	0.17	-0.01	0.16	-16.50	-16.51	741	558.9	191.0	8.0	722
05.00	0.12	0.02	0.14	.56	.58	722	557.2	190.8	23.9	706
10.00	0.15	0.04	0.19	.42	.43	760	557.9	192.0	38.3	745
15.00	0.05	0.07	0.12	.64	.65	706	559.5	196.9	48.8	695
20.00	0.09	0.08	0.17	.47	.47	749	560.1	204.9	52.7	742
25.00	0.03	0.10	0.13	.60	.61	715	558.9	212.2	48.8	711
30.00	-0.04	0.12	0.08	.84	.86	652	557.1	215.6	39.1	650
35.00	0.05	0.13	0.18	.44	.46	753	556.8	215.6	26.2	748
40.00	-0.11	0.16	0.05	-17.08	-17.08	590	559.1	215.0	12.5	580
45.00	-0.12	0.18	0.06	-16.98	-16.97	622	563.1	216.3	0.3	604
50.00	-0.05	0.19	0.14	.56	.52	738	566.5	221.6	-7.8	709
55.00	-0.03	0.16	0.13	.60	.55	730	567.1	229.8	-9.0	700
60.00	-0.06	0.11	0.05	-17.08	-17.05	598	564.5	236.3	-3.0	580
65.00	-0.09	0.11	0.00				560.4	238.8	8.0	
70.00	-0.08	0.12	0.04	.19	.20	553	557.4	238.5	21.4	550
75.00	-0.09	0.14	0.05	.08	.09	586	556.9	238.1	34.6	586
80.00	-0.05	0.17	0.12	-16.64	-16.65	704	558.2	240.3	45.4	704
85.00	-0.07	0.20	0.13	.61	.61	715	559.6	246.5	51.1	714
90.00	-0.10	0.22	0.12	.65	.65	704	559.4	254.9	49.5	701
95.00	-0.09	0.23	0.14	.57	.59	721	557.8	261.0	40.6	716
38800.00	-0.17	0.23	0.06	.99	-17.01	610	556.4	263.2	26.9	605
05.00	-0.19	0.23	0.04	-17.20	.21	550	557.2	263.2	11.1	545
10.00	-0.21	0.24	0.03	.35	.35	508	560.4	263.6	-4.4	500
15.00	-0.27	0.24	0.00				564.5	267.2	-17.4	
20.00	-0.08	0.25	0.17	.50	.47	757	567.2	274.8	-24.9	728
25.00	-0.05	0.24	0.19	.44	.42	770	566.5	283.8	-24.9	735
30.00	-0.03	0.23	0.20	.41	.41	772	563.2	289.6	-18.2	733
35.00	-0.05	0.21	0.16	.51	.54	738	559.4	291.6	-7.3	701
40.00	-0.05	0.20	0.15	.54	.58	727	557.5	291.8	4.9	690
45.00	-0.06	0.20	0.14	.58	.62	717	558.1	293.0	16.4	678
50.00	-0.05	0.21	0.16	.52	.54	737	559.9	297.5	24.7	687
55.00	-0.04	0.21	0.17	.49	.51	746	561.0	305.8	26.9	681
60.00	-0.03	0.19	0.16	.52	.53	739	560.3	314.3	21.7	660
65.00	0.11	0.16	0.27	.25	.29	805	558.8	319.2	10.2	710
70.00	0.22	0.12	0.34	.14	.17	836	558.3	320.6	-4.8	736
75.00	0.14	0.06	0.20	.39	.41	772	560.2	320.7	-20.7	683
38877.50	0.15	0.05	0.18	-16.44	-16.45	762	562.3	321.1	-28.4	677
80.00	0.14	0.01	0.15	.53	.52	742	564.4	322.2	-35.4	660
82.50	0.18	0.00	0.18	.45	.42	768	566.4	324.2	-41.5	683

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38885.00	0.18	0.00	0.18	-16.45	-16.41	771	568.0	327.4	-46.2	683
87.50	0.16	0.00	0.16	.51	.47	757	569.0	331.5	-49.2	667
90.00	0.21	0.00	0.21	.38	.33	793	569.2	336.0	-50.3	693
92.50	0.27	0.07	0.34	.15	.11	855	568.5	340.3	-49.4	740
95.00	0.12	0.10	0.22	.35	.32	796	567.1	343.8	-46.7	682
97.50	0.07	0.12	0.19	.42	.40	774	565.2	346.3	-42.5	657
38900.00	0.11	0.12	0.23	.32	.32	796	563.1	347.6	-37.2	669
02.50	0.14	0.11	0.25	.28	.29	804	561.2	348.2	-31.1	670
05.00	0.23	0.10	0.33	.15	.17	838	559.7	348.1	-24.5	694
07.50	0.13	0.09	0.22	.33	.36	785	558.9	347.9	-17.8	647
10.00	0.11	0.08	0.19	.40	.43	766	558.7	347.9	-11.1	629
12.50	0.11	0.06	0.17	.45	.47	753	559.1	348.3	-4.9	616
15.00	0.15	0.04	0.19	.40	.42	769	559.9	349.6	0.7	626
17.50	0.23	0.02	0.25	.27	.28	806	560.8	351.9	5.2	653
20.00	0.28	0.02	0.30	.18	.19	831	561.6	355.2	8.3	670
22.50	0.34	0.01	0.35	.11	.12	852	562.0	359.3	9.7	683
25.00	0.41	0.01	0.42	.03	.04	877	561.9	3.6	9.2	699
27.50	0.59	-0.01	0.58	-15.88	-15.90	921	561.4	7.4	6.8	730
30.00	0.39	-0.04	0.35	-16.11	-16.12	851	560.6	10.3	2.8	672
32.50	0.34	-0.05	0.29	.19	.21	825	559.8	12.2	-2.4	651
35.00	0.27	-0.07	0.20	.36	.39	777	559.1	13.1	-8.6	613
37.50	0.35	-0.08	0.27	.22	.25	815	558.9	13.2	-15.4	646
40.00	0.62	-0.10	0.52	-15.93	-15.95	903	559.3	13.0	-22.4	719
42.50	0.50	-0.11	0.39	-16.06	-16.07	865	560.3	12.8	-29.4	695
45.00	0.29	-0.12	0.17	.44	.45	760	561.9	12.9	-36.1	615
47.50	0.28	-0.12	0.16	.48	.47	756	563.8	13.6	-42.3	617
50.00	0.36	-0.11	0.25	.27	.25	816	565.8	15.3	-47.5	671
38955.00	0.40	-0.02	0.38	-16.08	-16.04	876	568.6	21.8	-53.8	725
60.00	0.42	0.00	0.42	.04	.00	889	568.6	30.6	-52.7	733
65.00	0.32	0.00	0.32	.15	.14	847	565.7	36.9	-44.2	688
70.00	0.26	-0.01	0.25	.26	.27	809	561.7	39.2	-30.9	645
75.00	0.32	-0.07	0.25	.26	.29	805	559.1	39.3	-15.5	633
80.00	0.38	-0.12	0.26	.24	.27	810	558.9	39.8	-0.3	633
85.00	0.44	-0.17	0.27	.23	.25	816	560.2	43.3	12.2	641
90.00	0.45	-0.20	0.25	.27	.28	807	561.2	50.9	19.4	639
38995.00	0.48	-0.21	0.27	-16.23	-16.25	815	560.7	59.7	19.2	650
97.50	0.50	-0.21	0.29	.20	.22	823	559.9	63.1	16.4	657
39000.00	0.51	-0.21	0.30	.18	.21	826	559.0	65.5	12.3	660
02.50	0.54	-0.21	0.33	.14	.17	837	558.2	66.8	7.1	669
05.00	0.50	-0.21	0.29	.20	.23	820	557.8	67.5	1.3	655
07.50	0.45	-0.21	0.24	.28	.32	796	558.1	67.6	-4.8	636
10.00	0.47	-0.22	0.25	.27	.30	802	558.9	67.7	-11.1	643
12.50	0.50	-0.22	0.28	.22	.24	819	560.4	68.0	-17.1	658
15.00	0.51	-0.23	0.28	.22	.23	821	562.3	68.9	-22.7	664
17.50	0.51	-0.24	0.27	.24	.23	820	564.3	70.7	-27.5	667
20.00	0.62	-0.24	0.38	.09	.07	857	566.0	73.6	-31.1	710
22.50	0.54	-0.25	0.29	.21	.18	833	567.2	77.5	-33.1	687
25.00	0.39	-0.25	0.14	.57	.53	739	567.7	82.1	-33.4	613
27.50	0.45	-0.25	0.20	.39	.36	784	567.3	86.8	-31.6	653
30.00	0.68	-0.25	0.43	.04	.01	884	566.1	90.9	-28.0	739
32.50	0.76	-0.24	0.52	-15.95	-15.94	907	564.3	94.0	-22.8	759
35.00	0.64	-0.23	0.41	-16.05	-16.06	871	562.2	96.0	-16.3	728
37.50	0.63	-0.22	0.41	.05	.07	867	560.1	97.1	-9.0	725
40.00	0.55	-0.22	0.33	.14	.18	835	558.4	97.5	-1.1	698
42.50	0.58	-0.22	0.36	.11	.15	844	557.3	97.5	7.0	707
45.00	0.62	-0.22	0.40	.06	.10	857	556.8	97.6	15.0	719
47.50	0.61	-0.23	0.38	.09	.13	849	557.0	98.0	22.8	717
50.00	0.58	-0.23	0.35	.13	.17	839	557.6	99.2	29.9	713

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39052.50	0.48	-0.23	0.25	-16.29	-16.32	796	558.5	101.2	36.1	683
55.00	0.41	-0.22	0.19	.42	.45	762	559.3	104.4	41.0	660
57.50	0.50	-0.22	0.28	.24	.26	812	559.8	108.4	44.1	709
60.00	0.46	-0.21	0.25	.29	.31	798	559.9	112.9	45.4	703
62.50	0.43	-0.20	0.23	.33	.35	788	559.7	117.1	44.8	698
65.00	0.45	-0.20	0.25	.28	.31	798	559.1	120.6	42.3	709
67.50	0.44	-0.17	0.27	.25	.28	807	558.2	123.0	38.3	718
70.00	0.43	-0.16	0.27	.24	.28	807	557.5	124.4	33.3	717
72.50	0.41	-0.14	0.27	.24	.28	806	557.2	124.9	27.4	714
75.00	0.41	-0.13	0.28	.22	.26	812	557.4	124.9	21.1	716
77.50	0.36	-0.12	0.24	.29	.33	794	558.3	124.7	14.6	697
80.00	0.33	-0.11	0.22	.34	.36	785	559.8	124.6	8.2	687
82.50	0.26	-0.11	0.15	.53	.54	739	561.8	125.1	2.2	645
85.00	0.25	-0.11	0.14	.57	.56	731	563.9	126.3	-3.2	638
87.50	0.31	-0.12	0.19	.42	.40	774	565.8	128.5	-7.5	675
90.00	0.27	-0.14	0.13	.61	.58	727	567.2	131.9	-10.3	636
92.50	0.24	-0.15	0.09	.81	.78	672	567.9	135.9	-11.5	591
95.00	0.26	-0.16	0.10	.77	.74	683	567.6	140.2	-10.7	605
97.50	0.23	-0.17	0.06	-17.10	-17.09	549	566.6	144.0	-8.0	489
39100.00	0.22	-0.18	0.04				564.9	146.9	-3.7	
02.50	0.21	-0.17	0.04				562.8	148.6	1.8	
05.00	0.27	-0.16	0.11	-16.69	-16.71	692	560.6	149.4	8.3	629
07.50	0.38	-0.15	0.23	.33	.36	785	558.8	149.4	15.3	717
10.00	0.39	-0.14	0.25	.28	.32	795	557.5	149.0	22.6	729
12.50	0.26	-0.13	0.13	.60	.65	710	556.9	148.6	29.8	654
15.00	0.13	-0.12	0.01				556.9	148.5	36.8	
17.50	0.23	-0.11	0.12	.66	.69	697	557.5	149.0	43.1	648
20.00	0.25	-0.10	0.15	.55	.58	728	558.5	150.4	48.5	681
22.50	0.22	-0.09	0.13	.62	.64	711	559.4	152.9	52.7	669
25.00	0.20	-0.08	0.12	.66	.68	700	560.0	156.4	55.2	663
27.50	0.20	-0.07	0.13	.62	.64	712	560.3	160.5	55.8	677
30.00	0.18	-0.06	0.12	.66	.68	701	560.0	164.5	54.4	670
32.50	0.19	-0.04	0.15	.54	.57	730	559.4	167.9	51.2	700
35.00	0.18	-0.03	0.15	.54	.57	730	558.5	170.2	46.3	701
37.50	0.16	-0.02	0.14	.57	.60	721	557.7	171.6	40.3	691
40.00	0.16	0.00	0.16	.50	.54	738	557.2	172.0	33.4	706
42.50	0.17	0.01	0.18	.44	.48	753	557.2	171.9	26.0	718
45.00	0.19	0.02	0.21	.36	.40	774	557.9	171.6	18.3	735
47.50	0.26	0.03	0.29	.21	.24	818	559.3	171.4	10.6	773
50.00	0.13	0.04	0.17	.47	.48	753	561.2	171.6	3.3	709
52.50	0.10	0.04	0.14	.57	.57	730	563.3	172.7	-3.4	686
55.00	0.13	0.04	0.17	.48	.48	758	565.3	174.8	-9.1	711
57.50	0.10	0.03	0.13	.61	.58	726	566.9	178.0	-13.5	681
60.00	0.11	0.02	0.13	.62	.58	726	567.8	182.1	-16.2	684
62.50	0.10	0.02	0.12	.66	.53	715	567.8	186.5	-17.0	677
65.00	0.07	0.01	0.08	.88	.85	651	567.0	190.7	-15.9	621
67.50	0.06	0.00	0.06	-17.10	-17.09	548	565.5	194.0	-13.0	527
70.00	0.05	0.00	0.05				563.6	196.2	-8.8	
72.50	0.06	0.00	0.06				561.5	197.4	-3.6	
75.00	0.10	0.02	0.12	-16.72	-16.73	686	559.6	197.9	2.3	672
77.50	0.14	0.03	0.17	.48	.51	745	558.3	198.0	8.5	732
80.00	0.07	0.04	0.11	.69	.73	687	557.5	197.9	14.7	676
82.50	0.11	0.06	0.17	.48	.52	744	557.4	198.1	20.8	732
85.00	0.13	0.01	0.14	.57	.61	720	557.8	198.9	26.3	709
87.50	0.02	0.09	0.11	.70	.73	687	558.5	200.6	31.0	677
90.00	0.01	0.11	0.12	.66	.68	701	559.6	203.3	34.6	691
92.50	0.02	0.12	0.14	.58	.60	722	560.2	207.1	36.6	712
95.00	0.07	0.12	0.19	.43	.44	763	560.3	211.6	36.8	752
97.50	0.11	0.13	0.24	.31	.33	793	560.1	216.1	35.1	783
39200.00	0.10	0.13	0.23	.33	.35	787	559.4	220.1	31.5	779

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39202.50	0.12	0.13	0.25	-16.29	-16.32	796	558.4	223.1	26.3	790
05.00	0.14	0.13	0.27	.25	.29	804	557.5	225.0	19.8	801
07.50	0.08	0.13	0.21	.37	.41	772	556.8	226.1	12.5	770
10.00	0.07	0.13	0.20	.39	.43	765	556.7	226.5	4.6	765
12.50	0.00	0.14	0.14	.56	.60	721	557.2	226.5	-3.5	720
15.00	-0.01	0.14	0.13	.61	.64	712	558.5	226.6	-11.6	712
17.50	-0.01	0.15	0.14	.57	.59	724	560.2	227.1	-19.4	723
20.00	0.06	0.16	0.22	.35	.36	786	562.3	228.3	-26.6	784
22.50	0.07	0.18	0.25	.29	.28	807	564.4	230.5	-32.8	804
25.00	0.04	0.19	0.23	.33	.31	799	566.1	233.8	-37.8	795
27.50	0.04	0.20	0.24	.31	.28	806	567.2	238.0	-41.0	802
30.00	0.08	0.20	0.28	.24	.21	826	567.4	242.6	-42.3	822
32.50	0.02	0.21	0.23	.33	.31	799	566.8	247.1	-41.7	796
35.00	0.00	0.21	0.21	.38	.36	785	565.5	250.7	-39.2	782
37.50	-0.02	0.22	0.20	.40	.40	776	563.7	253.3	-35.3	773
40.00	-0.02	0.22	0.20	.40	.41	772	561.6	254.8	-30.2	770
42.50	0.00	0.22	0.22	.35	.37	781	559.8	255.5	-24.4	779
45.00	-0.03	0.22	0.19	.42	.45	760	558.3	255.6	-18.1	757
47.50	0.00	0.22	0.22	.35	.39	777	557.5	255.6	-11.7	772
50.00	0.00	0.22	0.22	.35	.39	777	557.3	255.7	-5.4	768
52.50	0.08	0.23	0.31	.19	.23	820	557.6	256.3	0.5	807
55.00	-0.06	0.24	0.18	.45	.48	753	558.3	257.7	5.7	735
57.50	0.00	0.24	0.24	.32	.34	790	559.1	260.1	9.8	765
60.00	-0.01	0.24	0.23	.34	.36	785	559.7	263.5	12.5	755
39265.00	0.09	0.22	0.31	-16.20	-16.22	823	560.0	272.0	12.6	783
70.00	0.21	0.18	0.39	.09	.12	851	558.5	278.9	5.4	808
75.00	0.32	0.09	0.41	.06	.11	856	557.0	281.8	-6.9	818
80.00	0.25	-0.01	0.24	.31	.35	788	557.4	281.8	-21.5	761
85.00	0.15	0.01	0.16	.51	.53	741	560.4	281.7	-36.1	720
90.00	0.10	0.12	0.22	.36	.35	787	564.7	284.1	-48.3	765
95.00	0.05	0.18	0.23	.35	.31	797	567.8	290.6	-55.5	768
39300.00	-0.01	0.22	0.21	.39	.36	785	567.6	299.1	-55.1	745
05.00	0.04	0.23	0.27	.27	.26	812	564.4	305.2	-47.5	758
10.00	0.03	0.22	0.25	.30	.32	796	560.1	307.3	-34.9	734
15.00	0.03	0.20	0.23	.33	.37	781	557.4	307.1	-20.3	714
20.00	0.20	0.18	0.38	.10	.14	846	557.3	307.3	-5.8	765
25.00	0.22	0.17	0.39	.09	.12	852	559.0	310.5	6.1	759
30.00	0.37	0.15	0.52	-15.96	-15.98	895	560.6	317.8	12.6	782
39332.50	0.50	0.14	0.64	-15.87	-15.88	926	561.0	322.2	13.2	801
35.00	0.57	0.13	0.70	.83	.84	939	560.7	326.3	11.8	806
37.50	0.60	0.11	0.71	.82	.84	941	560.1	329.6	8.8	802
40.00	0.60	0.10	0.70	.82	.84	939	559.4	331.8	4.4	797
42.50	0.57	0.08	0.65	.85	.88	928	558.8	333.0	-0.9	787
45.00	0.54	0.06	0.60	.88	.91	916	558.6	333.5	-7.0	778
47.50	0.49	0.05	0.54	.92	.95	903	559.0	333.6	-13.3	769
50.00	0.42	0.04	0.46	.99	-16.02	883	560.0	333.6	-19.7	755
52.50	0.34	0.02	0.36	-16.11	.12	853	561.7	333.8	-26.0	732
55.00	0.33	0.00	0.33	.15	.14	845	563.8	334.6	-31.7	727
57.50	0.43	0.00	0.43	.03	.01	884	565.9	336.3	-36.6	761
60.00	0.62	-0.01	0.61	-15.88	-15.85	937	567.8	339.1	-40.3	804
62.50	0.67	0.00	0.67	.84	.80	954	569.2	343.0	-42.5	814
65.00	0.74	0.01	0.75	.79	.75	973	569.7	347.6	-42.8	823
39366.00	0.8	0.0	0.8	-15.76	-15.72	981	569.7	349.5	-42.4	826
67.00	1.1	0.0	1.1	.63	.58	1032	569.5	351.3	-41.7	866
68.00	1.6	0.0	1.6	.47	.43	1099	569.3	353.1	-40.6	917
69.00	0.8	0.0	0.9	.71	.67	998	568.8	354.8	-39.2	830
70.00	0.7	0.0	0.8	.76	.72	979	568.3	356.3	-37.6	810

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39371.00	0.9	0.0	0.9	-15.71	-15.68	996	567.7	357.6	-35.7	821
72.00	1.0	0.0	1.1	.62	.60	1028	566.9	358.8	-33.6	843
73.00	0.9	0.0	0.9	.70	.68	994	566.2	359.9	-31.2	812
74.00	0.9	0.0	0.9	.70	.69	992	565.4	0.7	-28.7	807
75.00	0.8	0.0	0.9	.70	.69	991	564.5	1.4	-26.0	803
76.00	0.5	0.0	0.6	.87	.87	928	563.7	1.9	-23.2	750
39377.50	0.57	0.03	0.60	-15.87	-15.88	928	562.5	2.5	-18.7	746
80.00	0.50	0.02	0.52	.93	.95	904	560.8	2.9	-10.8	724
82.50	0.66	0.00	0.66	.83	.85	937	559.7	3.0	-2.7	748
85.00	1.06	-0.02	1.04	.63	.66	1006	559.2	3.1	5.4	804
87.50	1.26	-0.05	1.21	.57	.59	1032	559.3	3.7	13.1	826
90.00	1.18	-0.06	1.12	.60	.62	1020	559.9	4.9	20.3	819
92.50	1.15	-0.07	1.08	.62	.63	1016	560.7	7.1	26.5	817
95.00	1.07	-0.08	0.99	.65	.66	1003	561.5	10.3	31.5	809
97.50	0.99	-0.07	0.92	.69	.69	992	562.0	14.5	34.7	800
39400.00	1.02	-0.06	0.96	.67	.68	999	562.0	19.1	36.1	804
02.50	0.95	-0.05	0.90	.70	.71	987	561.5	23.5	35.5	793
05.00	1.11	-0.05	1.06	.63	.64	1012	560.7	27.1	33.2	809
39406.00	1.01	-0.04	0.97	-15.66	-15.68	995	560.4	28.3	31.8	794
08.00	1.14	-0.05	1.09	.61	.63	1013	559.7	30.1	28.5	804
10.00	1.69	-0.06	1.63	.44	.47	1082	559.1	31.2	24.5	856
12.00	1.99	-0.06	1.93	.37	.40	1114	558.8	31.9	20.0	877
14.00	2.16	-0.07	2.09	.34	.36	1130	558.8	32.1	15.2	887
16.00	2.11	-0.08	2.03	.35	.37	1126	559.2	32.1	10.2	881
18.00	1.89	-0.10	1.79	.40	.42	1103	560.0	32.1	5.2	862
20.00	1.87	-0.12	1.75	.41	.42	1102	561.2	32.3	0.3	861
22.00	1.76	-0.13	1.63	.44	.44	1092	562.7	32.7	-4.4	853
24.00	1.66	-0.14	1.52	.47	.46	1083	564.3	33.7	-8.6	847
26.00	1.65	-0.15	1.50	.48	.46	1084	565.9	35.2	-12.3	849
28.00	1.60	-0.16	1.44	.50	.47	1079	567.2	37.5	-15.1	847
30.00	1.60	-0.17	1.43	.50	.47	1080	568.3	40.4	-17.0	850
32.00	1.57	-0.18	1.39	.52	.48	1076	568.8	43.8	-17.8	848
34.00	1.47	-0.19	1.28	.55	.51	1061	568.8	47.5	-17.3	837
36.00	1.52	-0.19	1.33	.54	.50	1066	568.3	50.9	-15.6	842
38.00	1.84	-0.19	1.65	.45	.42	1103	567.3	53.9	-12.7	872
40.00	1.95	-0.20	1.75	.42	.40	1111	565.9	56.3	-8.9	878
42.00	2.04	-0.20	1.84	.40	.39	1117	564.2	57.9	-4.2	883
44.00	2.06	-0.20	1.86	.39	.39	1115	562.5	58.9	1.2	882
46.00	2.14	-0.21	1.93	.38	.39	1118	560.9	59.3	6.9	886
48.00	2.12	-0.21	1.91	.38	.40	1112	559.5	59.3	13.0	883
50.00	1.98	-0.22	1.76	.41	.44	1093	558.5	59.1	19.2	872
52.00	1.90	-0.24	1.66	.44	.47	1080	557.9	58.9	25.3	866
54.00	1.66	-0.24	1.42	.51	.54	1050	557.7	58.8	31.4	848
56.00	1.52	-0.24	1.28	.55	.58	1032	557.9	59.0	37.1	839
58.00	1.47	-0.24	1.23	.57	.60	1025	558.4	59.7	42.3	840
60.00	1.40	-0.24	1.16	.60	.62	1016	559.0	61.0	47.0	840
62.00	1.29	-0.24	1.05	.64	.66	1001	559.6	63.0	50.8	834
64.00	1.28	-0.24	1.04	.65	.67	1000	560.0	65.7	53.5	839
66.00	1.32	-0.22	1.10	.62	.64	1010	560.4	68.8	55.2	853
68.00	1.41	-0.22	1.19	.59	.61	1023	560.4	72.1	55.5	867
70.00	1.46	-0.20	1.26	.57	.58	1032	560.2	75.3	54.6	877
39472.00	1.5	-0.2	1.3	-15.55	-15.57	1037	559.6	78.0	52.5	880
73.00	1.8	-0.2	1.6	.46	.49	1073	559.3	79.2	51.1	910
74.00	2.6	-0.2	2.5	.28	.30	1160	559.0	80.1	49.4	983
75.00	1.7	-0.1	1.6	.46	.49	1072	558.6	80.9	47.4	906
76.00	1.3	-0.1	1.2	.58	.61	1021	558.3	81.6	45.3	861
77.00	1.3	-0.1	1.3	.55	.58	1035	558.0	82.0	43.1	870

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39478.00	1.29	-0.04	1.25	-15.56	-15.60	1028	557.7	82.3	40.6	862
80.00	1.26	-0.02	1.24	.56	.60	1026	557.4	82.5	35.4	855
82.00	1.38	0.00	1.38	.52	.55	1045	557.4	82.4	29.9	865
84.00	1.41	0.00	1.41	.51	.54	1050	557.8	82.1	24.1	864
86.00	1.45	0.00	1.45	.50	.52	1057	558.6	81.7	18.3	865
88.00	1.63	-0.04	1.59	.46	.48	1076	559.8	81.5	12.6	878
90.00	1.80	-0.10	1.70	.43	.44	1092	561.3	81.7	7.2	888
92.00	1.59	-0.14	1.45	.50	.50	1066	563.0	82.4	2.1	867
94.00	1.46	-0.17	1.29	.55	.54	1049	564.5	83.7	-2.4	853
39495.00	2.8	-0.2	2.6	-15.27	-15.25	1187	565.3	84.6	-4.4	967
96.00	2.4	-0.2	2.2	.33	.32	1153	565.9	85.7	-6.1	940
97.00	2.8	-0.2	2.5	.28	.26	1181	566.5	86.9	-7.7	965
98.00	3.6	-0.2	3.4	.16	.14	1253	567.0	88.3	-8.9	1026
99.00	3.2	-0.2	3.0	.21	.19	1224	567.3	89.9	-9.9	1004
39500.00	2.2	-0.2	1.9	.40	.37	1126	567.5	91.5	-10.6	926
01.00	1.5	-0.2	1.2	.59	.56	1041	567.6	93.2	-10.9	858
02.00	1.4	-0.2	1.2	.59	.56	1041	567.6	94.9	-11.0	860
03.00	2.5	-0.2	2.2	.34	.31	1155	567.4	96.6	-10.8	957
04.00	3.3	-0.2	3.0	.21	.19	1222	567.0	98.2	-10.2	1015
05.00	1.3	-0.2	1.1	.63	.60	1024	566.6	99.7	-9.4	853
06.00	0.8	-0.2	0.5	.97	.95	903	566.0	101.1	-8.3	754
07.00	0.7	-0.2	0.4	-16.07	-16.05	872	565.4	102.3	-6.9	729
39508.00	1.06	-0.25	0.81	-15.76	-15.75	971	564.6	103.3	-5.3	814
10.00	1.34	-0.25	1.09	.63	.63	1015	563.0	104.8	-1.6	854
12.00	1.45	-0.24	1.21	.58	.59	1028	561.3	105.7	2.8	868
14.00	1.67	-0.24	1.43	.51	.53	1054	559.7	106.0	7.6	892
16.00	1.79	-0.24	1.55	.48	.51	1065	558.4	106.0	12.7	904
18.00	1.79	-0.23	1.56	.47	.51	1063	557.4	105.8	17.9	905
20.00	1.97	-0.22	1.75	.43	.47	1082	556.8	105.7	23.1	925
22.00	1.95	-0.22	1.73	.43	.47	1079	556.7	105.6	28.2	926
24.00	1.91	-0.22	1.69	.44	.48	1075	556.9	106.0	32.9	926
26.00	1.95	-0.21	1.74	.43	.47	1080	557.4	106.8	37.2	936
28.00	1.99	-0.21	1.78	.43	.46	1085	558.0	108.3	40.9	946
30.00	2.26	-0.21	2.05	.37	.40	1114	558.7	110.4	43.8	976
32.00	1.62	-0.21	1.41	.53	.55	1045	559.2	113.3	45.6	922
34.00	1.29	-0.21	1.08	.64	.66	1001	559.5	116.6	46.3	888
36.00	1.19	-0.20	0.99	.68	.70	987	559.5	120.2	45.8	880
38.00	1.24	-0.19	1.05	.65	.68	997	559.2	123.6	43.9	891
40.00	1.21	-0.18	1.03	.66	.68	993	558.7	126.6	41.0	890
42.00	1.26	-0.18	1.08	.63	.67	1000	558.1	129.0	36.9	897
44.00	1.24	-0.16	1.08	.63	.67	999	557.4	130.7	32.1	896
46.00	1.30	-0.15	1.15	.60	.64	1009	556.9	131.7	26.6	904
48.00	1.36	-0.14	1.22	.58	.62	1018	556.6	132.3	20.6	911
50.00	1.42	-0.14	1.28	.56	.60	1027	556.7	132.5	14.2	916
52.00	1.71	-0.13	1.58	.47	.51	1065	557.1	132.5	7.8	949
54.00	1.85	-0.12	1.73	.43	.46	1083	558.0	132.5	1.3	964
56.00	2.06	-0.12	1.94	.39	.41	1108	559.3	132.7	-5.1	986
58.00	1.83	-0.12	1.71	.44	.45	1087	560.8	133.2	-11.3	969
60.00	1.37	-0.12	1.25	.58	.58	1034	562.5	134.2	-16.9	924
62.00	1.13	-0.12	1.01	.67	.66	1002	564.1	135.9	-22.0	898
64.00	1.13	-0.12	1.01	.67	.65	1005	565.6	138.3	-26.3	905
66.00	1.13	-0.13	1.00	.68	.65	1005	566.7	141.4	-29.6	910
68.00	1.28	-0.13	1.15	.62	.59	1029	567.3	144.9	-31.8	938
70.00	1.13	-0.13	1.00	.68	.65	1006	567.3	148.7	-32.7	923
72.00	1.13	-0.12	1.01	.67	.65	1007	566.9	152.3	-32.3	930
74.00	1.21	-0.11	1.10	.64	.62	1019	565.9	155.5	-30.7	946
76.00	1.45	-0.10	1.35	.55	.54	1052	564.6	158.0	-28.2	981
78.00	1.60	-0.09	1.51	.50	.50	1068	563.0	159.8	-24.8	1000

Table 3 (Cont.)

1959 a1 (Vanguard 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39580.00	1.77	-0.08	1.69	-15.45	-15.46	1086	561.4	160.9	-20.7	1018
82.00	1.70	-0.07	1.63	.46	.48	1076	559.9	161.6	-16.2	1009
84.00	1.41	-0.06	1.35	.54	.57	1039	558.6	161.8	-11.4	975
86.00	1.35	-0.04	1.31	.55	.58	1032	557.7	161.9	-6.5	968
88.00	1.22	-0.03	1.19	.59	.63	1014	557.2	161.9	-1.5	950
90.00	1.22	-0.02	1.20	.59	.61	1015	557.1	162.2	3.4	950
92.00	1.07	-0.01	1.06	.64	.66	995	557.4	162.7	7.9	931
94.00	0.94	-0.01	0.93	.70	.71	975	557.9	163.7	12.1	911
96.00	0.96	-0.01	0.95	.69	.70	979	558.5	165.4	15.6	915
98.00	0.87	-0.01	0.86	.73	.74	965	559.2	167.7	18.4	902
39600.00	1.01	-0.02	0.99	.68	.68	988	559.7	170.7	20.1	925

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38300.00	2.48	0.02	2.50	-14.89	-14.95	881	418.9	8.4	26.8	708
02.00	2.14	0.02	2.16	.95	-15.01	856	418.2	4.1	23.5	690
04.00	1.10	0.02	1.12	-15.22	.29	761	417.8	359.6	20.2	616
06.00	1.17	0.02	1.19	.19	.27	769	417.4	354.9	16.8	625
08.00	1.41	0.03	1.44	.11	.19	794	417.3	350.0	13.3	651
10.00	1.58	0.03	1.61	.07	.14	810	417.5	345.1	9.8	670
38311.00	1.7	0.0	1.7	-15.04	-15.12	818	417.7	342.6	8.0	681
12.00	1.9	0.0	1.9	.00	.07	835	417.9	340.1	6.2	699
13.00	2.7	0.0	2.7	-14.86	-14.92	892	418.2	337.6	4.4	751
14.00	3.4	0.0	3.5	.75	.81	940	418.6	335.1	2.7	796
15.00	3.3	0.0	3.4	.77	.82	935	419.1	332.6	0.9	797
16.00	3.2	0.0	3.2	.79	.85	925	419.6	330.2	-0.9	793
17.00	3.1	0.0	3.1	.81	.86	921	420.1	327.7	-2.6	794
18.00	2.9	0.0	2.9	.84	.88	910	420.7	325.3	-4.4	790
19.00	2.7	0.0	2.7	.87	.91	900	421.3	322.9	-6.1	786
20.00	2.5	0.0	2.5	.90	.93	888	422.0	320.5	-7.9	780
21.00	2.3	0.0	2.4	.92	.95	883	422.8	318.2	-9.6	780
22.00	2.2	0.0	2.3	.94	.96	877	423.5	316.0	-11.3	780
23.00	2.0	0.0	2.1	.98	.99	865	424.3	313.7	-13.0	772
24.00	1.9	0.0	1.9	-15.02	-15.03	851	425.1	311.6	-14.6	764
25.00	1.9	0.0	1.9	.02	.02	853	426.0	309.5	-16.2	768
26.00	2.4	0.0	2.4	-14.93	-14.92	892	426.8	307.5	-17.8	807
27.00	2.6	0.0	2.6	.90	.89	907	427.6	305.6	-19.3	823
28.00	2.1	0.0	2.1	.99	.97	874	428.5	303.8	-20.8	795
29.00	1.1	0.1	1.2	-15.22	-15.19	794	429.3	302.1	-22.3	724
30.00	1.4	0.1	1.4	.16	.12	816	430.1	300.5	-23.7	746
31.00	1.5	0.1	1.5	.13	.09	828	430.9	299.0	-25.0	757
32.00	2.5	0.1	2.5	-14.93	-14.88	909	431.7	297.7	-26.3	833
33.00	1.8	0.1	1.8	-15.06	-15.01	858	432.4	296.5	-27.4	786
34.00	1.6	0.1	1.6	.11	.05	842	433.1	295.4	-28.5	771
35.00	0.8	0.1	0.9	.35	.28	765	433.7	294.5	-29.5	701
36.00	0.8	0.1	0.8	.40	.33	752	434.3	293.7	-30.4	688
37.00	0.7	0.1	0.8	.41	.32	753	434.8	293.1	-31.2	689
38.00	1.0	0.1	1.0	.31	.23	781	435.3	292.6	-31.9	714
39.00	1.7	0.1	1.7	.10	.01	856	435.7	292.2	-32.4	782
40.00	1.6	0.1	1.7	.10	.01	858	436.0	292.0	-32.8	782
41.00	1.7	0.1	1.8	.07	-14.99	867	436.3	291.8	-33.0	790
42.00	1.8	0.1	1.9	.05	.96	876	436.5	291.8	-33.1	798
43.00	1.7	0.1	1.8	.07	.98	868	436.6	291.8	-33.0	790
44.00	1.4	0.1	1.5	.15	-15.06	841	436.6	291.8	-32.8	765
45.00	1.3	0.1	1.4	.18	.08	831	436.6	291.8	-32.4	755
46.00	1.3	0.1	1.4	.18	.08	830	436.5	291.7	-31.8	755
38348.00	1.37	0.08	1.45	-15.16	-15.07	835	436.0	291.4	-30.3	760
50.00	1.46	0.08	1.54	.13	.05	842	435.3	290.6	-28.1	768
52.00	1.46	0.08	1.54	.13	.06	840	434.4	289.3	-25.4	769
54.00	1.35	0.07	1.42	.16	.10	826	433.2	287.3	-22.3	760
56.00	1.30	0.06	1.36	.17	.12	817	431.8	284.8	-18.9	757
58.00	1.24	0.05	1.29	.19	.15	806	430.3	281.6	-15.2	754
60.00	1.14	0.03	1.17	.23	.20	789	428.7	278.0	-11.2	745
62.00	1.02	0.00	1.02	.28	.27	768	427.1	274.0	-7.1	731
64.00	1.01	0.00	1.01	.29	.29	763	425.5	269.6	-2.8	733
66.00	0.95	0.00	0.95	.31	.33	752	424.0	264.9	1.6	729
68.00	0.92	0.00	0.92	.32	.35	744	422.6	260.0	6.0	728
70.00	0.87	0.00	0.87	.34	.38	735	421.4	254.9	10.5	723
72.00	0.84	0.00	0.84	.35	.41	728	420.3	249.7	15.0	720
74.00	0.79	0.01	0.80	.37	.43	721	419.5	244.4	19.5	716
76.00	0.78	0.02	0.80	.37	.44	720	418.9	239.0	24.0	716
78.00	0.74	0.02	0.76	.39	.46	713	418.6	233.7	28.4	711

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38380.00	0.71	0.02	0.73	-15.41	-15.48	708	418.5	228.4	32.8	706
82.00	0.67	0.02	0.69	.43	.51	702	418.6	223.1	37.1	700
84.00	0.69	0.02	0.71	.42	.49	705	418.9	218.0	41.3	703
86.00	0.65	0.02	0.67	.45	.51	700	419.4	213.1	45.4	697
88.00	0.62	0.02	0.64	.47	.53	694	420.1	208.5	49.4	691
90.00	0.61	0.02	0.63	.48	.53	695	420.9	204.1	53.2	689
92.00	0.58	0.02	0.60	.50	.54	697	421.7	200.1	56.8	684
94.00	0.65	0.03	0.68	.45	.49	707	422.5	196.5	60.1	697
96.00	0.66	0.03	0.69	.45	.47	710	423.3	193.4	63.2	699
98.00	0.60	0.03	0.63	.49	.51	701	424.1	190.9	65.8	688
38400.00	0.56	0.03	0.59	.52	.53	695	424.7	188.9	68.1	681
02.00	0.53	0.02	0.55	.55	.55	689	425.2	187.5	69.8	674
04.00	0.50	0.02	0.52	.57	.58	684	425.6	186.7	71.0	668
06.00	0.49	0.01	0.50	.59	.59	680	425.8	186.2	71.6	663
08.00	0.46	0.01	0.47	.61	.62	674	425.9	186.0	71.4	657
10.00	0.48	0.00	0.48	.60	.61	675	425.7	185.7	70.7	659
12.00	0.53	0.00	0.53	.56	.57	685	425.4	185.1	69.2	668
14.00	0.47	0.00	0.47	.61	.62	672	424.9	184.2	67.2	654
16.00	0.48	0.00	0.48	.60	.62	673	424.3	182.7	64.6	655
18.00	0.52	-0.01	0.51	.57	.60	678	423.5	180.6	61.5	658
20.00	0.58	-0.01	0.57	.52	.56	688	422.7	178.0	58.1	667
22.00	0.58	-0.02	0.56	.53	.57	685	421.8	174.8	54.3	661
24.00	0.60	-0.02	0.58	.51	.56	687	421.0	171.3	50.2	660
26.00	0.62	-0.02	0.60	.49	.55	690	420.2	167.3	45.9	659
28.00	0.63	-0.02	0.61	.48	.55	691	419.5	163.0	41.5	655
30.00	0.65	-0.02	0.63	.47	.54	693	418.9	158.4	36.8	652
32.00	0.65	-0.02	0.63	.46	.54	693	418.5	153.6	32.1	645
34.00	0.69	-0.02	0.67	.44	.51	700	418.3	148.7	27.3	645
36.00	0.72	-0.02	0.70	.42	.49	705	418.3	143.7	22.4	643
38.00	0.80	-0.02	0.78	.37	.44	718	418.5	138.6	17.4	648
40.00	0.84	-0.02	0.82	.35	.42	725	419.0	133.5	12.4	647
38441.00	0.8	0.0	0.8	-15.36	-15.43	723	419.3	130.9	9.9	642
42.00	0.8	0.0	0.8	.36	.42	724	419.7	128.4	7.4	640
43.00	0.7	0.0	0.7	.42	.48	710	420.2	125.8	4.9	624
44.00	0.7	0.0	0.7	.42	.47	711	420.7	123.3	2.4	621
45.00	1.3	0.0	1.2	.20	.24	778	421.3	120.9	-0.1	677
46.00	1.4	0.0	1.4	.13	.17	801	421.9	118.4	-2.5	693
47.00	1.6	0.0	1.5	.11	.14	812	422.5	116.0	-5.0	700
48.00	1.5	0.0	1.5	.11	.13	814	423.2	113.6	-7.5	699
49.00	1.4	0.0	1.3	.17	.19	796	424.0	111.3	-9.9	680
50.00	1.9	0.0	1.8	.04	.05	844	424.7	109.1	-12.3	719
51.00	2.1	0.0	2.0	-14.99	.00	862	425.5	106.9	-14.7	732
52.00	2.0	0.0	2.0	-15.00	-14.99	864	426.3	104.7	-17.1	732
53.00	1.6	0.0	1.6	.09	-15.08	832	427.1	102.7	-19.4	703
54.00	1.2	0.0	1.2	.21	.19	794	428.0	100.7	-21.7	669
55.00	1.3	0.0	1.2	.21	.19	796	428.8	98.8	-24.0	669
56.00	1.4	-0.1	1.3	.18	.15	808	429.6	97.1	-26.2	679
57.00	1.6	-0.1	1.5	.12	.08	830	430.4	95.4	-28.3	697
58.00	1.8	-0.1	1.7	.07	.03	851	431.2	93.9	-30.4	714
59.00	1.8	-0.1	1.8	.05	.00	862	432.0	92.5	-32.5	722
60.00	1.7	-0.1	1.7	.08	.02	855	432.7	91.2	-34.4	716
61.00	1.7	-0.1	1.6	.10	.04	847	433.4	90.1	-36.3	710
62.00	1.5	-0.1	1.4	.16	.09	829	434.1	89.1	-38.1	696
63.00	1.5	-0.1	1.4	.16	.08	830	434.7	88.3	-39.8	697
64.00	1.4	-0.1	1.3	.19	.11	821	435.2	87.6	-41.3	690
65.00	1.3	-0.1	1.3	.19	.11	822	435.7	87.0	-42.8	692
38466.00	1.36	-0.08	1.28	-15.20	-15.11	821	436.1	86.7	-44.1	692
68.00	1.49	-0.08	1.41	.16	.07	837	436.7	86.3	-46.3	706

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38470.00	1.45	-0.08	1.37	-15.17	-15.07	834	437.1	86.3	-48.0	705
72.00	1.39	-0.08	1.31	.19	.09	828	437.1	86.4	-48.9	702
74.00	1.41	-0.08	1.33	.18	.09	830	436.8	86.6	-49.2	704
76.00	1.30	-0.08	1.22	.21	.12	817	436.2	86.4	-48.9	693
78.00	1.29	-0.08	1.21	.22	.13	814	435.3	85.8	-48.0	689
80.00	1.32	-0.08	1.24	.20	.13	815	434.2	84.6	-46.5	688
82.00	1.23	-0.08	1.15	.23	.17	800	432.4	82.8	-44.6	673
84.00	1.72	-0.07	1.65	.08	.03	849	431.1	80.5	-42.3	710
86.00	1.94	-0.06	1.88	.02	-14.99	866	429.8	77.6	-39.7	720
88.00	2.25	-0.04	2.21	-14.95	.93	888	428.3	74.2	-36.9	733
90.00	2.37	-0.01	2.36	.92	.92	895	426.7	70.5	-33.9	733
92.00	2.52	0.00	2.52	.89	.90	903	425.2	66.4	-30.7	733
94.00	2.58	0.01	2.59	.88	.90	904	423.7	62.0	-27.4	728
96.00	2.56	0.01	2.57	.88	.91	899	422.3	57.4	-23.9	719
98.00	2.32	0.01	2.33	.91	.95	879	421.1	52.6	-20.4	698
38500.00	2.15	0.00	2.15	.94	.99	864	420.1	47.7	-16.9	682
38501.00	2.1	0.0	2.1	-14.95	-15.01	859	419.6	45.2	-15.1	676
02.00	2.1	0.0	2.1	.95	.01	858	419.2	42.7	-13.3	674
03.00	2.4	0.0	2.4	.90	-14.96	878	418.9	40.2	-11.5	689
04.00	2.7	0.0	2.7	.85	.91	897	418.6	37.7	-9.7	703
05.00	2.3	0.0	2.3	.91	.98	870	418.3	35.2	-7.9	681
06.00	2.1	0.0	2.1	.95	-15.02	855	418.2	32.7	-6.0	668
07.00	1.7	0.0	1.7	-15.04	.11	823	418.1	30.2	-4.2	643
08.00	1.6	0.0	1.6	.06	.13	814	418.0	27.7	-2.4	636
09.00	1.5	0.0	1.5	.09	.16	804	418.0	25.3	-0.6	629
10.00	1.8	0.0	1.8	.01	.08	831	418.1	22.8	1.1	651
11.00	2.3	0.0	2.2	-14.93	.00	862	418.2	20.4	2.9	676
12.00	2.3	0.0	2.3	.92	-14.98	869	418.4	18.1	4.7	683
13.00	2.4	0.0	2.4	.90	.96	877	418.6	15.8	6.4	690
14.00	2.6	0.0	2.6	.87	.93	891	418.8	13.5	8.1	703
15.00	2.5	0.0	2.5	.88	.94	885	419.1	11.3	9.8	700
16.00	1.9	0.0	1.9	-15.00	-15.05	842	417.4	9.2	11.5	668
17.00	1.8	0.0	1.8	.02	.07	834	419.7	7.2	13.1	664
38518.00	1.55	-0.02	1.53	-15.09	-15.14	811	420.1	5.2	14.7	648
20.00	1.43	-0.02	1.41	.12	.17	801	420.9	1.5	17.8	644
22.00	1.41	-0.02	1.39	.13	.17	801	421.7	358.3	20.6	647
24.00	1.42	-0.02	1.40	.13	.16	804	422.5	355.5	23.2	653
26.00	1.39	-0.01	1.38	.14	.16	803	423.2	353.3	25.5	655
28.00	1.41	-0.01	1.40	.13	.15	807	423.8	351.7	27.4	660
30.00	1.78	0.00	1.78	.04	.05	842	424.4	350.6	28.8	691
32.00	1.43	0.00	1.43	.13	.14	811	424.7	350.1	29.7	666
34.00	1.28	0.01	1.29	.17	.18	797	424.9	349.8	30.1	654
36.00	1.19	0.02	1.21	.20	.21	788	425.0	349.7	29.8	647
38.00	1.17	0.02	1.19	.21	.22	785	424.8	349.6	28.8	644
40.00	1.43	0.02	1.45	.13	.14	811	424.5	349.1	27.3	665
42.00	1.19	0.02	1.21	.20	.22	785	424.1	348.2	25.2	643
44.00	0.95	0.02	0.97	.29	.32	754	423.5	346.7	22.7	619
46.00	1.06	0.03	1.09	.24	.27	767	422.8	344.6	19.7	631
48.00	0.94	0.03	0.97	.29	.33	751	422.0	342.0	16.4	620
50.00	0.87	0.03	0.90	.32	.37	740	421.2	338.8	12.8	615
52.00	0.89	0.03	0.92	.31	.36	741	420.4	335.1	9.0	620
38553.00	0.8	0.0	0.8	-15.37	-15.43	723	420.0	333.2	7.1	609
54.00	1.0	0.0	1.0	.27	.33	749	419.7	331.1	5.1	634
55.00	1.3	0.0	1.3	.17	.23	782	419.4	328.9	3.0	666
56.00	2.0	0.0	2.0	-14.99	.05	843	419.0	326.7	1.0	722
57.00	2.2	0.0	2.3	.93	-14.99	865	418.8	324.4	-1.1	746
58.00	1.2	0.0	1.3	-15.16	-15.23	780	418.5	322.1	-3.2	678

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38559.00	0.9	0.0	0.9	-15.32	-15.39	733	418.3	319.7	-5.3	642
38560.00	0.83	0.02	0.85	-15.34	-15.42	726	418.2	317.2	-7.5	640
62.00	0.63	0.02	0.65	.45	.53	695	418.0	312.2	-11.8	623
64.00	0.56	0.00	0.56	.52	.60	678	418.1	307.0	-16.1	618
65.00	0.59	0.00	0.59	.49	.57	685	418.3	301.8	-20.4	633
68.00	0.57	0.00	0.57	.51	.58	682	418.9	296.6	-24.8	640
70.00	0.54	0.00	0.54	.53	.60	677	419.6	291.4	-29.1	645
72.00	0.46	0.00	0.46	.61	.66	662	420.5	286.2	-33.3	638
74.00	0.43	0.00	0.43	.64	.68	658	421.6	281.1	-37.5	640
76.00	0.40	0.00	0.40	.67	.70	653	422.9	276.2	-41.6	640
78.00	0.36	0.00	0.36	.72	.74	645	424.3	271.5	-45.5	636
80.00	0.33	0.02	0.35	.73	.74	645	425.8	267.1	-49.4	639
82.00	0.31	0.04	0.35	.74	.72	649	427.6	262.9	-53.1	644
84.00	0.30	0.04	0.34	.75	.72	649	429.3	259.2	-56.5	646
86.00	0.29	0.05	0.34	.76	.71	652	430.8	255.9	-59.7	649
88.00	0.27	0.06	0.33	.77	.71	652	432.3	253.1	-62.6	649
90.00	0.24	0.07	0.31	.80	.72	648	433.6	251.0	-65.2	645
92.00	0.19	0.07	0.26	.88	.79	633	434.7	249.4	-67.3	629
94.00	0.35	0.07	0.42	.67	.58	683	435.6	248.4	-68.8	678
96.00	0.26	0.07	0.33	.78	.67	660	436.2	247.9	-69.8	654
98.00	0.21	0.07	0.28	.85	.74	644	436.5	247.8	-70.2	638
38600.00	0.19	0.07	0.26	.88	.77	637	436.5	247.8	-69.8	631
02.00	0.18	0.06	0.24	.92	.81	629	436.2	247.8	-68.8	622
04.00	0.17	0.06	0.23	.93	.83	623	435.6	247.4	-67.1	618
06.00	0.07	0.06	0.13	-16.19	-16.10	570	434.7	246.6	-64.8	566
08.00	0.05	0.06	0.11	.27	.18	555	433.6	245.2	-62.0	551
10.00	0.20	0.06	0.26	-15.87	-15.81	629	432.3	243.2	-58.7	626
12.00	0.55	0.06	0.61	.50	.46	715	430.8	240.6	-55.1	712
14.00	0.25	0.05	0.30	.80	.77	637	429.2	237.5	-51.1	636
16.00	0.14	0.04	0.18	-16.03	-16.01	586	427.6	234.0	-46.9	585
18.00	0.23	0.04	0.27	-15.84	-15.85	621	425.9	230.1	-42.5	620
20.00	0.36	0.04	0.40	.67	.69	656	424.3	225.9	-37.9	656
22.00	0.34	0.04	0.38	.69	.72	648	422.8	221.4	-33.2	647
24.00	0.35	0.03	0.38	.69	.74	645	421.4	216.7	-28.4	643
26.00	0.32	0.03	0.35	.72	.78	635	420.1	211.9	-23.5	631
28.00	0.33	0.02	0.35	.72	.79	632	419.1	207.0	-18.6	627
30.00	0.36	0.02	0.38	.68	.76	639	418.3	202.0	-13.6	630
32.00	0.36	0.02	0.38	.68	.77	638	417.8	197.0	-8.6	626
34.00	0.32	0.02	0.34	.73	.82	626	417.5	192.0	-3.6	611
36.00	0.28	0.02	0.30	.79	.88	614	417.4	187.1	1.4	595
38.00	0.34	0.02	0.36	.71	.80	631	417.6	182.3	6.3	607
40.00	0.42	0.02	0.44	.62	.71	652	418.0	177.7	11.2	623
42.00	0.46	0.02	0.48	.59	.66	662	418.5	173.2	16.0	627
44.00	0.54	0.02	0.56	.52	.59	679	419.2	169.1	20.7	639
46.00	0.87	0.02	0.89	.33	.39	733	420.0	165.2	25.3	686
48.00	0.77	0.01	0.78	.39	.44	720	420.9	161.8	29.6	669
50.00	0.45	0.00	0.45	.62	.67	661	421.7	158.7	33.8	612
52.00	0.49	0.00	0.49	.59	.62	671	422.6	156.2	37.6	619
54.00	0.57	0.00	0.57	.53	.55	689	423.3	154.3	41.1	634
56.00	0.60	-0.02	0.58	.52	.54	692	424.0	152.9	44.2	636
58.00	0.64	-0.03	0.61	.50	.52	699	424.5	152.1	46.8	641
60.00	0.76	-0.04	0.72	.43	.44	718	424.9	151.8	48.8	659
62.00	0.72	-0.04	0.68	.46	.47	712	425.1	151.8	50.2	654
64.00	0.57	-0.04	0.53	.56	.57	685	425.1	151.9	51.0	630
66.00	0.87	-0.05	0.82	.38	.39	734	424.9	151.9	51.2	676
68.00	1.09	-0.06	1.03	.28	.29	761	424.5	151.5	50.7	702
70.00	0.94	-0.06	0.88	.34	.36	741	424.0	150.7	49.6	684
72.00	0.89	-0.06	0.83	.37	.39	732	423.3	149.3	48.1	676
74.00	0.85	-0.06	0.89	.34	.37	739	422.6	147.4	46.1	681

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38676.00	1.01	-0.06	0.95	-15.31	-15.34	746	421.9	144.8	43.8	686
78.00	1.04	-0.06	0.98	.29	.34	749	421.1	141.8	41.2	685
80.00	1.09	-0.06	1.03	.27	.32	754	420.3	138.3	38.4	685
82.00	1.11	-0.06	1.05	.26	.32	755	419.6	134.4	35.3	682
84.00	1.13	-0.05	1.08	.24	.31	758	419.0	130.1	32.1	679
86.00	1.19	-0.05	1.14	.22	.29	764	418.5	125.7	28.8	678
88.00	1.24	-0.05	1.19	.20	.27	769	418.2	121.0	25.4	676
90.00	1.18	-0.05	1.13	.21	.29	763	418.1	116.1	21.8	663
92.00	1.14	-0.05	1.09	.23	.30	759	418.3	111.1	18.3	653
94.00	1.27	-0.04	1.23	.18	.25	776	418.6	106.1	14.7	660
96.00	1.78	-0.02	1.76	.03	.09	828	419.2	101.0	11.0	697
98.00	1.95	0.00	1.95	-14.99	.04	846	420.0	95.9	7.4	705
38700.00	2.02	0.00	2.02	.98	.02	854	421.1	90.9	3.7	706
02.00	1.87	0.00	1.87	-15.01	.04	846	422.3	86.0	0.1	693
04.00	1.81	0.00	1.81	.03	.05	845	423.7	81.2	-3.5	687
06.00	1.77	-0.02	1.75	.04	.05	844	425.3	76.6	-6.9	681
08.00	1.78	-0.03	1.75	.04	.04	848	426.9	72.2	-10.3	681
10.00	1.75	-0.04	1.71	.06	.03	849	428.5	68.2	-13.6	679
12.00	1.76	-0.06	1.70	.06	.03	852	430.2	64.5	-16.7	680
14.00	1.77	-0.06	1.71	.06	.01	857	431.7	61.3	-19.6	683
16.00	1.77	-0.07	1.70	.07	.00	860	433.1	58.6	-22.2	686
18.00	1.75	-0.07	1.68	.07	.00	863	434.4	56.5	-24.5	687
20.00	1.68	-0.07	1.61	.09	.01	858	435.4	55.0	-26.4	685
22.00	1.56	-0.07	1.49	.12	.03	849	436.2	54.0	-27.7	678
24.00	1.53	-0.07	1.46	.13	.04	847	436.8	53.4	-28.6	677
26.00	1.53	-0.07	1.46	.13	.04	848	437.0	53.2	-28.8	678
28.00	1.53	-0.07	1.46	.13	.04	848	436.9	53.1	-28.4	677
30.00	1.48	-0.06	1.42	.14	.05	843	436.5	52.8	-27.4	673
32.00	1.44	-0.06	1.38	.15	.06	838	435.8	52.2	-25.7	667
34.00	1.38	-0.06	1.32	.17	.09	829	434.9	51.1	-23.5	658
36.00	1.46	-0.06	1.40	.14	.07	835	433.7	49.3	-20.9	661
38.00	1.52	-0.05	1.47	.12	.06	838	432.3	47.0	-17.9	661
40.00	1.53	-0.05	1.48	.11	.07	836	430.8	44.0	-14.5	657
42.00	1.94	-0.04	1.90	.01	-14.98	869	429.2	40.6	-10.9	681
44.00	2.08	-0.04	2.04	-14.98	.96	876	427.5	36.7	-7.1	685
46.00	2.40	-0.04	2.36	.91	.92	895	425.8	32.4	-3.2	700
48.00	2.52	-0.03	2.49	.89	.90	900	424.1	27.8	0.9	704
50.00	2.20	-0.03	2.17	.94	.97	873	422.6	23.0	5.1	684
52.00	1.63	-0.03	1.60	-15.06	-15.11	823	421.2	17.9	9.3	647
54.00	1.61	-0.03	1.58	.07	.12	817	420.0	12.7	13.5	647
56.00	1.50	-0.03	1.47	.10	.16	804	419.0	7.4	17.7	642
58.00	1.47	-0.03	1.44	.11	.18	799	418.1	2.0	21.9	644
60.00	1.40	-0.03	1.37	.13	.20	790	417.5	356.7	26.1	645
62.00	1.36	-0.03	1.33	.14	.22	784	417.2	351.3	30.3	649
64.00	1.31	-0.03	1.28	.16	.24	778	417.1	346.1	34.4	654
66.00	1.29	-0.03	1.26	.17	.25	776	417.2	340.9	38.4	662
68.00	1.27	-0.03	1.24	.18	.25	774	417.5	335.9	42.3	670
70.00	1.21	-0.03	1.18	.20	.27	768	418.1	331.2	46.0	675
72.00	1.09	-0.03	1.06	.25	.32	755	418.7	326.7	49.7	673
74.00	1.03	-0.02	1.01	.27	.33	750	419.5	322.6	53.1	677
76.00	0.87	-0.01	0.86	.34	.40	731	420.3	318.8	56.3	667
78.00	0.79	0.00	0.79	.38	.43	722	421.1	315.5	59.2	665
80.00	0.75	0.00	0.75	.41	.45	717	421.9	312.8	61.8	665
82.00	0.72	0.00	0.72	.43	.46	713	422.7	310.7	64.1	664
84.00	0.73	0.00	0.73	.43	.46	715	423.3	309.1	65.8	668
86.00	0.71	0.02	0.73	.43	.46	715	423.8	308.1	67.1	670
88.00	0.71	0.05	0.76	.42	.44	720	424.1	307.6	67.7	675
90.00	0.65	0.08	0.73	.44	.46	715	424.3	307.3	67.7	670
92.00	0.61	0.08	0.69	.46	.48	708	424.2	307.2	67.0	663
94.00	0.66	0.08	0.74	.44	.45	715	424.0	306.9	65.7	670

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38796.00	0.70	0.09	0.79	-15.41	-15.43	722	423.7	306.3	63.7	676
98.00	0.90	0.09	0.99	.31	.34	748	423.1	305.2	61.2	701
38800.00	0.98	0.09	1.07	.28	.31	756	422.5	303.5	58.1	710
02.00	0.79	0.09	0.88	.36	.40	731	421.7	301.3	54.7	688
04.00	0.68	0.09	0.77	.41	.46	714	420.9	298.5	50.9	675
06.00	0.51	0.09	0.60	.51	.57	685	420.1	295.2	46.8	650
08.00	0.48	0.08	0.56	.54	.60	676	419.3	291.5	42.4	646
10.00	0.44	0.08	0.52	.56	.64	667	418.6	287.5	37.9	642
12.00	0.37	0.08	0.45	.62	.71	652	417.9	283.1	33.2	631
14.00	0.59	0.08	0.67	.45	.54	694	417.5	278.5	28.4	676
16.00	0.84	0.08	0.92	.32	.40	730	417.2	273.8	23.5	716
18.00	0.71	0.07	0.78	.38	.47	711	417.1	268.9	18.5	702
20.00	0.52	0.07	0.59	.50	.59	681	417.3	263.9	13.4	675
38822.00	0.3	0.1	0.	-15.50	-15.59	681	417.7	258.9	8.4	675
22.50	0.6	0.1	1.	.28	.36	743	417.8	257.6	7.1	740
23.00	1.1	0.1	1.	.28	.35	744	418.0	256.4	5.8	740
23.50	1.8	0.1	2.	-14.99	.06	839	418.1	255.1	4.6	836
24.00	2.0	0.1	2.	.99	.06	839	418.3	253.9	3.3	837
24.50	1.3	0.1	1.	-15.28	.35	745	418.5	252.6	2.0	743
25.00	0.8	0.1	1.	.28	.35	746	418.8	251.4	0.7	744
25.50	0.3	0.1	0.	.28	.35	746	419.0	250.1	-0.5	744
26.00	0.1	0.1	0.	.28	.35	746	419.2	248.9	-1.8	744
38828.00	0.33	0.06	0.39	-15.68	-15.74	645	420.4	244.0	-6.9	644
30.00	0.36	0.06	0.42	.65	.69	656	421.7	239.2	-11.9	653
32.00	0.44	0.06	0.50	.57	.60	677	423.2	234.6	-16.8	673
34.00	0.48	0.06	0.54	.54	.56	689	424.8	230.2	-21.7	684
36.00	0.51	0.06	0.57	.52	.52	698	426.5	226.1	-26.4	691
38.00	0.54	0.06	0.60	.51	.48	708	428.3	222.3	-31.0	699
40.00	0.62	0.06	0.68	.46	.41	726	430.3	219.0	-35.4	715
42.00	0.90	0.06	0.96	.31	.26	772	431.9	216.1	-39.6	757
44.00	0.87	0.06	0.93	.33	.26	771	433.3	213.8	-43.4	754
46.00	0.55	0.06	0.61	.51	.42	724	434.5	212.0	-46.9	705
48.00	0.54	0.06	0.60	.52	.42	724	435.5	210.9	-49.9	704
50.00	0.50	0.05	0.55	.55	.45	715	436.2	210.3	-52.3	695
52.00	0.41	0.05	0.46	.63	.52	697	436.5	210.1	-54.2	677
54.00	0.39	0.05	0.44	.65	.54	692	436.6	210.3	-55.5	672
56.00	0.17	0.04	0.21	.97	.86	617	436.4	210.4	-56.0	600
58.00	0.40	0.04	0.44	.65	.55	690	435.9	210.4	-55.9	673
60.00	0.46	0.03	0.49	.60	.51	700	435.1	210.0	-55.2	684
62.00	0.50	0.02	0.52	.58	.50	704	434.1	209.1	-53.9	690
64.00	0.53	0.02	0.55	.55	.48	707	432.9	207.6	-52.2	694
66.00	0.54	0.01	0.55	.55	.49	704	431.4	205.4	-50.0	692
38867.50	0.5	0.0	1.	-15.30	-15.26	773	430.3	203.5	-48.1	760
68.00	0.8	0.0	1.	.30	.26	772	429.9	202.7	-47.4	759
68.50	1.3	0.0	1.	.29	.26	771	429.5	202.0	-46.8	759
69.00	2.0	0.0	2.	.01	-14.98	868	429.1	201.2	-46.1	854
69.50	1.3	0.0	1.	.29	-15.27	769	428.7	200.4	-45.4	757
70.00	1.3	0.0	1.	.29	.27	768	428.3	199.5	-44.6	756
70.50	0.8	0.0	1.	.29	.27	767	427.9	198.7	-43.9	755
71.00	0.8	0.0	1.	.29	.28	766	427.5	197.8	-43.1	753
71.50	0.5	0.0	1.	.29	.28	766	427.0	196.8	-42.4	752
38872.00	0.50	0.00	0.50	-15.58	-15.57	684	426.6	195.9	-41.6	672
74.00	0.41	0.00	0.41	.66	.67	660	425.0	191.9	-38.4	647
76.00	0.38	0.00	0.38	.69	.72	650	423.5	187.5	-35.0	634
78.00	0.41	0.00	0.41	.65	.69	655	422.1	183.0	-31.5	635
80.00	0.45	0.00	0.45	.61	.66	662	420.8	178.2	-27.9	638

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38882.00	0.45	0.00	0.45	-15.61	-15.67	659	419.7	173.3	-24.3	631
84.00	0.49	0.00	0.49	.57	.64	666	418.8	168.3	-20.5	632
86.00	0.53	0.00	0.53	.54	.62	673	418.2	163.2	-16.8	633
88.00	0.48	0.00	0.48	.58	.66	662	417.8	158.1	-13.0	616
90.00	0.56	0.00	0.56	.51	.60	678	417.6	153.0	-9.3	624
92.00	0.71	0.00	0.71	.41	.50	704	417.6	148.0	-5.5	641
94.00	0.75	0.00	0.75	.39	.47	710	417.5	143.1	-1.8	639
96.00	0.92	0.00	0.92	.31	.38	735	417.9	138.4	1.8	655
98.00	1.03	0.00	1.03	.26	.33	750	418.5	133.9	5.4	662
38900.00	1.17	0.00	1.17	.21	.27	768	419.2	129.7	8.9	671
02.00	1.59	0.00	1.59	.09	.14	811	420.0	125.7	12.2	703
04.00	1.70	0.00	1.70	.06	.11	822	420.9	122.2	15.3	708
06.00	1.48	0.00	1.48	.12	.16	805	421.7	119.2	18.2	688
08.00	1.17	0.00	1.17	.22	.25	774	422.5	116.7	20.8	659
10.00	0.92	-0.01	0.91	.33	.35	744	423.2	114.7	23.1	631
12.00	0.86	-0.04	0.82	.37	.39	733	423.8	113.4	24.9	620
14.00	1.18	-0.06	1.12	.24	.26	772	424.3	112.5	26.3	653
16.00	1.34	-0.07	1.27	.19	.20	790	424.6	112.1	27.1	667
18.00	1.11	-0.08	1.03	.28	.29	763	424.7	111.9	27.2	643
20.00	1.10	-0.08	1.02	.28	.29	761	424.6	111.7	26.8	642
22.00	1.19	-0.08	1.11	.24	.26	772	424.3	111.3	25.7	650
24.00	1.33	-0.08	1.25	.19	.21	787	423.8	110.5	24.1	662
38926.00	2.0	-0.1	2.	-15.00	-15.02	853	423.3	109.2	22.0	717
26.50	2.3	-0.1	2.	.00	.02	853	423.1	108.8	21.4	717
27.00	2.3	-0.1	2.	.00	.02	853	422.9	108.4	20.7	716
27.50	3.2	-0.1	3.	-14.83	-14.86	919	422.7	107.9	20.1	772
28.00	3.7	-0.1	4.	.72	.74	973	422.5	107.4	19.4	816
28.50	2.8	-0.1	3.	.83	.86	919	422.3	106.8	18.7	770
29.00	2.3	-0.1	2.	.99	-15.03	851	422.1	106.2	18.0	713
29.50	2.1	-0.1	2.	.99	.03	851	421.9	105.6	17.2	712
30.00	1.6	-0.1	1.	-15.28	.32	754	421.7	104.9	16.5	631
30.50	1.6	-0.1	2.	-14.99	.03	850	421.5	104.2	15.7	710
31.00	1.3	-0.1	1.	-15.28	.32	753	421.3	103.5	14.9	629
38932.00	1.26	-0.08	1.18	-15.21	-15.25	773	420.8	101.9	13.2	644
34.00	1.13	-0.08	1.05	.25	.31	757	420.0	98.4	9.8	628
36.00	1.58	-0.08	1.50	.10	.16	803	419.1	94.5	6.1	662
38.00	1.71	-0.08	1.63	.07	.13	813	418.3	90.2	2.3	667
40.00	1.78	-0.07	1.71	.04	.12	819	417.7	85.7	-1.6	668
42.00	1.68	-0.07	1.61	.07	.15	809	417.2	80.9	-5.6	657
44.00	1.66	-0.07	1.59	.07	.15	807	416.8	75.9	-9.7	652
46.00	1.50	-0.07	1.43	.11	.20	792	416.7	70.8	-13.7	637
38948.00	1.9	-0.1	1.8	-15.02	-15.10	825	416.9	65.7	-17.8	662
49.00	2.0	-0.1	2.0	-14.98	.05	842	417.0	63.1	-19.9	674
50.00	2.2	-0.1	2.1	.96	.03	850	417.2	60.4	-21.9	680
51.00	1.9	-0.1	1.8	-15.02	.09	827	417.5	57.8	-24.0	661
52.00	1.5	-0.1	1.4	.12	.20	792	417.8	55.2	-26.0	633
38954.00	1.46	-0.07	1.39	-15.13	-15.19	793	418.6	50.1	-30.0	635
56.00	1.45	-0.07	1.38	.13	.19	795	419.7	45.0	-34.0	637
58.00	1.41	-0.07	1.34	.15	.19	794	420.9	40.1	-37.9	639
60.00	1.32	-0.07	1.25	.18	.21	788	422.3	35.4	-41.7	637
62.00	1.22	-0.07	1.15	.21	.23	780	423.9	30.9	-45.4	635
64.00	1.13	-0.07	1.06	.25	.25	774	425.5	26.6	-48.9	634
66.00	1.02	-0.07	0.95	.30	.29	764	427.1	22.8	-52.3	630
68.00	0.98	-0.07	0.91	.32	.29	762	428.7	19.4	-55.4	634
70.00	0.91	-0.06	0.85	.35	.31	757	430.3	16.5	-58.2	634
72.00	0.87	-0.06	0.81	.37	.32	755	431.7	14.1	-60.7	636

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38974.00	0.87	-0.05	0.82	-15.37	-15.30	759	432.9	12.4	-62.8	644
76.00	0.86	-0.02	0.84	.36	.28	765	433.9	11.2	-64.4	651
78.00	0.89	0.00	0.89	.33	.25	774	434.6	10.6	-65.5	660
80.00	0.93	0.00	0.93	.32	.23	780	435.1	10.5	-65.9	666
82.00	1.01	0.00	1.01	.28	.20	791	435.3	10.6	-65.6	675
84.00	1.11	0.00	1.11	.25	.16	803	435.1	10.7	-64.7	684
86.00	0.84	0.00	0.84	.36	.28	766	434.7	10.5	-63.1	650
88.00	0.80	0.00	0.80	.38	.31	757	434.0	10.0	-60.9	640
90.00	0.92	0.06	0.98	.30	.23	780	433.1	8.9	-58.1	657
92.00	1.42	-0.02	1.40	.15	.10	825	431.9	7.2	-54.9	692
94.00	1.16	-0.02	1.14	.23	.19	793	430.5	5.0	-51.3	662
96.00	1.03	0.02	1.05	.27	.24	778	429.0	2.2	-47.3	648
98.00	0.95	0.04	0.99	.29	.28	767	427.4	358.9	-43.0	637
39000.00	0.98	0.04	1.02	.27	.28	767	425.7	355.2	-38.6	637
02.00	1.00	0.04	1.04	.26	.28	765	424.1	351.2	-33.9	636
04.00	1.00	0.04	1.04	.26	.29	762	422.6	346.8	-29.2	636
06.00	1.00	0.04	1.04	.26	.30	758	421.1	342.3	-24.3	637
08.00	1.00	0.04	1.04	.26	.31	755	419.9	337.6	-19.3	639
10.00	1.02	0.04	1.06	.25	.31	755	418.8	332.7	-14.3	645
12.00	1.00	0.04	1.04	.25	.33	751	417.9	327.8	-9.2	649
14.00	0.96	0.04	1.00	.27	.35	744	417.2	322.9	-4.1	651
16.00	0.96	0.04	1.00	.27	.36	742	416.8	317.9	0.9	659
18.00	1.05	0.03	1.08	.24	.33	751	416.7	313.0	6.0	676
20.00	1.38	0.03	1.41	.13	.22	785	416.8	308.2	11.0	716
22.00	1.04	0.03	1.07	.25	.33	749	417.1	303.5	16.0	692
24.00	0.85	0.03	0.88	.33	.42	725	417.3	299.0	20.9	677
26.00	0.80	0.02	0.82	.37	.44	718	418.0	294.7	25.7	676
28.00	0.75	0.03	0.78	.39	.46	713	418.8	290.8	30.3	677
30.00	0.94	0.04	0.98	.30	.36	742	419.8	287.1	34.8	708
32.00	1.00	0.06	1.06	.27	.32	754	420.8	284.0	39.0	722
34.00	0.92	0.07	0.99	.30	.34	747	421.8	281.2	43.0	718
36.00	0.88	0.07	0.95	.32	.35	744	422.7	279.1	46.7	716
38.00	0.86	0.08	0.94	.33	.35	744	423.6	277.5	49.9	716
40.00	0.84	0.08	0.92	.34	.36	743	424.3	276.5	52.7	715
42.00	0.80	0.08	0.88	.36	.37	738	424.8	276.0	54.9	711
44.00	0.80	0.09	0.89	.36	.36	740	425.2	275.8	56.6	714
46.00	0.70	0.09	0.79	.41	.41	726	425.3	275.9	57.6	701
48.00	0.64	0.09	0.73	.44	.45	717	425.2	275.9	57.9	693
50.00	0.60	0.09	0.69	.46	.47	710	424.9	275.6	57.6	687
52.00	0.54	0.09	0.63	.50	.51	699	424.4	275.0	56.7	679
54.00	0.54	0.09	0.63	.50	.52	698	423.7	273.7	55.2	680
56.00	0.92	0.09	1.01	.30	.33	752	422.9	271.9	53.4	735
58.00	0.90	0.08	0.98	.30	.34	747	421.9	269.4	51.1	733
60.00	0.89	0.08	0.97	.31	.35	743	420.9	266.5	48.5	733
62.00	0.88	0.08	0.96	.31	.36	740	419.9	263.0	45.6	733
64.00	0.80	0.07	0.87	.34	.41	727	418.9	259.1	42.6	722
66.00	0.82	0.07	0.89	.33	.41	728	418.0	254.9	39.3	726
68.00	0.85	0.06	0.91	.32	.40	730	417.2	250.4	35.9	728
70.00	0.83	0.06	0.89	.32	.42	726	416.6	245.7	32.4	726
72.00	0.74	0.06	0.80	.37	.46	713	416.2	240.7	28.8	713
74.00	0.72	0.06	0.78	.38	.47	710	416.1	235.7	25.1	710
76.00	0.73	0.06	0.79	.37	.47	712	416.2	230.5	21.3	710
78.00	0.70	0.06	0.76	.39	.48	708	416.6	225.3	17.6	705
80.00	0.71	0.06	0.77	.38	.47	711	417.4	220.1	13.8	706
82.00	0.62	0.06	0.68	.44	.51	700	418.5	214.9	9.9	691
84.00	0.61	0.05	0.66	.45	.51	699	419.9	209.8	6.1	686
86.00	0.62	0.05	0.67	.45	.48	707	422.5	204.9	2.4	689
88.00	0.65	0.05	0.70	.43	.45	716	424.2	200.1	-1.3	692
90.00	0.60	0.05	0.65	.47	.47	712	425.9	195.6	-5.0	681
92.00	0.63	0.05	0.68	.45	.43	721	427.5	191.3	-8.5	683

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39094.00	0.62	0.05	0.67	-15.46	-15.43	723	429.0	187.4	-11.9	679
96.00	0.60	0.05	0.65	.47	.43	723	430.4	183.9	-15.0	673
98.00	0.58	0.05	0.63	.49	.43	722	431.7	180.9	-18.0	667
39100.00	0.56	0.04	0.60	.51	.44	719	432.8	178.5	-20.6	659
02.00	0.51	0.03	0.54	.55	.48	709	433.7	176.6	-22.8	647
04.00	0.57	0.01	0.58	.52	.44	718	434.3	175.4	-24.6	652
06.00	0.59	0.00	0.59	.52	.43	721	434.7	174.6	-25.9	653
08.00	0.60	0.00	0.60	.51	.43	723	434.9	174.2	-26.6	653
10.00	0.63	-0.01	0.62	.50	.41	726	434.7	174.0	-26.6	656
12.00	0.66	-0.02	0.64	.48	.40	729	434.3	173.8	-26.0	658
14.00	0.65	-0.03	0.62	.50	.42	724	433.7	173.2	-24.9	654
16.00	0.67	-0.04	0.63	.49	.42	724	432.8	172.2	-23.1	655
18.00	0.73	-0.05	0.68	.46	.40	730	431.7	170.6	-20.9	662
20.00	0.79	-0.06	0.73	.45	.38	735	430.5	168.4	-18.2	668
22.00	0.88	-0.06	0.82	.37	.34	746	429.1	165.7	-15.2	678
24.00	0.73	-0.07	0.66	.46	.45	717	427.6	162.4	-12.0	652
26.00	0.80	-0.07	0.73	.42	.42	726	426.1	158.6	-8.5	659
28.00	0.84	-0.06	0.78	.39	.40	730	424.7	154.4	-4.9	662
30.00	0.86	-0.06	0.80	.37	.40	730	423.3	149.9	-1.1	660
32.00	0.88	-0.06	0.82	.36	.40	730	421.9	145.2	2.7	657
34.00	0.87	-0.06	0.81	.36	.41	726	420.7	140.2	6.7	650
36.00	0.90	-0.06	0.84	.35	.41	728	419.7	135.1	10.6	648
38.00	1.03	-0.07	0.96	.29	.36	742	418.8	129.8	14.6	657
40.00	1.25	-0.07	1.18	.20	.28	767	418.1	124.5	18.6	674
42.00	1.35	-0.07	1.28	.17	.25	776	417.6	119.2	22.5	678
44.00	1.53	-0.07	1.46	.11	.20	792	417.0	113.9	26.4	688
46.00	2.20	-0.07	2.13	-14.96	.04	846	416.8	108.7	30.3	731
48.00	2.50	-0.07	2.43	.91	-14.99	867	416.8	103.6	34.1	745
50.00	2.11	-0.08	2.03	.98	-15.06	839	417.1	98.7	37.8	718
52.00	1.80	-0.08	1.72	-15.05	.13	815	417.5	93.9	41.4	695
54.00	1.48	-0.08	1.40	.14	.21	787	418.2	89.5	44.8	670
56.00	1.42	-0.08	1.34	.16	.23	782	418.9	85.3	48.1	665
58.00	1.38	-0.08	1.30	.18	.23	780	419.8	81.5	51.2	663
60.00	1.49	-0.08	1.41	.14	.19	793	420.6	78.2	54.0	675
62.00	1.56	-0.08	1.48	.13	.17	802	421.5	75.4	56.5	683
64.00	1.60	-0.09	1.51	.12	.15	807	422.3	73.2	58.7	688
66.00	1.62	-0.09	1.53	.11	.14	810	423.0	71.6	60.4	692
68.00	1.66	-0.09	1.57	.10	.13	816	423.5	70.5	61.7	697
70.00	1.68	-0.09	1.59	.10	.12	819	424.0	70.0	62.3	701
72.00	1.75	-0.09	1.66	.08	.10	826	424.2	69.8	62.4	707
74.00	1.80	-0.09	1.71	.07	.08	832	424.2	69.8	61.8	710
76.00	1.81	-0.08	1.73	.06	.08	833	424.1	69.7	60.5	710
39178.00	1.7	-0.1	1.7	-15.06	-15.08	830	423.8	69.3	58.6	705
79.00	2.1	-0.1	2.1	-14.98	.00	862	423.5	68.9	57.4	730
80.00	2.9	-0.1	2.8	.86	-14.88	909	423.3	68.4	56.1	768
81.00	2.4	-0.1	2.3	.94	.96	876	423.0	67.8	54.6	737
82.00	1.7	-0.1	1.6	-15.08	-15.11	820	422.6	67.0	53.1	688
83.00	1.5	-0.1	1.5	.11	.14	810	422.3	66.1	51.4	677
39184.00	1.68	-0.06	1.62	-15.08	-15.11	820	421.9	65.1	49.6	683
86.00	1.86	-0.02	1.84	.02	.07	837	421.0	62.5	45.8	691
88.00	2.02	0.00	2.02	-14.98	.03	850	420.2	59.5	41.7	695
90.00	2.13	0.00	2.13	.96	.01	856	419.3	56.0	37.3	694
92.00	2.23	0.00	2.23	.94	.00	862	418.5	52.1	32.8	693
94.00	2.49	0.00	2.49	.89	-14.96	879	417.8	48.0	28.1	701
39195.00	2.6	0.0	2.6	-14.87	-14.94	885	417.5	45.8	25.7	703
96.00	2.8	0.0	2.8	.84	.91	898	417.3	43.5	23.2	711
97.00	2.8	0.0	2.8	.84	.91	897	417.1	41.2	20.8	708

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39197.50	2.8	0.0	3.	-14.81	-14.88	909	417.0	40.0	19.5	717
98.00	4.5	0.0	5.	.60	.67	1009	416.9	38.9	18.3	794
98.50	5.5	0.0	6.	.53	.60	1050	416.8	37.7	17.0	826
99.00	6.6	0.0	7.	.47	.53	1088	416.8	36.5	15.8	854
99.50	4.2	0.0	4.	.69	.76	963	416.8	35.3	14.5	756
39200.00	2.8	0.0	3.	.81	.88	909	416.8	34.1	13.3	713
00.50	2.8	0.0	3.	.81	.88	909	416.8	32.8	12.0	713
01.00	2.6	0.0	3.	.81	.88	910	416.8	31.6	10.7	712
01.50	2.7	0.0	3.	.81	.88	910	416.8	30.4	9.5	712
02.00	3.2	0.0	3.	.81	.88	910	416.8	29.2	8.2	712
02.50	4.0	0.0	4.	.69	.76	964	416.9	27.9	6.9	754
39203.00	4.8	0.0	4.8	-14.62	-14.68	1002	417.1	26.7	5.6	784
04.00	4.8	0.0	4.7	.62	.69	999	417.3	24.2	3.1	782
05.00	4.3	0.0	4.3	.66	.73	981	417.5	21.7	0.5	769
06.00	3.6	0.0	3.5	.74	.81	942	417.8	19.2	-2.0	739
07.00	4.1	0.0	4.1	.68	.74	973	418.1	16.7	-4.6	766
08.00	4.3	0.0	4.3	.66	.72	985	418.5	14.3	-7.2	777
09.00	3.5	0.0	3.5	.74	.80	945	419.0	11.8	-9.7	748
10.00	3.3	0.0	3.3	.77	.82	936	419.5	9.4	-12.2	743
39212.00	3.17	-0.02	3.15	-14.79	-14.83	930	420.6	4.6	-17.3	746
14.00	2.43	-0.02	2.41	.90	.94	887	421.9	359.9	-22.3	718
16.00	1.70	-0.02	1.68	-15.05	-15.07	834	423.4	355.5	-27.2	683
18.00	1.64	-0.02	1.62	.07	.08	832	424.9	351.3	-31.9	690
20.00	1.64	-0.01	1.63	.07	.07	836	426.5	347.4	-36.5	702
22.00	1.66	0.00	1.66	.07	.05	843	428.1	343.9	-41.0	715
24.00	1.68	0.00	1.68	.07	.04	848	429.6	340.9	-45.1	728
26.00	1.95	0.00	1.95	.01	-14.97	874	431.0	338.4	-49.0	757
28.00	1.56	0.00	1.56	.11	-15.05	842	432.2	336.5	-52.5	735
30.00	1.30	0.00	1.30	.18	.12	818	433.3	335.1	-55.6	718
32.00	1.23	0.00	1.23	.21	.14	811	434.1	334.4	-58.2	716
34.00	1.04	0.00	1.04	.28	.20	789	434.6	334.1	-60.2	698
36.00	1.41	0.01	1.42	.16	.08	832	434.9	334.1	-61.5	737
38.00	1.79	0.02	1.81	.06	-14.99	867	434.9	334.3	-62.2	769
40.00	2.18	0.04	2.22	-14.98	.91	899	434.5	334.3	-62.2	798
42.00	2.15	0.06	2.21	.98	.91	896	433.9	334.0	-61.5	795
44.00	2.31	0.07	2.38	.95	.89	905	433.1	333.1	-60.2	804
46.00	3.75	0.07	3.82	.76	.71	989	432.0	331.7	-58.5	879
48.00	4.05	0.07	4.12	.72	.69	1000	430.7	329.7	-56.3	891
50.00	2.65	0.07	2.72	.89	.86	917	429.2	327.0	-53.7	819
52.00	1.81	0.07	1.88	-15.04	-15.03	852	427.7	323.9	-50.8	765
54.00	1.23	0.07	1.30	.19	.19	795	426.1	320.3	-47.7	717
56.00	0.65	0.07	0.72	.43	.45	717	424.5	316.3	-44.4	651
58.00	0.57	0.07	0.64	.48	.51	700	422.9	311.9	-40.9	641
60.00	0.67	0.07	0.74	.41	.46	714	421.4	307.3	-37.2	659
62.00	0.97	0.08	1.05	.27	.32	753	420.0	302.5	-33.5	702
64.00	0.98	0.08	1.06	.26	.33	751	418.9	297.5	-29.7	707
66.00	0.93	0.08	1.01	.28	.36	743	417.9	292.5	-25.8	706
68.00	1.71	0.08	1.79	.04	.12	817	416.9	287.3	-21.9	782
70.00	1.69	0.08	1.77	.05	.13	814	416.4	282.1	-17.9	785
72.00	1.86	0.08	1.94	.01	.10	826	416.1	277.0	-14.0	801
74.00	1.84	0.08	1.92	.01	.10	824	416.1	271.9	-10.0	801
76.00	1.72	0.08	1.80	.04	.13	815	416.3	266.9	-6.1	794
78.00	1.60	0.08	1.68	.07	.15	807	416.7	262.0	-2.3	784
80.00	1.33	0.08	1.41	.14	.22	784	417.3	257.4	1.5	760
82.00	1.18	0.08	1.26	.19	.26	771	418.0	253.0	5.3	745
84.00	1.07	0.08	1.15	.23	.29	762	418.8	248.9	8.8	732
86.00	1.02	0.08	1.10	.24	.30	758	419.7	245.3	12.2	725
88.00	0.94	0.08	1.02	.28	.33	751	420.6	242.0	15.4	714

Table 3 (Cont.)

1960 ξ 1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho'_\pi$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39290.00	0.88	0.08	0.96	-15.30	-15.34	746	421.4	239.3	18.3	705
92.00	1.01	0.08	1.09	.25	.28	764	422.2	237.2	20.9	718
94.00	1.01	0.08	1.09	.25	.28	766	422.9	235.7	23.1	717
96.00	1.08	0.08	1.16	.22	.25	776	423.5	234.7	24.8	723
98.00	1.12	0.07	1.19	.21	.23	781	423.8	234.1	25.9	725
39300.00	1.27	0.07	1.34	.16	.18	797	424.0	233.9	26.5	740
02.00	1.31	0.06	1.37	.15	.17	800	424.0	233.7	26.4	743
04.00	1.17	0.05	1.22	.20	.22	784	423.9	233.4	25.7	729
06.00	1.17	0.02	1.19	.21	.23	780	423.5	232.7	24.4	728
08.00	1.10	0.00	1.10	.24	.27	768	423.0	231.5	22.7	720
10.00	1.01	0.00	1.01	.28	.31	755	422.4	229.8	20.4	711
39312.00	0.9	0.0	0.9	-15.33	-15.37	739	421.6	227.5	17.8	700
13.00	0.5	0.0	0.5	.57	.62	672	421.2	226.1	16.3	638
14.00	1.0	0.0	1.0	.28	.33	750	420.8	224.6	14.8	714
15.00	2.0	0.0	2.0	.00	.05	844	420.4	223.0	13.3	806
16.00	1.7	0.0	1.7	.06	.12	819	420.0	221.3	11.6	784
17.00	1.0	0.0	1.0	.28	.34	747	419.6	219.4	10.0	717
18.00	1.0	0.0	1.0	.28	.35	746	419.2	217.5	8.2	718
39320.00	0.98	0.00	0.98	-15.29	-15.36	741	418.5	213.3	4.7	717
22.00	0.96	-0.01	0.95	.30	.38	736	417.9	208.9	1.0	714
24.00	0.91	-0.02	0.99	.33	.41	727	417.4	204.2	-2.8	707
26.00	1.04	-0.02	1.02	.27	.36	743	417.1	199.3	-6.6	723
28.00	1.21	-0.02	1.19	.21	.29	763	417.0	194.3	-10.5	741
30.00	1.27	-0.02	1.25	.18	.27	770	417.2	189.2	-14.4	746
32.00	1.30	-0.02	1.28	.17	.25	774	417.6	184.1	-18.3	748
34.00	1.37	-0.02	1.35	.15	.22	783	418.3	178.9	-22.1	753
36.00	1.44	-0.02	1.42	.13	.20	792	419.2	173.9	-26.0	758
38.00	1.41	-0.02	1.39	.14	.20	793	420.3	168.9	-29.8	754
40.00	1.35	-0.02	1.33	.16	.20	790	421.5	164.0	-33.6	747
42.00	1.29	-0.02	1.27	.18	.21	787	422.9	159.3	-37.2	741
44.00	1.19	-0.02	1.17	.22	.24	779	424.5	154.8	-40.7	730
46.00	1.13	-0.02	1.11	.25	.25	776	426.2	150.6	-44.1	724
48.00	1.09	-0.02	1.07	.27	.25	775	427.9	146.8	-47.4	720
50.00	1.04	-0.02	1.02	.29	.26	773	429.5	143.4	-50.4	715
52.00	0.99	-0.03	0.96	.32	.27	769	431.2	140.5	-53.1	709
54.00	1.08	-0.04	1.04	.29	.23	782	432.6	138.1	-55.5	719
56.00	1.16	-0.04	1.12	.26	.19	795	433.9	136.3	-57.5	730
58.00	1.21	-0.05	1.16	.25	.17	802	435.0	135.1	-59.1	736
60.00	1.42	-0.06	1.36	.18	.10	826	435.8	134.5	-60.1	757
62.00	1.71	-0.06	1.65	.10	.01	856	436.4	134.4	-60.5	784
64.00	1.59	-0.06	1.53	.13	.04	846	436.6	134.5	-60.2	774
39366.00	1.8	-0.1	1.7	-15.09	-15.00	862	436.6	134.7	-59.3	788
67.00	2.0	-0.1	1.9	.04	-14.96	879	436.4	134.8	-58.6	803
68.00	2.2	-0.1	2.1	.00	.92	895	436.2	134.7	-57.7	817
69.00	2.4	-0.1	2.3	-14.96	.88	910	435.9	134.6	-56.7	829
70.00	2.2	-0.1	2.2	.98	.90	902	435.6	134.3	-55.5	821
71.00	2.2	-0.1	2.2	.98	.90	901	435.1	133.9	-54.2	819
72.00	2.4	-0.1	2.3	.96	.89	907	434.6	133.4	-52.7	823
73.00	2.3	-0.1	2.2	.98	.91	898	434.1	132.7	-51.1	814
74.00	2.0	-0.1	1.9	-15.03	.97	873	433.5	131.9	-49.5	790
39376.00	1.74	-0.07	1.67	-15.08	-15.03	850	432.1	129.7	-45.8	765
78.00	1.52	-0.07	1.45	.14	.10	826	430.6	127.1	-41.8	738
80.00	1.65	-0.07	1.58	.10	.07	835	429.0	123.9	-37.5	741
82.00	1.67	-0.07	1.60	.09	.08	833	427.3	120.3	-33.0	733
84.00	1.82	-0.07	1.75	.05	.05	842	425.6	116.3	-28.3	734
86.00	2.57	-0.06	2.51	-14.90	-14.91	896	424.0	112.1	-23.5	773

Table 3 (Cont.)

1960 ξ 1 (Explorer 8)

MJD	$-10^7 \dot{P}$	$10^7 \dot{P}_r$	$-10^7 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39388.00	2.99	-0.06	2.93	-14.83	-14.86	919	422.5	107.6	-18.6	785
90.00	3.57	-0.06	3.51	.76	.79	948	421.1	102.9	-13.6	802
92.00	3.86	-0.06	3.80	.72	.77	960	420.0	98.1	-8.5	805
94.00	3.77	-0.06	3.71	.73	.78	953	419.0	93.1	-3.4	791
96.00	3.90	-0.06	3.84	.71	.78	957	418.2	88.2	1.7	788
98.00	4.08	-0.06	4.02	.70	.76	964	417.7	83.2	6.8	789
39400.00	4.38	-0.06	4.32	.67	.73	978	417.5	78.3	11.9	795
02.00	4.96	-0.07	4.89	.62	.68	1003	417.5	73.4	16.9	812
39403.00	5.6	-0.1	5.6	-14.56	-14.63	1033	417.6	71.0	19.4	835
04.00	5.3	-0.1	5.3	.59	.65	1021	417.7	68.7	21.9	824
05.00	5.3	-0.1	5.2	.60	.66	1017	417.8	66.4	24.4	821
06.00	5.2	-0.1	5.2	.60	.66	1017	418.0	64.1	26.8	821
07.00	4.7	-0.1	4.6	.65	.71	991	418.3	61.9	29.2	800
08.00	4.7	-0.1	4.6	.65	.70	992	418.6	59.8	31.6	801
09.00	4.4	-0.1	4.4	.67	.72	983	418.9	57.7	33.9	795
10.00	5.0	-0.1	4.9	.62	.68	1007	419.2	55.7	36.2	815
11.00	6.0	-0.1	6.0	.54	.59	1053	419.6	53.8	38.5	854
12.00	6.5	-0.1	6.4	.52	.56	1070	419.9	52.0	40.7	869
13.00	6.4	-0.1	6.3	.53	.57	1067	420.3	50.3	42.9	869
14.00	7.6	-0.1	7.5	.46	.50	1112	420.7	48.7	45.0	908
15.00	7.2	-0.1	7.1	.48	.52	1100	421.1	47.2	47.0	900
16.00	6.1	-0.1	6.1	.54	.58	1063	421.4	45.8	48.9	873
17.00	5.4	-0.1	5.3	.60	.63	1032	421.8	44.6	50.8	850
18.00	5.3	-0.1	5.2	.61	.64	1029	422.2	43.5	52.6	849
19.00	5.3	-0.1	5.2	.61	.63	1030	422.5	42.6	54.3	853
20.00	5.1	-0.1	5.1	.62	.64	1026	422.8	41.8	55.8	852
21.00	5.1	-0.1	5.0	.62	.65	1023	423.1	41.1	57.3	852
22.00	5.5	-0.1	5.4	.59	.61	1041	423.3	40.6	58.6	869
23.00	5.8	-0.1	5.7	.57	.59	1054	423.5	40.2	59.8	882
24.00	5.5	-0.1	5.4	.59	.61	1043	423.7	39.9	60.9	875
25.00	4.6	-0.1	4.5	.67	.68	1004	423.8	39.7	61.8	843
26.00	4.0	-0.1	4.0	.71	.73	980	423.9	39.6	62.5	824
27.00	3.7	-0.1	3.7	.74	.76	964	424.0	39.6	63.1	812
28.00	3.9	0.0	3.8	.73	.75	970	424.0	39.6	63.5	818
29.00	5.0	0.0	5.0	.62	.64	1026	424.0	39.6	63.8	866
30.00	5.9	0.0	5.8	.56	.58	1060	423.9	39.5	63.8	894
31.00	5.2	0.0	5.2	.61	.62	1035	423.8	39.4	63.7	873
32.00	4.1	0.0	4.1	.70	.72	984	423.6	39.2	63.5	830
33.00	3.7	0.0	3.7	.74	.76	963	423.4	38.9	63.1	811
34.00	3.9	0.0	3.9	.72	.74	972	423.2	38.5	62.6	818
35.00	4.4	0.0	4.4	.67	.70	996	422.9	37.9	61.9	837
36.00	4.5	0.0	4.5	.66	.69	1000	422.6	37.2	61.1	838
37.00	4.8	0.0	4.8	.64	.67	1012	422.3	36.3	60.2	847
38.00	5.0	0.0	5.0	.62	.65	1020	421.9	35.3	59.1	852
39.00	5.2	0.0	5.2	.60	.64	1027	421.6	34.2	58.0	856
40.00	5.6	0.0	5.6	.57	.61	1043	421.2	32.9	56.8	867
41.00	5.9	0.0	5.9	.55	.59	1054	420.8	31.4	55.5	874
42.00	6.0	0.0	6.0	.55	.59	1056	420.4	29.8	54.1	874
43.00	6.0	0.0	6.0	.54	.59	1055	420.0	28.1	52.6	870
44.00	6.0	0.0	6.0	.54	.59	1054	419.6	26.3	51.1	867
45.00	6.2	0.0	6.2	.53	.58	1061	419.2	24.4	49.5	871
46.00	6.7	0.0	6.7	.50	.55	1078	418.8	22.4	47.9	883
47.00	6.9	0.0	6.9	.49	.54	1085	418.5	20.3	46.2	887
48.00	6.7	0.0	6.7	.50	.55	1076	418.1	18.1	44.5	879
49.00	6.6	0.0	6.6	.50	.56	1072	417.8	15.8	42.7	874
50.00	6.6	0.0	6.6	.50	.56	1071	417.6	13.5	40.9	872
51.00	6.2	0.0	6.3	.52	.58	1059	417.3	11.1	39.1	862
52.00	5.5	0.0	5.5	.57	.64	1027	417.2	8.6	37.2	836
53.00	5.4	0.0	5.5	.57	.64	1027	417.0	6.1	35.3	836

Table 3 (Cont.)

1960 ξ 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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39454.00	5.2	0.0	5.2	-14.59	-14.66	1014	416.9	3.6	33.4	827
55.00	4.7	0.0	4.7	.63	.70	993	416.9	1.0	31.5	810
56.00	4.6	0.0	4.6	.64	.71	988	416.9	358.4	29.5	808
57.00	4.9	0.0	4.9	.62	.69	1002	417.0	355.8	27.5	821
58.00	5.8	0.0	5.8	.55	.62	1040	417.1	353.2	25.6	854
59.00	5.6	0.0	5.6	.56	.63	1033	417.3	350.5	23.6	851
60.00	4.3	0.0	4.4	.66	.73	981	417.6	347.9	21.6	812
61.00	3.9	0.0	3.9	.71	.77	958	417.9	345.2	19.5	795
62.00	3.5	0.0	3.5	.75	.82	938	418.3	342.5	17.5	782
63.00	4.4	0.0	4.5	.65	.71	989	418.7	339.9	15.5	828
64.00	5.0	0.0	5.0	.61	.67	1013	419.2	337.3	13.5	853
65.00	4.4	0.0	4.4	.67	.71	987	419.7	334.6	11.5	835
66.00	4.3	0.0	4.4	.67	.71	988	420.3	332.0	9.5	841
67.00	4.5	0.0	4.5	.66	.70	995	420.9	329.5	7.4	851
68.00	4.6	0.0	4.6	.65	.69	1001	421.6	327.0	5.4	860
69.00	4.7	0.0	4.8	.64	.67	1012	422.3	324.5	3.5	874
70.00	5.0	0.0	5.0	.62	.65	1023	423.0	322.1	1.5	888
71.00	5.2	0.0	5.2	.61	.63	1034	423.7	319.7	-0.5	901
72.00	5.3	0.1	5.3	.60	.62	1040	424.5	317.4	-2.4	911
73.00	5.6	0.1	5.6	.58	.59	1055	425.3	315.2	-4.3	927
74.00	5.7	0.1	5.7	.58	.58	1061	426.1	313.0	-6.2	936
75.00	5.3	0.1	5.4	.60	.60	1051	426.9	311.0	-8.0	930
76.00	4.7	0.1	4.8	.65	.64	1028	428.0	309.0	-9.8	912
77.00	4.3	0.1	4.3	.70	.68	1006	428.8	307.2	-11.6	896
78.00	4.0	0.1	4.1	.72	.69	998	429.6	305.4	-13.3	890
79.00	3.8	0.1	3.9	.74	.71	990	430.4	303.8	-14.9	884
80.00	3.5	0.1	3.6	.78	.74	976	431.2	302.4	-16.5	873
81.00	3.5	0.1	3.6	.78	.73	978	431.9	301.0	-18.0	875
82.00	3.5	0.1	3.6	.78	.73	979	432.6	299.8	-19.4	877
83.00	3.5	0.1	3.6	.78	.73	981	433.2	298.8	-20.7	879
84.00	3.4	0.1	3.5	.80	.73	977	433.8	297.9	-21.9	875
85.00	3.7	0.1	3.8	.76	.70	995	434.3	297.2	-23.1	891
86.00	3.9	0.1	4.0	.74	.68	1006	434.7	296.6	-24.0	901
87.00	3.9	0.1	4.0	.74	.68	1007	435.1	296.2	-24.9	902
88.00	3.7	0.1	3.8	.77	.69	998	435.4	295.8	-25.6	893
89.00	3.4	0.1	3.5	.80	.72	982	435.7	295.6	-26.2	879
90.00	3.3	0.1	3.3	.82	.75	971	435.9	295.4	-26.6	869
91.00	3.3	0.1	3.4	.81	.73	977	436.0	295.3	-26.8	874
92.00	4.7	0.1	4.8	.67	.60	1049	436.0	295.2	-26.9	939
93.00	5.1	0.1	5.1	.65	.58	1063	435.9	295.1	-26.9	952
94.00	4.7	0.1	4.7	.68	.61	1045	435.8	295.0	-26.7	936
95.00	4.8	0.1	4.9	.66	.59	1053	435.6	294.8	-26.3	945
96.00	4.8	0.1	4.9	.66	.59	1053	435.4	294.5	-25.8	946
39496.50	5.0	0.1	5.	-14.65	-14.59	1057	435.2	294.3	-25.4	950
97.00	5.5	0.1	6.	.58	.52	1099	435.0	294.1	-25.1	990
97.50	5.7	0.1	6.	.58	.52	1099	434.8	293.8	-24.7	991
98.00	7.2	0.1	7.	.52	.46	1138	434.6	293.5	-24.3	1027
98.50	8.6	0.1	9.	.42	.36	1209	434.4	293.2	-23.8	1092
99.00	8.4	0.1	8.	.46	.41	1174	434.2	292.8	-23.4	1063
99.50	5.2	0.1	5.	.65	.59	1054	433.9	292.5	-22.9	955
39500.00	4.3	0.1	4.4	-14.70	-14.64	1024	433.6	292.0	-22.3	930
01.00	3.3	0.1	3.4	.80	.75	970	433.1	291.0	-21.2	884
02.00	4.0	0.1	4.1	.73	.68	1005	432.4	289.9	-19.9	919
03.00	3.7	0.1	3.8	.76	.71	988	431.8	288.6	-18.6	907
39503.50	2.6	0.1	3.	-14.85	-14.81	942	431.4	287.9	-17.9	867
04.00	4.6	0.1	5.	.65	.61	1043	431.1	287.2	-17.2	962
04.50	7.0	0.1	7.	.51	.48	1124	430.7	286.5	-16.5	1039

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39505.00	4.8	0.1	5.	-14.64	-14.61	1043	430.3	285.7	-15.7	966
05.50	2.3	0.1	2.	-15.01	.98	870	430.0	284.8	-15.0	808
39506.00	2.4	0.0	2.4	-14.94	-14.91	898	429.6	284.0	-14.2	836
07.00	2.4	0.0	2.4	.94	.91	896	428.8	282.2	-12.6	939
08.00	2.2	0.0	2.2	.97	.95	879	428.0	280.3	-11.0	828
09.00	2.0	0.0	2.0	-15.01	-15.00	862	427.2	278.3	-9.3	816
10.00	1.9	0.0	1.9	.03	.03	852	426.4	276.2	-7.6	811
11.00	2.2	0.0	2.2	-14.97	-14.97	873	425.6	274.1	-5.8	835
12.00	2.8	0.0	2.8	.87	.88	911	424.8	271.8	-4.0	876
13.00	3.0	0.0	3.0	.84	.86	921	424.0	269.5	-2.2	890
14.00	3.1	0.0	3.1	.82	.85	925	423.3	267.1	-0.4	898
15.00	2.7	0.0	2.7	.88	.91	899	422.6	264.7	1.5	877
16.00	2.4	0.0	2.4	.93	.96	877	421.9	262.3	3.3	859
17.00	2.6	0.0	2.6	.89	.93	889	421.2	259.8	5.2	874
18.00	2.8	0.0	2.8	.86	.91	900	420.6	257.2	7.1	887
19.00	2.8	0.0	2.8	.86	.91	898	420.1	254.7	9.0	889
20.00	2.9	0.0	2.9	.84	.90	903	419.6	252.1	10.9	895
21.00	3.1	0.0	3.1	.82	.87	913	419.1	249.5	12.7	908
22.00	3.2	0.0	3.2	.80	.86	918	418.7	246.9	14.6	914
23.00	3.3	0.0	3.3	.79	.85	923	418.4	244.3	16.5	920
24.00	3.3	0.0	3.3	.79	.85	922	418.1	241.7	18.4	920
25.00	3.1	0.0	3.1	.81	.88	910	417.8	239.1	20.3	909
26.00	3.0	0.0	3.1	.81	.88	910	417.7	236.5	22.1	909
27.00	3.1	0.0	3.2	.80	.87	915	417.5	234.0	24.0	915
39527.50	3.3	0.0	3.	-14.83	-14.90	904	417.5	232.7	24.9	903
28.00	4.7	0.0	5.	.62	.69	1002	417.5	231.4	25.8	1001
28.50	6.4	0.0	6.	.55	.61	1042	417.5	230.2	26.8	1042
29.00	6.2	0.0	6.	.55	.61	1042	417.5	228.9	27.7	1042
29.50	4.5	0.0	5.	.62	.69	1002	417.5	227.7	28.6	1001
30.00	3.3	0.0	3.	.83	.90	904	417.5	226.4	29.5	903
30.50	3.5	0.0	4.	.71	.78	956	417.6	225.2	30.4	955
31.00	3.5	0.0	4.	.71	.78	956	417.6	224.0	31.3	955
39532.00	3.3	0.0	3.4	-14.78	-14.84	926	417.8	221.6	33.0	924
33.00	3.3	0.0	3.4	.78	.84	926	418.0	219.2	34.7	924
34.00	3.4	0.0	3.4	.78	.84	926	418.2	217.0	36.5	923
35.00	3.3	0.0	3.3	.79	.85	921	418.4	214.7	38.1	917
39536.00	3.8	0.0	4.	-14.72	-14.77	958	418.7	212.6	39.8	952
36.50	3.8	0.0	4.	.72	.77	958	418.9	211.6	40.6	952
37.00	4.0	0.0	4.	.72	.77	958	419.0	210.5	41.4	951
37.50	5.7	0.0	6.	.56	.61	1045	419.2	209.5	42.1	1036
38.00	4.3	0.0	4.	.72	.77	959	419.4	208.6	42.9	951
38.50	3.6	0.0	4.	.72	.77	960	419.5	207.6	43.7	950
39.00	3.3	0.0	3.	.84	.89	907	419.7	206.7	44.4	897
39.50	2.6	0.0	3.	.84	.89	907	419.9	205.8	45.1	896
39540.00	2.5	0.0	2.5	-14.91	-14.96	877	420.0	204.9	45.9	865
41.00	2.6	0.0	2.7	.88	.93	890	420.4	203.3	47.2	877
42.00	3.0	0.0	3.1	.83	.87	915	420.8	201.7	48.6	899
43.00	3.2	0.0	3.2	.81	.85	922	421.1	200.3	49.8	904
44.00	3.8	0.0	3.8	.75	.78	955	421.5	199.0	51.0	935
45.00	3.6	0.0	3.6	.77	.80	946	421.9	197.9	52.0	924
46.00	3.7	0.0	3.7	.76	.79	952	422.3	196.9	53.0	928
47.00	3.7	0.0	3.7	.76	.78	953	422.6	196.1	53.9	928
48.00	3.7	0.0	3.7	.76	.78	954	422.9	195.4	54.6	927
49.00	3.7	0.0	3.8	.75	.77	960	423.2	194.9	55.3	931
50.00	3.9	0.0	3.9	.74	.76	966	423.5	194.5	55.8	935

Table 3 (Cont.)

1960 ξ 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 ($^\circ$ K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N ($^\circ$ K)
39551.00	4.1	0.0	4.1	-14.72	-14.74	976	423.7	194.2	56.1	944
52.00	4.4	0.0	4.5	.68	.70	996	423.8	194.1	56.3	962
53.00	5.2	0.0	5.2	.62	.64	1027	424.0	194.0	56.4	992
54.00	5.5	0.0	5.5	.60	.62	1040	424.0	194.0	56.2	1003
55.00	5.9	0.0	5.9	.57	.59	1057	424.1	194.0	56.0	1019
56.00	4.9	0.0	4.9	.65	.66	1015	424.1	194.0	55.5	978
57.00	4.8	0.0	4.8	.65	.67	1010	424.1	194.0	54.9	973
58.00	4.9	0.0	4.9	.65	.66	1014	424.0	194.0	54.1	977
59.00	4.9	0.0	4.9	.65	.66	1014	423.8	193.9	53.2	977
60.00	4.0	0.0	4.0	.73	.75	972	423.7	193.6	52.1	936
61.00	4.1	0.0	4.1	.72	.74	976	423.5	193.3	50.9	940
62.00	3.7	0.0	3.7	.76	.78	955	423.2	192.8	49.5	920
63.00	3.7	0.0	3.7	.76	.78	954	423.0	192.2	48.0	919
64.00	3.8	0.0	3.8	.75	.77	959	422.7	191.5	46.4	924
65.00	3.4	0.0	3.4	.79	.82	937	422.3	190.6	44.7	902
66.00	3.4	0.0	3.4	.79	.82	936	422.0	189.5	42.9	901
67.00	3.0	0.0	2.9	.85	.89	907	421.6	188.3	41.0	873
39567.50	3.2	0.0	3.	-14.84	-14.88	912	421.5	187.7	40.1	878
68.00	5.9	0.0	6.	.56	.60	1051	421.3	187.0	39.1	1011
68.50	6.2	0.0	6.	.56	.60	1051	421.1	186.3	38.0	1011
69.00	6.9	0.0	7.	.50	.53	1088	420.9	185.5	37.0	1046
69.50	5.8	0.0	6.	.56	.60	1051	420.7	184.8	36.0	1010
70.00	5.0	0.0	5.	.63	.67	1009	420.5	184.0	34.9	969
70.50	4.6	0.0	5.	.63	.67	1009	420.3	183.1	33.8	968
71.00	4.4	0.0	4.	.72	.76	962	420.2	182.3	32.7	923
71.50	4.6	0.0	5.	.63	.68	1007	420.0	181.4	31.6	966
72.00	4.7	0.0	5.	.63	.68	1007	419.8	180.5	30.5	965
39573.00	4.6	0.0	4.6	-14.66	-14.71	989	419.4	178.6	28.2	946
74.00	5.0	0.0	5.0	.63	.68	1006	419.1	176.6	25.9	960
75.00	5.2	0.0	5.2	.61	.66	1013	418.8	174.6	23.5	965
76.00	5.3	0.0	5.3	.60	.66	1017	418.5	172.4	21.1	966
39576.50	5.8	0.0	6.	-14.55	-14.61	1045	418.4	171.4	19.9	991
77.00	6.3	0.0	6.	.55	.61	1045	418.3	170.2	18.7	990
77.50	6.8	0.0	7.	.49	.54	1082	418.2	169.1	17.5	1023
78.00	8.2	0.0	8.	.45	.49	1116	418.1	168.0	16.3	1054
78.50	7.8	0.0	8.	.43	.49	1116	418.0	166.8	15.0	1053
79.00	6.6	0.0	7.	.49	.54	1082	417.9	165.7	13.8	1018
79.50	6.1	0.0	6.	.55	.61	1045	417.9	164.5	12.6	982
80.00	6.8	0.0	7.	.49	.55	1081	417.8	163.3	11.3	1015
80.50	7.6	0.0	8.	.43	.49	1116	417.8	162.2	10.1	1045
81.00	9.0	0.0	9.	.39	.44	1149	417.8	161.0	8.8	1074
81.50	8.3	0.0	8.	.43	.49	1117	417.8	159.8	7.5	1042
82.00	8.1	0.0	8.	.43	.49	1117	417.8	158.5	6.3	1040
82.50	6.2	0.0	6.	.54	.61	1045	417.8	157.3	5.0	972
83.00	5.9	0.0	6.	.55	.61	1045	417.8	156.1	3.8	970
83.50	5.9	0.0	6.	.54	.61	1046	417.8	154.9	2.5	968
84.00	6.2	0.0	6.	.54	.60	1046	417.9	153.6	1.2	967
84.50	6.2	0.0	6.	.54	.60	1047	418.0	152.4	-0.1	965
85.00	6.7	0.0	7.	.48	.54	1084	418.1	151.1	-1.3	998
85.50	6.0	0.0	6.	.54	.60	1048	418.2	149.9	-2.6	962
86.00	5.5	0.0	5.	.62	.68	1007	418.3	148.7	-3.9	923
86.50	5.5	0.0	5.	.62	.67	1008	418.4	147.4	-5.1	922
39587.00	5.6	0.0	5.6	-14.57	-14.63	1033	418.6	146.2	-6.4	943
88.00	5.5	0.0	5.5	.58	.63	1031	418.9	143.7	-9.0	937
89.00	5.2	0.0	5.2	.60	.65	1019	419.3	141.2	-11.5	923
90.00	4.8	0.0	4.8	.63	.68	1004	419.8	138.7	-14.1	906

Table 3 (Cont.)

1960 ξ 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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39591.00	4.7	0.0	4.7	-14.64	-14.69	1001	420.3	136.2	-16.6	900
92.00	4.7	0.0	4.7	.64	.68	1003	420.8	133.8	-19.1	898
93.00	4.8	0.0	4.7	.65	.68	1004	421.4	131.3	-21.6	897
94.00	4.5	0.0	4.5	.66	.69	997	422.1	128.9	-24.1	888
95.00	4.4	0.0	4.3	.68	.71	990	422.8	126.6	-26.6	879
96.00	4.4	0.0	4.4	.68	.70	997	423.5	124.3	-29.0	882
97.00	5.2	0.0	5.2	.61	.62	1035	424.3	122.0	-31.4	914
98.00	5.6	0.0	5.5	.59	.60	1050	425.1	119.8	-33.8	926
99.00	5.9	-0.1	5.9	.56	.57	1069	425.9	117.7	-36.2	941
39600.00	6.0	-0.1	6.0	.56	.55	1076	426.7	115.6	-38.5	945

Table 3 (Cont.)

1961 81 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38300.50	2.41	-0.12	2.29	-15.08	-15.07	865	436.0	97.0	15.3	725
01.00	2.22	-0.12	2.10	.12	.11	851	435.7	96.7	17.0	714
01.50	2.04	-0.12	1.92	.15	.15	837	435.5	96.4	18.7	702
02.00	1.92	-0.12	1.80	.18	.18	827	435.3	96.1	20.3	694
02.50	1.73	-0.12	1.61	.23	.23	810	435.1	95.9	22.0	681
03.00	1.52	-0.12	1.39	.29	.29	790	435.0	95.7	23.6	664
03.50	1.40	-0.12	1.28	.32	.33	779	434.9	95.6	25.2	655
04.00	1.29	-0.12	1.17	.36	.36	767	434.8	95.5	26.7	645
04.50	1.20	-0.12	1.08	.40	.40	756	434.8	95.4	28.2	637
05.00	1.21	-0.13	1.08	.40	.40	756	434.8	95.5	29.7	638
05.50	1.30	-0.13	1.18	.36	.36	767	434.7	95.5	31.1	648
06.00	1.36	-0.13	1.24	.34	.34	773	434.7	95.6	32.5	654
06.50	1.45	-0.13	1.32	.32	.32	781	434.7	95.8	33.8	661
07.00	1.50	-0.13	1.37	.30	.30	785	434.6	96.0	35.1	666
07.50	1.56	-0.13	1.43	.28	.29	791	434.6	96.3	36.4	672
08.00	1.59	-0.13	1.46	.28	.28	793	434.5	96.6	37.5	675
08.50	1.59	-0.13	1.46	.28	.28	793	434.4	97.0	38.7	676
09.00	1.60	-0.13	1.47	.27	.28	793	434.3	97.5	39.7	677
09.50	1.74	-0.13	1.61	.24	.24	805	434.2	98.0	40.7	689
10.00	1.99	-0.13	1.86	.18	.19	824	434.0	98.6	41.6	707
10.50	2.25	-0.13	2.12	.12	.13	843	433.9	99.2	42.5	724
11.00	2.32	-0.13	2.19	.11	.03	848	433.9	99.9	43.2	729
11.50	2.06	-0.13	1.93	.16	.09	828	433.5	100.6	43.9	714
12.00	2.01	-0.13	1.88	.17	.10	823	433.1	101.3	44.5	711
12.50	2.23	-0.13	2.10	.13	.06	838	432.7	102.1	45.0	725
13.00	2.52	-0.13	2.39	.07	.01	856	432.2	102.9	45.4	741
13.50	2.80	-0.13	2.67	.03	-14.97	872	431.7	103.7	45.7	756
14.00	3.10	-0.13	2.97	-14.98	.93	887	431.2	104.6	46.0	771
14.50	3.43	-0.13	3.30	.94	.90	903	430.6	105.4	46.1	785
15.00	3.48	-0.13	3.35	.93	.89	904	430.0	106.2	46.2	787
15.50	3.40	-0.13	3.27	.94	.91	898	429.4	107.0	46.2	783
16.00	3.30	-0.13	3.17	.95	.92	891	428.8	107.8	46.0	778
16.50	3.30	-0.13	3.18	.95	.93	890	428.1	108.6	45.8	777
17.00	3.28	-0.13	3.15	.96	.93	886	427.5	109.3	45.6	775
17.50	3.23	-0.12	3.11	.96	.94	883	426.8	109.9	45.2	772
18.00	3.17	-0.12	3.05	.97	.96	878	426.2	110.6	44.7	769
18.50	3.03	-0.12	2.91	.98	.98	868	425.6	111.1	44.2	761
19.00	2.87	-0.12	2.75	-15.01	-15.01	858	424.9	111.7	43.6	752
19.50	2.68	-0.12	2.56	.03	.04	845	424.3	112.1	42.9	741
20.00	2.67	-0.12	2.55	.03	.05	843	423.7	112.5	42.2	739
20.50	2.74	-0.12	2.62	.02	.04	846	423.1	112.9	41.4	742
21.00	2.86	-0.12	2.74	.00	.02	851	422.5	113.1	40.5	746
21.50	2.94	-0.11	2.82	-14.99	.02	854	422.0	113.4	39.6	748
22.00	3.00	-0.11	2.89	.98	.01	857	421.4	113.5	38.6	750
22.50	3.06	-0.11	2.95	.97	.01	858	420.9	113.6	37.6	751
23.00	3.15	-0.11	3.04	.96	.00	862	420.4	113.7	36.5	754
23.50	3.09	-0.11	2.99	.96	.01	858	419.9	113.6	35.4	750
24.00	2.87	-0.11	2.77	.99	.04	845	419.4	113.6	34.3	738
24.50	2.52	-0.11	2.41	-15.05	.10	823	419.0	113.5	33.1	718
25.00	2.32	-0.10	2.22	.08	.14	810	418.5	113.3	31.9	706
38325.20	2.50	-0.10	2.39	-15.05	-15.11	820	418.4	113.2	31.4	714
25.40	2.46	-0.10	2.35	.06	.12	817	418.2	113.2	30.9	711
25.60	2.42	-0.10	2.31	.06	.13	815	418.0	113.1	30.4	709
25.80	2.29	-0.10	2.18	.09	.15	806	417.9	113.0	29.8	701
26.00	2.73	-0.10	2.62	.01	-14.98	833	417.8	112.9	29.3	723
26.20	4.20	-0.10	4.10	-14.83	.80	904	417.6	112.8	28.8	785
26.40	6.14	-0.10	6.04	.68	.65	976	417.5	112.6	28.3	847
26.60	6.07	-0.10	5.97	.68	.65	973	417.3	112.5	27.8	844
26.80	6.02	-0.10	5.92	.68	.66	971	417.1	112.4	27.2	842

Table 3 (Cont.)

1961 δ 1 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38327.00	4.34	-0.10	4.24	-14.82	-14.79	908	417.6	112.3	26.7	787
27.20	4.10	-0.10	4.00	.84	.82	898	416.8	112.1	26.2	777
27.40	3.27	-0.10	3.17	.93	.91	859	416.6	112.0	25.6	743
27.60	2.63	-0.10	2.53	-15.02	-15.00	824	416.5	111.9	25.1	713
27.80	2.34	-0.10	2.74	-14.99	-14.97	836	416.3	111.7	24.5	722
38328.00	2.50	-0.10	2.41	-15.04	-15.02	816	416.2	111.6	24.0	705
28.50	2.37	-0.10	2.28	.06	.05	807	415.8	111.2	22.6	696
29.00	2.27	-0.09	2.18	.08	.07	800	415.4	110.8	21.2	689
29.50	2.25	-0.09	2.16	.09	.08	798	415.1	110.4	19.7	686
30.00	2.15	-0.09	2.06	.10	.10	790	414.8	109.9	18.3	678
30.50	2.22	-0.09	2.13	.09	.09	794	414.5	109.5	16.9	681
31.00	2.40	-0.09	2.31	.06	.05	805	414.3	109.0	15.4	689
38331.20	2.81	-0.09	2.72	-14.99	-14.99	829	414.2	108.8	14.9	709
31.40	3.14	-0.09	3.05	.94	.94	846	414.1	108.6	14.3	723
31.60	3.28	-0.09	3.20	.92	.92	853	414.0	108.4	13.7	729
31.80	3.69	-0.09	3.61	.88	.88	872	414.0	108.3	13.1	745
32.00	10.00	-0.09	9.91	.47	.47	1075	413.9	108.1	12.5	917
32.20	6.75	-0.09	6.67	.63	.63	985	413.8	107.9	12.0	840
32.40	6.37	-0.09	6.29	.65	.66	973	413.8	107.7	11.4	829
32.60	5.49	-0.09	5.40	.71	.72	943	413.7	107.5	10.8	803
32.80	4.82	-0.09	4.73	.77	.77	918	413.7	107.3	10.2	781
33.00	2.89	-0.08	2.81	.98	.98	832	413.7	107.2	9.6	708
33.20	3.20	-0.08	3.12	.93	.94	848	413.6	107.0	9.0	721
33.40	2.47	-0.08	2.38	-15.05	-15.05	807	413.6	106.8	8.5	686
33.60	2.46	-0.08	2.38	.05	.05	807	413.6	106.6	7.9	685
33.80	2.51	-0.08	2.43	.04	.04	810	413.6	106.4	7.3	688
38334.00	2.52	-0.08	2.43	-15.04	-15.04	810	413.6	106.3	6.7	687
34.50	2.72	-0.08	2.64	.00	.01	822	413.6	105.8	5.3	696
35.00	2.91	-0.08	2.83	-14.98	-14.98	832	413.7	105.4	3.9	705
35.50	3.08	-0.08	3.00	.95	.95	841	413.8	105.0	2.4	711
36.00	3.34	-0.08	3.26	.92	.92	855	413.9	104.7	1.0	722
36.50	3.25	-0.08	3.17	.93	.93	851	414.1	104.4	-0.3	718
37.00	3.10	-0.08	3.02	.95	.95	843	414.3	104.1	-1.7	711
37.50	2.98	-0.08	2.90	.97	.96	837	414.5	103.8	-3.1	706
38.00	2.95	-0.08	2.87	.97	.97	836	414.7	103.6	-4.4	704
38.50	2.95	-0.08	2.87	.98	.97	837	414.9	103.4	-5.7	704
39.00	3.05	-0.08	2.97	.96	.95	842	415.1	103.2	-6.9	708
39.50	3.33	-0.09	3.24	.93	.92	856	415.3	103.1	-8.2	720
40.00	3.66	-0.09	3.57	.89	.88	872	415.5	103.1	-9.4	733
38340.20	3.77	-0.09	3.68	-14.88	-14.86	877	415.6	103.1	-9.8	737
40.40	3.91	-0.09	3.81	.86	.85	883	415.6	103.1	-10.3	742
40.60	4.30	-0.09	4.21	.82	.81	900	415.6	103.1	-10.8	756
40.80	4.80	-0.09	4.70	.78	.77	920	415.7	103.1	-11.2	773
41.00	5.14	-0.10	5.05	.75	.69	932	415.3	103.2	-11.6	783
41.20	5.09	-0.10	4.99	.76	.70	929	415.3	103.2	-12.1	781
41.40	5.03	-0.10	4.94	.76	.70	927	415.3	103.3	-12.5	779
41.60	4.60	-0.10	4.50	.80	.74	910	415.3	103.3	-12.9	765
41.80	4.60	-0.10	4.50	.80	.74	910	415.2	103.4	-13.3	765
42.00	4.49	-0.10	4.39	.81	.75	905	415.2	103.5	-13.7	761
42.20	4.30	-0.10	4.19	.83	.77	897	415.2	103.6	-14.1	754
42.40	4.09	-0.10	3.99	.85	.79	888	415.1	103.7	-14.5	747
42.60	4.26	-0.10	4.16	.83	.77	895	415.1	103.8	-14.9	753
42.80	4.59	-0.10	4.48	.80	.74	908	415.1	103.9	-15.2	763
43.00	4.75	-0.11	4.64	.79	.73	914	415.0	104.1	-15.6	769
43.20	4.54	-0.11	4.43	.81	.75	906	415.0	104.2	-15.9	762
43.40	4.26	-0.11	4.15	.83	.77	894	414.9	104.4	-16.3	752

Table 3 (Cont.)

1961 51 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38343.60	4.11	-0.11	4.00	-14.85	-14.79	887	414.9	104.5	-16.6	747
43.80	4.07	-0.11	3.96	.85	.79	886	414.9	104.7	-16.9	745
38344.00	3.97	-0.11	3.86	-14.86	-14.80	881	414.8	104.9	-17.2	742
44.50	3.83	-0.11	3.71	.88	.82	874	414.7	105.4	-17.9	736
45.00	3.72	-0.11	3.61	.89	.83	869	414.6	106.0	-18.5	732
45.50	3.62	-0.12	3.51	.90	.85	864	414.5	106.6	-19.1	729
46.00	3.48	-0.12	3.36	.92	.86	856	414.3	107.3	-19.5	723
46.50	3.33	-0.12	3.21	.94	.88	849	414.2	108.0	-19.9	717
47.00	3.22	-0.12	3.10	.95	.90	842	414.0	108.7	-20.2	713
47.50	3.16	-0.12	3.04	.96	.91	839	413.8	109.5	-20.4	710
48.00	3.16	-0.12	3.03	.96	.91	838	413.6	110.4	-20.5	710
48.50	3.29	-0.12	3.16	.94	.90	843	413.4	111.2	-20.5	716
49.00	3.29	-0.13	3.16	.94	.90	842	413.1	112.1	-20.5	716
38349.20	3.24	-0.13	3.12	-14.95	-14.90	840	413.0	112.4	-20.4	714
49.40	3.17	-0.13	3.05	.96	.91	836	412.8	112.8	-20.3	711
49.60	2.95	-0.13	2.83	.99	.95	824	412.7	113.1	-20.2	701
49.80	2.95	-0.13	2.82	.99	.95	824	412.6	113.4	-20.1	701
50.00	3.01	-0.13	2.89	.98	.94	827	412.4	113.8	-20.0	704
50.20	3.20	-0.13	3.07	.95	.92	835	412.3	114.1	-19.9	711
50.40	3.33	-0.13	3.20	.94	.90	841	412.1	114.4	-19.7	717
50.60	3.92	-0.13	3.79	.87	.84	868	411.9	114.7	-19.5	740
50.80	4.92	-0.13	4.79	.77	.74	907	411.7	115.1	-19.4	774
51.00	4.96	-0.13	4.83	.77	.74	908	411.5	115.4	-19.2	775
51.20	4.45	-0.13	4.32	.82	.79	888	411.4	115.7	-19.0	758
51.40	4.40	-0.13	4.27	.82	.79	885	411.1	116.0	-18.7	756
51.60	3.67	-0.13	3.54	.90	.87	854	410.9	116.3	-18.5	729
51.80	3.54	-0.13	3.41	.91	.89	847	410.7	116.6	-18.2	724
52.00	3.40	-0.13	3.27	.93	.90	840	410.5	116.9	-18.0	718
38352.50	3.47	-0.13	3.34	-14.92	-14.90	842	409.9	117.5	-17.2	720
53.00	3.36	-0.13	3.23	.93	.92	834	409.2	118.1	-16.4	715
53.50	3.34	-0.13	3.21	.93	.93	831	408.4	118.7	-15.5	713
54.00	3.33	-0.13	3.20	.93	.94	829	407.7	119.2	-14.5	711
54.50	3.26	-0.13	3.13	.94	.95	823	406.8	119.6	-13.5	707
55.00	3.25	-0.13	3.12	.94	.96	820	405.9	120.0	-12.4	704
55.50	3.43	-0.13	3.31	.91	.94	826	405.0	120.2	-11.2	710
56.00	3.73	-0.13	3.61	.88	.91	837	404.0	120.5	-10.0	720
56.50	3.89	-0.13	3.76	.86	.74	840	403.0	120.6	-8.7	724
57.00	3.90	-0.13	3.77	.86	.75	838	402.0	120.7	-7.3	722
38357.20	3.95	-0.13	3.82	-14.85	-14.75	838	401.6	120.7	-6.8	723
57.40	4.03	-0.13	3.90	.84	.74	841	401.2	120.8	-6.2	725
57.60	4.29	-0.13	4.17	.82	.72	850	400.8	120.8	-5.7	733
57.80	4.62	-0.13	4.49	.79	.69	861	400.4	120.7	-5.1	742
58.00	5.22	-0.13	5.09	.74	.65	881	400.0	120.7	-4.5	760
58.20	5.17	-0.13	5.05	.74	.65	878	399.6	120.7	-3.9	758
58.40	4.88	-0.13	4.76	.76	.68	867	399.2	120.7	-3.3	748
58.60	4.78	-0.13	4.65	.77	.69	862	398.8	120.6	-2.7	744
58.80	4.64	-0.13	4.52	.78	.71	856	398.4	120.6	-2.1	739
59.00	4.20	-0.13	4.07	.82	.75	838	398.0	120.5	-1.5	723
59.20	3.88	-0.13	3.75	.85	.78	823	397.6	120.5	-0.9	711
59.40	3.99	-0.13	3.87	.84	.78	827	397.2	120.4	-0.3	714
59.60	3.67	-0.13	3.55	.88	.81	813	396.8	120.3	0.4	702
59.80	3.73	-0.12	3.60	.87	.81	814	396.4	120.2	1.0	703
38360.00	3.50	-0.12	3.38	-14.89	-14.84	803	396.1	120.1	1.6	694
60.50	3.49	-0.12	3.37	.89	.85	800	395.1	119.8	3.2	691
61.00	3.53	-0.12	3.41	.89	.85	799	394.2	119.5	4.9	690

Table 3 (Cont.)

1961 51 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38361.50	3.43	-0.12	3.30	-14.90	-14.87	791	393.3	119.2	6.5	684
62.00	3.33	-0.12	3.21	.91	.89	784	392.4	118.8	8.2	678
62.50	3.47	-0.12	3.35	.89	.88	788	391.5	118.4	9.9	682
38363.00	3.76	-0.12	3.64	-14.86	-14.85	798	390.7	117.9	11.6	690
63.20	3.83	-0.12	3.71	.85	.85	800	390.4	117.7	12.3	692
63.40	3.88	-0.12	3.76	.84	.84	801	390.0	117.6	13.0	693
63.60	4.11	-0.12	3.99	.82	.82	809	389.7	117.4	13.7	700
63.80	4.35	-0.12	4.23	.80	.80	817	389.4	117.2	14.4	707
64.00	3.97	-0.12	3.85	.83	.84	801	389.1	117.0	15.1	693
64.20	3.93	-0.12	3.81	.84	.85	799	388.8	116.8	15.8	691
64.40	3.68	-0.12	3.56	.87	.88	787	388.4	116.6	16.5	682
64.60	3.43	-0.12	3.31	.89	.91	776	388.1	116.4	17.2	672
64.80	3.24	-0.12	3.12	.92	.94	766	387.8	116.2	17.9	664
65.00	3.39	-0.12	3.27	.90	.92	772	387.5	116.0	18.6	669
65.20	3.48	-0.12	3.36	.89	.91	775	387.2	115.8	19.3	671
65.40	3.54	-0.12	3.42	.88	.91	777	387.0	115.6	20.0	673
38365.50	3.63	-0.12	3.51	-14.87	-14.90	780	386.8	115.5	20.3	676
66.00	4.27	-0.12	4.15	.80	.84	803	386.1	114.9	22.1	696
66.50	5.01	-0.12	4.89	.74	.78	826	385.4	114.4	23.8	716
67.00	4.94	-0.12	4.82	.74	.79	822	384.7	113.9	25.6	713
67.50	4.65	-0.12	4.53	.77	.82	810	384.1	113.4	27.3	702
68.00	4.58	-0.12	4.47	.77	.83	805	383.5	112.9	29.1	699
68.50	4.59	-0.12	4.47	.77	.84	803	382.9	112.4	30.8	698
69.00	4.57	-0.12	4.46	.77	.84	801	382.3	111.9	32.5	696
69.50	4.48	-0.12	4.36	.78	.86	795	381.8	111.5	34.2	692
70.00	4.30	-0.12	4.18	.80	.88	787	381.3	111.1	35.9	686
70.50	4.18	-0.12	4.07	.81	.75	781	380.8	110.7	37.5	681
71.00	4.22	-0.12	4.11	.80	.75	781	380.4	110.3	39.1	682
71.50	4.25	-0.12	4.14	.80	.75	781	380.1	110.0	40.7	683
72.00	4.40	-0.11	4.28	.79	.74	785	379.9	109.7	42.3	687
72.50	4.20	-0.11	4.09	.81	.76	777	379.7	109.4	43.9	681
38376.00	3.97	-0.11	3.86	-14.84	-14.80	765	378.9	109.2	53.5	677
76.50	4.06	-0.11	3.94	.83	.79	767	378.9	109.4	54.7	680
77.00	4.09	-0.11	3.98	.82	.79	768	378.8	109.6	55.8	683
77.50	4.30	-0.11	4.18	.81	.77	775	378.7	110.0	56.8	690
78.00	4.63	-0.11	4.52	.77	.74	786	378.7	110.4	57.8	701
78.50	4.60	-0.11	4.49	.78	.74	785	378.6	110.9	58.6	701
79.00	4.05	-0.11	3.94	.83	.80	765	378.5	111.4	59.4	685
79.50	3.88	-0.11	3.77	.85	.81	759	378.4	112.0	60.1	680
80.00	3.55	-0.11	3.44	.88	.85	745	378.2	112.7	60.7	669
80.50	3.46	-0.11	3.35	.90	.86	741	378.1	113.4	61.3	666
81.00	3.33	-0.11	3.22	.91	.88	735	377.9	114.1	61.7	662
81.50	3.24	-0.11	3.14	.92	.89	731	377.6	114.9	62.0	659
82.00	3.06	-0.10	2.95	.95	.92	722	377.4	115.7	62.2	652
82.50	3.11	-0.10	3.01	.94	.92	724	377.1	116.5	62.3	654
83.00	3.31	-0.10	3.20	.91	.89	731	376.8	117.3	62.4	661
83.50	4.54	-0.10	4.44	.78	.77	776	376.4	118.1	62.3	703
84.00	4.47	-0.10	4.37	.78	.77	773	376.0	118.9	62.1	700
84.50	4.27	-0.10	4.17	.80	.80	765	375.6	119.7	61.8	693
85.00	4.19	-0.10	4.10	.81	.81	761	375.1	120.4	61.4	690
85.50	4.32	-0.10	4.23	.80	.80	764	374.6	121.1	60.9	693
86.00	4.27	-0.09	4.18	.80	.81	761	374.1	121.8	60.3	691
86.50	4.03	-0.09	3.94	.82	.74	749	372.9	122.4	59.6	680
87.00	3.82	-0.09	3.73	.84	.77	740	372.4	122.9	58.8	672
87.50	3.44	-0.09	3.35	.88	.81	724	371.8	123.4	58.0	657
88.00	3.24	-0.09	3.15	.91	.84	714	371.3	123.8	57.0	648

Table 3 (Cont.)

1961 61 (Explorer 9)

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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38388.50	3.09	-0.09	3.00	-14.93	-14.86	707	370.9	124.1	56.0	641
89.00	3.13	-0.09	3.04	.92	.86	707	370.4	124.4	54.9	641
89.50	3.18	-0.08	3.10	.91	.86	709	369.9	124.6	53.8	642
90.00	3.27	-0.08	3.18	.90	.85	711	369.5	124.8	52.5	643
90.50	3.31	-0.08	3.23	.89	.85	712	369.1	124.8	51.3	643
91.00	3.35	-0.08	3.27	.89	.85	712	368.7	124.8	49.9	643
91.50	3.43	-0.08	3.35	.88	.84	714	368.3	124.8	48.5	644
92.00	3.58	-0.08	3.50	.86	.83	719	367.9	124.7	47.1	647
92.50	3.98	-0.07	3.90	.81	.79	733	367.5	124.5	45.6	658
93.00	4.48	-0.07	4.41	.76	.74	749	367.1	124.3	44.1	672
93.50	4.45	-0.07	4.38	.76	.74	747	366.7	124.1	42.5	669
94.00	3.94	-0.07	3.87	.81	.80	729	366.4	123.8	40.9	651
94.50	3.73	-0.07	3.67	.83	.82	720	366.0	123.4	39.3	642
95.00	3.59	-0.07	3.52	.85	.84	714	365.6	123.0	37.7	635
95.50	3.38	-0.07	3.31	.87	.87	705	365.2	122.6	36.0	625
38396.00	3.35	-0.06	3.29	-14.87	-14.88	703	364.9	122.2	34.3	622
96.20	4.37	-0.06	4.30	.77	.77	739	364.7	122.0	33.6	654
96.40	4.79	-0.06	4.73	.73	.73	752	364.6	121.8	32.9	665
96.60	6.33	-0.06	6.27	.61	.62	795	364.4	121.6	32.2	702
96.80	7.87	-0.06	7.81	.53	.53	831	364.3	121.4	31.5	733
97.00	6.71	-0.06	6.65	.59	.60	803	364.2	121.2	30.8	708
97.20	5.55	-0.06	5.49	.67	.68	772	364.0	121.0	30.1	680
97.40	5.01	-0.06	4.95	.71	.72	757	363.9	120.8	29.4	666
97.60	4.73	-0.06	4.66	.73	.74	747	363.8	120.6	28.7	657
97.80	4.38	-0.06	4.32	.76	.78	736	363.7	120.4	28.0	647
38398.00	4.24	-0.06	4.18	-14.78	-14.79	731	363.6	120.2	27.3	642
98.50	4.08	-0.06	4.02	.79	.81	725	363.4	119.7	25.5	635
99.00	3.72	-0.06	3.66	.83	.85	712	363.3	119.1	23.8	622
99.50	3.58	-0.06	3.52	.84	.86	707	363.2	118.6	22.0	616
38400.00	3.54	-0.06	3.48	.85	.87	707	364.0	118.1	20.2	615
00.50	3.46	-0.06	3.40	.86	.88	705	364.1	117.5	18.4	612
01.00	3.58	-0.05	3.52	.85	.87	710	364.3	117.0	16.6	615
01.50	3.88	-0.05	3.82	.81	.83	721	364.4	116.5	14.8	623
02.00	4.32	-0.05	4.27	.77	.78	737	364.6	116.0	13.0	636
02.50	4.60	-0.05	4.54	.75	.76	746	364.7	115.6	11.3	642
03.00	4.82	-0.05	4.77	.73	.74	754	364.9	115.2	9.5	648
03.50	5.33	-0.05	5.28	.69	.70	769	365.1	114.8	7.8	660
04.00	5.85	-0.05	5.79	.65	.66	784	365.3	114.4	6.1	671
04.50	5.58	-0.05	5.52	.67	.68	777	365.5	114.1	4.4	664
05.00	5.43	-0.05	5.37	.68	.69	773	365.6	113.8	2.7	660
05.50	5.25	-0.05	5.20	.70	.70	768	365.9	113.6	1.1	656
06.00	5.03	-0.06	4.98	.71	.71	762	366.1	113.4	-0.5	650
06.50	4.88	-0.06	4.82	.73	.73	758	366.3	113.3	-2.1	646
07.00	4.72	-0.06	4.66	.74	.74	753	366.5	113.2	-3.6	641
07.50	4.63	-0.06	4.57	.75	.75	751	366.6	113.2	-5.1	639
08.00	4.47	-0.07	4.40	.77	.76	746	366.8	113.3	-6.6	634
08.50	4.48	-0.07	4.41	.77	.76	746	367.0	113.4	-7.9	635
09.00	4.37	-0.08	4.29	.78	.77	743	367.2	113.6	-9.3	631
09.50	4.30	-0.08	4.22	.79	.77	740	367.3	113.9	-10.5	630
18410.00	4.40	-0.08	4.31	-14.78	-14.77	743	367.4	114.3	-11.7	633
10.20	4.51	-0.08	4.42	.77	.76	747	367.4	114.5	-12.2	636
10.40	5.43	-0.09	5.35	.69	.68	775	367.4	114.7	-12.6	660
10.60	7.49	-0.09	7.40	.56	.55	828	367.5	114.9	-13.1	705
10.80	7.28	-0.09	7.19	.58	.56	823	367.5	115.1	-13.5	700
11.00	6.58	-0.09	6.49	.62	.60	806	367.5	115.3	-13.9	686
11.20	6.11	-0.09	6.01	.65	.63	793	367.5	115.5	-14.3	676
11.40	6.07	-0.09	5.98	.65	.64	792	367.5	115.7	-14.7	675

Table 3 (Cont.)

1961 δ 1 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38411.60	5.71	-0.09	5.62	-14.68	-14.66	782	367.5	116.0	-15.0	667
11.80	5.68	-0.10	5.58	.68	.66	781	367.5	116.3	-15.4	666
12.00	5.41	-0.10	5.31	.70	.68	773	367.4	116.5	-15.7	660
12.20	4.76	-0.10	4.66	.75	.74	754	367.4	116.8	-16.0	643
12.40	4.46	-0.10	4.36	.78	.76	744	367.4	117.1	-16.3	635
12.60	4.57	-0.10	4.47	.77	.75	747	367.3	117.4	-16.6	638
12.80	4.67	-0.10	4.57	.76	.75	750	367.3	117.7	-16.9	641
38413.00	4.60	-0.10	4.49	-14.77	-14.75	748	367.2	118.1	-17.1	639
13.50	4.69	-0.10	4.58	.76	.75	750	367.1	118.9	-17.7	642
14.00	4.66	-0.10	4.56	.76	.64	746	366.4	119.8	-18.2	640
14.50	4.80	-0.11	4.69	.75	.63	749	366.3	120.7	-18.5	643
15.00	4.53	-0.11	4.42	.77	.66	740	366.1	121.6	-18.8	636
15.50	4.30	-0.11	4.20	.79	.68	732	365.8	122.6	-18.9	630
16.00	4.20	-0.11	4.09	.80	.69	727	365.5	123.5	-18.9	627
16.50	4.20	-0.11	4.09	.80	.70	726	365.1	124.5	-18.8	626
17.00	4.30	-0.11	4.19	.79	.69	727	364.7	125.4	-18.6	629
17.50	4.39	-0.11	4.27	.79	.69	728	364.2	126.2	-18.3	631
18.00	4.46	-0.11	4.35	.78	.69	729	363.6	127.1	-17.9	633
38418.20	4.57	-0.11	4.46	-14.77	-14.68	732	363.4	127.4	-17.7	635
18.40	4.71	-0.11	4.60	.75	.67	735	363.1	127.7	-17.5	639
18.60	5.09	-0.11	4.98	.72	.64	746	362.9	128.0	-17.3	648
18.80	5.41	-0.11	5.30	.70	.62	754	362.6	128.3	-17.1	656
19.00	5.61	-0.11	5.50	.68	.61	759	362.3	128.5	-16.8	660
19.20	5.33	-0.11	5.22	.70	.63	750	362.0	128.8	-16.5	653
19.40	5.21	-0.11	5.10	.71	.64	746	361.7	129.1	-16.2	650
19.60	5.07	-0.11	4.96	.72	.65	741	361.4	129.3	-15.9	646
19.80	5.07	-0.11	4.96	.72	.66	740	361.1	129.5	-15.6	645
20.00	5.04	-0.11	4.93	.72	.66	738	360.7	129.8	-15.3	644
38420.50	4.92	-0.11	4.81	-14.73	-14.68	732	359.9	130.3	-14.4	639
21.00	4.65	-0.11	4.54	.75	.71	721	359.0	130.7	-13.4	631
21.50	4.54	-0.11	4.43	.76	.73	714	358.1	131.0	-12.4	626
22.00	4.06	-0.11	3.96	.81	.78	697	357.1	131.3	-11.3	611
22.50	4.35	-0.11	4.24	.78	.76	703	356.2	131.5	-10.1	617
38423.00	4.95	-0.11	4.85	-14.72	-14.72	718	355.2	131.6	-8.9	631
23.20	5.36	-0.11	5.25	.69	.69	728	354.9	131.7	-8.4	640
23.40	5.81	-0.11	5.71	.65	.66	739	354.5	131.7	-7.9	650
23.60	6.21	-0.11	6.10	.63	.64	747	354.1	131.7	-7.3	657
23.80	6.01	-0.11	5.90	.64	.65	741	353.8	131.7	-6.8	652
24.00	6.29	-0.10	6.18	.62	.64	747	353.4	131.7	-6.3	657
24.20	5.79	-0.10	5.69	.65	.67	734	353.0	131.7	-5.7	646
24.40	5.30	-0.10	5.20	.69	.71	720	352.7	131.6	-5.2	634
24.60	5.09	-0.10	4.99	.70	.73	713	352.3	131.6	-4.6	628
24.80	5.03	-0.10	4.92	.71	.74	710	352.0	131.5	-4.0	625
25.00	4.99	-0.10	4.88	.71	.75	707	351.6	131.5	-3.5	623
25.20	4.72	-0.10	4.62	.73	.78	699	351.3	131.4	-2.9	616
25.40	4.79	-0.10	4.69	.73	.77	700	351.0	131.3	-2.3	617
25.60	5.10	-0.10	4.99	.70	.75	707	350.6	131.2	-1.7	624
25.80	6.28	-0.10	6.18	.62	.67	737	350.3	131.2	-1.1	650
26.00	6.35	-0.10	6.25	.61	.66	737	350.0	131.1	-0.5	650
26.20	5.63	-0.10	5.53	.66	.72	719	349.7	130.9	0.1	634
26.40	5.28	-0.10	5.18	.69	.75	709	349.4	130.8	0.7	625
26.60	5.21	-0.10	5.11	.69	.75	706	349.1	130.7	1.3	623
26.80	5.06	-0.10	4.96	.70	.77	701	348.9	130.6	1.9	619
38427.00	4.93	-0.10	4.84	-14.71	-14.78	697	348.6	130.4	2.6	615
27.50	4.70	-0.10	4.60	.73	.81	688	348.0	130.1	4.1	607

Table 3 (Cont.)

1961 61 (Explorer 9)

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)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38428.00	4.44	-0.10	4.34	-14.75	-14.84	678	347.4	129.7	5.7	599
28.50	4.20	-0.10	4.10	.78	.87	669	346.9	129.3	7.3	591
29.00	4.44	-0.09	4.35	.75	.85	676	346.5	128.8	9.0	597
29.50	4.84	-0.09	4.74	.72	.82	686	346.0	128.4	10.6	605
30.00	5.08	-0.09	4.99	.70	.80	691	345.7	127.9	12.3	610
30.50	5.31	-0.09	5.22	.68	.78	696	345.3	127.4	13.9	615
38430.60	5.39	-0.09	5.30	-14.67	-14.78	698	345.3	127.3	14.2	616
30.80	5.69	-0.09	5.60	.65	.56	705	345.2	127.1	14.9	623
31.00	5.89	-0.09	5.80	.64	.55	709	345.0	126.9	15.6	626
31.20	6.65	-0.09	6.56	.59	.50	726	344.7	126.7	16.2	641
31.40	7.93	-0.09	7.84	.51	.43	752	344.5	126.5	16.9	664
31.60	8.41	-0.09	8.32	.49	.41	760	344.2	126.3	17.6	672
31.80	8.21	-0.09	8.12	.50	.43	756	344.0	126.1	18.2	667
32.00	7.91	-0.09	7.82	.51	.44	749	343.7	126.0	18.9	661
32.20	7.88	-0.09	7.80	.52	.45	747	343.4	125.8	19.5	660
32.40	7.66	-0.09	7.57	.53	.46	742	343.2	125.6	20.2	655
32.60	7.48	-0.09	7.39	.54	.47	737	342.9	125.4	20.9	651
32.80	7.52	-0.09	7.43	.53	.47	737	342.7	125.2	21.5	651
33.00	7.41	-0.09	7.33	.54	.48	734	342.4	125.0	22.2	648
33.20	7.47	-0.09	7.38	.54	.48	734	342.2	124.8	22.8	648
33.40	7.41	-0.09	7.32	.54	.49	732	342.0	124.6	23.5	646
33.60	7.57	-0.09	7.48	.53	.48	734	341.7	124.5	24.1	648
33.80	7.84	-0.09	7.75	.52	.47	738	341.5	124.3	24.8	652
34.00	8.66	-0.09	8.57	.48	.43	753	341.3	124.1	25.4	665
34.20	9.40	-0.09	9.31	.44	.40	766	341.1	124.0	26.1	676
34.40	9.14	-0.09	9.06	.45	.41	760	340.9	123.8	26.7	672
34.60	7.96	-0.09	7.87	.51	.47	738	340.7	123.7	27.3	652
34.80	7.62	-0.09	7.53	.53	.49	730	340.5	123.5	28.0	645
38435.00	7.52	-0.09	7.43	-14.53	-14.50	727	340.3	123.4	28.6	643
35.50	6.79	-0.09	6.70	.58	.54	710	339.9	123.0	30.2	628
36.00	6.74	-0.09	6.66	.58	.55	707	339.5	122.7	31.7	626
36.50	6.86	-0.09	6.78	.57	.55	708	339.2	122.5	33.2	627
37.00	7.12	-0.08	7.03	.56	.54	712	338.9	122.3	34.7	631
38445.00	7.07	-0.08	6.99	-14.57	-14.58	699	336.5	129.0	49.7	632
45.50	9.07	-0.08	8.99	.47	.48	734	336.1	130.0	49.9	665
46.00	10.05	-0.08	9.97	.43	.44	749	335.7	131.0	49.9	679
46.50	10.62	-0.08	10.54	.41	.42	756	335.1	132.1	49.8	686
47.00	9.64	-0.08	9.57	.44	.47	738	334.5	133.1	49.5	671
47.50	9.07	-0.08	9.00	.47	.50	726	333.9	134.2	49.1	661
38448.00	8.92		8.92	-14.47	-14.44	720	332.6	135.3	48.6	656
48.20	8.63		8.63	.48	.46	714	332.2	135.6	48.4	650
48.40	8.88		8.88	.47	.45	717	331.9	136.0	48.2	653
48.60	9.12		9.12	.46	.44	719	331.5	136.4	47.9	656
48.80	9.34		9.34	.45	.44	722	331.2	136.8	47.6	659
49.00	9.48		9.48	.44	.43	723	330.8	137.1	47.3	660
49.20	9.72		9.72	.43	.43	725	330.5	137.5	47.0	662
49.40	9.92		9.92	.42	.42	727	330.2	137.8	46.6	664
49.60	10.13		10.13	.41	.42	729	329.8	138.2	46.3	666
49.80	10.29		10.29	.41	.41	731	329.5	138.5	45.9	668
50.00	10.49		10.49	.40	.41	732	329.2	138.8	45.5	669
50.20	11.33		11.33	.37	.38	744	328.8	139.1	45.1	680
50.40	11.91		11.91	.35	.36	751	328.5	139.4	44.6	686
50.60	12.74		12.74	.32	.34	760	328.2	139.6	44.2	695
50.80	12.92		12.92	.31	.34	762	327.9	139.9	43.7	697
51.00	13.67		13.67	.29	.32	770	327.6	140.1	43.2	704

Table 3 (Cont.)

1961 51 (Explorer 9)

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)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38451.20	14.30		14.30	-14.27	-14.30	777	327.3	140.3	42.7	710
51.40	14.14		14.14	.28	.31	773	327.0	140.6	42.2	708
51.60	13.86		13.86	.28	.32	769	326.7	140.8	41.7	703
51.80	13.22		13.22	.30	.34	760	326.4	141.0	41.2	695
52.00	13.09		13.09	.31	.35	757	326.1	141.1	40.6	692
52.20	13.19		13.19	.30	.35	757	325.8	141.3	40.1	692
52.40	13.20		13.20	.30	.35	756	325.5	141.4	39.5	692
52.60	13.25		13.25	.30	.35	755	325.2	141.6	38.9	691
52.80	13.27		13.27	.30	.35	755	324.9	141.7	38.3	690
53.00	13.28		13.28	.30	.36	754	324.7	141.8	37.7	689
53.20	13.36		13.36	.30	.36	754	324.4	141.9	37.1	689
53.40	13.44		13.44	.29	.36	754	324.1	142.0	36.4	689
53.60	13.50		13.50	.29	.36	753	323.9	142.0	35.8	689
53.80	13.47		13.47	.29	.36	752	323.6	142.1	35.1	688
54.00	13.44		13.44	.29	.36	751	323.4	142.1	34.5	686
54.20	13.29		13.29	.30	.37	748	323.2	142.2	33.8	684
54.40	13.27		13.27	.30	.37	747	323.0	142.2	33.1	682
54.60	13.24		13.24	.30	.37	746	322.8	142.2	32.4	681
54.80	12.19		12.19	.33	.33	734	323.3	142.2	31.7	670
55.00	11.75		11.75	.34	.34	729	323.4	142.2	31.0	665
55.20	11.47		11.47	.35	.35	725	323.5	142.2	30.2	662
55.40	11.40		11.40	.36	.35	724	323.6	142.1	29.5	661
55.60	11.09		11.09	.37	.36	720	323.7	142.1	28.8	657
55.80	10.79		10.79	.38	.37	717	323.8	142.0	28.0	653
56.00	10.45		10.45	.39	.38	712	323.9	142.0	27.3	649
56.20	10.38		10.38	.39	.38	711	324.0	141.9	26.5	648
56.40	10.21		10.21	.40	.39	709	324.1	141.8	25.7	646
56.60	10.18		10.18	.40	.39	709	324.2	141.8	25.0	646
56.80	10.31		10.31	.40	.38	711	324.2	141.7	24.2	647
57.00	10.32		10.32	.40	.38	712	324.3	141.6	23.4	647
57.20	9.95		9.95	.41	.40	707	324.4	141.5	22.6	642
57.40	10.13		10.13	.41	.39	709	324.4	141.3	21.8	645
57.60	10.32		10.32	.40	.38	712	324.5	141.2	21.0	647
57.80	10.40		10.40	.39	.38	714	324.5	141.1	20.2	648
58.00	10.50		10.50	.39	.37	715	324.5	141.0	19.4	649
58.20	12.88		12.88	.31	.24	747	324.3	140.8	18.5	677
58.40	16.00		16.00	.22	.16	784	324.1	140.7	17.7	710
58.60	19.89		19.89	.14	.08	824	323.9	140.5	16.9	746
58.80	22.30		22.30	.09	.03	846	323.6	140.4	16.0	766
59.00	19.69		19.69	.14	.08	820	323.3	140.2	15.2	742
59.20	18.51		18.51	.16	.11	807	323.1	140.1	14.4	730
59.40	17.83		17.83	.18	.13	798	322.8	139.9	13.5	722
59.60	17.39		17.39	.19	.14	792	322.4	139.7	12.7	716
59.80	16.92		16.92	.20	.15	785	322.1	139.6	11.8	709
60.00	16.70		16.70	.20	.16	781	321.8	139.4	10.9	706
60.20	16.45		16.45	.21	.17	777	321.5	139.2	10.1	701
60.40	16.18		16.18	.22	.18	773	321.2	139.0	9.2	697
60.60	15.37		15.37	.24	.20	762	320.9	138.9	8.4	687
60.80	13.88		13.88	.28	.25	744	320.6	138.7	7.5	670
61.00	13.16		13.16	.30	.28	731	319.8	138.5	6.6	659
61.20	12.94		12.94	.30	.29	728	319.6	138.3	5.8	655
61.40	12.73		12.73	.31	.29	724	319.5	138.2	4.9	652
61.60	12.80		12.80	.31	.29	725	319.4	138.0	4.0	652
61.80	13.28		13.28	.29	.28	730	319.3	137.8	3.2	657
62.00	14.03		14.03	.27	.26	739	319.3	137.6	2.3	664
62.20	14.14		14.14	.27	.26	740	319.3	137.5	1.4	665
62.40	14.14		14.14	.27	.26	740	319.3	137.3	0.5	664
62.60	14.54		14.54	.26	.25	744	319.3	137.1	-0.3	668
62.80	14.96		14.96	.25	.23	749	319.3	137.0	-1.2	672
63.00	15.00		15.00	.25	.23	750	319.4	136.8	-2.1	673

Table 3 (Cont.)

1961 81 (Explorer 9)

MJD	$-10^4 \dot{P}$	\dot{P}_r	$-10^4 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (*K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (*K)
38463.20	1.49		1.49	-14.25	-14.24	748	319.4	136.6	-3.0	671
63.40	1.49		1.49	.25	.24	749	319.5	136.5	-3.8	671
63.60	1.46		1.46	.26	.24	745	319.6	136.3	-4.7	668
63.80	1.40		1.40	.28	.26	738	319.7	136.2	-5.6	662
64.00	1.31		1.31	.31	.29	727	319.8	136.0	-6.4	652
64.20	1.27		1.27	.32	.30	723	319.9	135.9	-7.3	647
64.40	1.21		1.21	.34	.32	715	320.0	135.8	-8.1	640
64.60	1.19		1.19	.35	.32	712	320.1	135.7	-9.0	638
64.80	1.17		1.17	.35	.33	710	320.2	135.6	-9.8	636
65.00	1.19		1.19	.35	.32	713	320.2	135.4	-10.7	638
65.20	1.25		1.25	.33	.30	720	320.3	135.4	-11.5	645
65.40	1.28		1.28	.32	.29	724	320.4	135.3	-12.4	648
65.60	1.34		1.34	.30	.28	732	320.5	135.2	-13.2	655
65.80	1.36		1.36	.30	.27	734	320.5	135.1	-14.1	657
66.00	1.39		1.39	.29	.26	737	320.5	135.0	-14.9	660
66.20	1.45		1.45	.28	.29	746	321.0	135.0	-15.7	668
66.40	1.49		1.49	.27	.28	750	321.0	135.0	-16.5	671
66.60	1.56		1.56	.25	.26	758	321.0	134.9	-17.3	678
66.80	1.53		1.53	.26	.27	754	320.9	134.9	-18.1	675
67.00	1.50		1.50	.26	.28	750	320.9	134.9	-18.9	671
67.20	1.37		1.37	.30	.31	734	320.8	134.9	-19.7	657
67.40	1.36		1.36	.31	.32	732	320.7	134.9	-20.5	655
67.60	1.36		1.36	.31	.32	732	320.6	135.0	-21.3	655
67.80	1.36		1.36	.31	.32	731	320.5	135.0	-22.0	654
68.00	1.34		1.34	.31	.33	728	320.4	135.1	-22.8	652
68.20	1.29		1.29	.33	.35	721	320.3	135.1	-23.5	646
68.40	1.30		1.30	.33	.35	721	320.2	135.2	-24.3	646
68.60	1.34		1.34	.32	.34	725	320.1	135.3	-25.0	650
68.80	1.36		1.36	.31	.33	727	319.9	135.5	-25.7	652
69.00	1.38		1.38	.30	.26	726	319.2	135.6	-26.4	651
69.20	1.46		1.46	.28	.24	734	319.1	135.7	-27.1	659
38469.50	1.43		1.43	-14.29	-14.24	731	319.1	136.0	-28.1	656
70.00	1.41		1.41	.30	.25	728	319.2	136.5	-29.7	654
70.50	1.41		1.41	.30	.25	728	319.5	137.1	-31.2	655
71.00	1.43		1.43	.30	.24	731	319.8	137.9	-32.6	659
71.50	1.45		1.45	.29	.24	734	320.2	138.7	-33.9	663
72.00	1.48		1.48	.29	.22	739	320.7	139.6	-35.1	668
72.50	1.33		1.33	.33	.26	723	321.2	140.6	-36.1	655
73.00	1.19		1.19	.38	.30	707	321.6	141.7	-37.0	642
73.50	1.15		1.15	.40	.31	703	322.1	142.9	-37.8	639
74.00	1.14		1.14	.40	.31	703	322.5	144.1	-38.4	640
74.50	1.24		1.24	.37	.28	716	322.8	145.4	-38.8	654
75.00	1.37		1.37	.33	.23	735	323.8	146.7	-39.1	673
75.50	1.54		1.54	.29	.20	750	322.8	148.0	-39.2	688
76.00	1.57		1.57	.28	.20	748	321.6	149.3	-39.2	687
38476.20	1.54		1.54	-14.28	-14.22	743	321.1	149.8	-39.2	683
76.40	1.58		1.58	.27	.21	745	320.5	150.3	-39.1	685
76.60	1.72		1.72	.24	.18	756	320.0	150.8	-39.0	696
76.80	1.93		1.93	.19	.15	774	319.4	151.2	-38.8	713
77.00	2.27		2.27	.13	.09	802	318.9	151.7	-38.7	739
77.20	2.22		2.22	.14	.10	795	318.3	152.2	-38.5	734
77.40	2.14		2.14	.15	.09	791	318.9	152.6	-38.3	730
77.60	2.32		2.32	.12	.06	803	318.3	153.0	-38.1	742
77.80	2.23		2.23	.14	.08	793	317.7	153.4	-37.8	733
78.00	2.07		2.07	.16	.12	776	317.1	153.8	-37.6	718
78.20	2.05		2.05	.17	.13	771	316.5	154.2	-37.3	714
78.40	2.03		2.03	.17	.14	766	315.9	154.6	-37.0	710
78.60	2.03		2.03	.17	.15	764	315.2	154.9	-36.6	708

Table 3 (Cont.)

1961 51 (Explorer 9)

MJD	$-10^4 \dot{P}$	\dot{P}_r	$-10^4 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_B$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38478.80	2.03		2.03	-14.17	-14.15	761	314.6	155.3	-36.3	706
79.00	2.04		2.04	.17	.16	759	314.0	155.6	-35.9	705
79.20	2.03		2.03	.17	.17	755	313.4	155.9	-35.5	702
79.40	2.02		2.02	.17	.17	752	312.9	156.2	-35.1	699
79.60	2.01		2.01	.17	.18	748	312.3	156.4	-34.7	696
79.80	2.00		2.00	.17	.19	745	311.8	156.7	-34.2	693
80.00	1.98		1.98	.18	.20	741	311.3	156.9	-33.8	690
80.20	1.97		1.97	.18	.20	738	310.9	157.1	-33.3	687
80.40	1.94		1.94	.19	.22	734	310.5	157.3	-32.8	683
80.60	1.94		1.94	.19	.22	732	310.1	157.4	-32.3	682
80.80	1.92		1.92	.19	.23	729	309.8	157.6	-31.8	679
81.00	1.86		1.86	.20	.24	722	309.5	157.7	-31.2	673
81.20	1.83		1.83	.21	.25	718	309.3	157.8	-30.7	670
81.40	1.81		1.81	.21	.26	716	309.2	157.9	-30.1	668
81.60	1.77		1.77	.22	.27	712	309.2	158.0	-29.5	664
81.80	1.75		1.75	.23	.27	710	309.2	158.1	-29.0	662
82.00	1.90		1.90	.20	.13	729	310.6	158.1	-28.3	680
82.20	1.94		1.94	.19	.12	733	310.7	158.2	-27.7	684
82.40	2.00		2.00	.18	.11	738	310.8	158.2	-27.1	689
82.60	2.05		2.05	.17	.10	743	310.9	158.2	-26.5	693
82.80	2.10		2.10	.16	.09	747	310.9	158.2	-25.8	697
83.00	2.16		2.16	.15	.08	752	311.0	158.1	-25.2	702
83.20	2.25		2.25	.14	.07	759	311.0	158.1	-24.5	709
83.40	2.26		2.26	.13	.07	760	311.0	158.0	-23.8	709
83.60	2.04		2.04	.18	.04	746	311.8	158.0	-23.2	696
83.80	2.19		2.19	.15	.01	758	312.0	157.9	-22.5	707
84.00	2.35		2.35	.12	-13.99	771	312.1	157.8	-21.8	719
84.20	2.50		2.50	.10	.96	781	312.0	157.7	-21.1	729
84.40	2.65		2.65	.08	.95	791	311.8	157.5	-20.4	738
84.60	2.99		2.99	.03	.90	813	311.4	157.4	-19.7	758
84.80	3.18		3.18	.00	.89	823	311.0	157.3	-18.9	767
85.00	3.34		3.34	-13.99	.87	830	310.5	157.1	-18.2	774
85.20	3.31		3.31	.99	.88	825	309.8	156.9	-17.5	768
85.40	3.16		3.16	-14.01	.91	811	309.1	156.8	-16.7	756
85.60	2.83		2.83	.05	.96	785	308.2	156.6	-16.0	731
85.80	2.86		2.86	.05	.96	782	307.3	156.4	-15.3	728
86.00	2.04		2.04	.18	-14.10	717	306.3	156.2	-14.5	667
86.20	2.09		2.09	.17	.11	715	305.3	156.0	-13.8	665
86.40	2.99		2.99	.03	-13.98	772	304.1	155.8	-13.0	718
86.60	3.59		3.59	-13.96	.92	803	302.9	155.5	-12.2	745
86.80	4.25		4.25	.89	.87	831	301.6	155.3	-11.5	771
87.00	5.00		5.00	.82	.82	860	300.3	155.1	-10.7	798
87.20	5.05		5.05	.82	.83	854	298.9	154.8	-10.0	792
87.40	4.60		4.60	.85	.88	825	297.5	154.6	-9.2	764
87.60	4.51		4.51	.86	.91	812	296.0	154.3	-8.4	752
87.80	4.29		4.29	.88	.94	792	294.5	154.1	-7.6	734
88.00	4.31		4.31	.88	.96	784	292.9	153.8	-6.9	726
88.20	4.35		4.35	.87	.97	777	291.3	153.6	-6.1	719
88.40	4.39		4.39	.87	.99	770	289.7	153.3	-5.3	711
88.60	4.34		4.34	.88	.64	767	289.3	153.0	-4.5	709
88.80	4.30		4.30	.88	.66	757	288.1	152.7	-3.8	699
89.00	4.27		4.27	.88	.67	748	286.7	152.5	-3.0	690
89.20	4.24		4.24	.89	.69	738	285.3	152.2	-2.2	680
89.40	4.11		4.11	.90	.72	723	283.9	151.9	-1.5	666
89.60	4.32		4.32	.88	.72	722	282.4	151.6	-0.7	665
89.80	4.31		4.31	.88	.74	713	280.8	151.3	0.1	656
90.00	4.31		4.31	.88	.76	702	279.1	151.1	0.9	646
90.20	4.53		4.53	.86	.76	701	277.4	150.8	1.6	644
90.40	4.65		4.65	.85	.78	694	275.6	150.5	2.4	638
90.60	4.77		4.77	.84	.79	687	273.6	150.2	3.2	631

Table 3 (Cont.)

1961 61 (Explorer 9)

MJD	$-10^4 \dot{P}$	\dot{P}_r	$-10^4 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38490.80	4.79		4.79	-13.84	-13.82	675	271.6	150.0	3.9	620
91.00	4.92		4.92	.83	.84	667	269.4	149.7	4.7	612
91.20	5.16		5.16	.81	.85	661	267.1	149.4	5.4	606
91.40	5.09		5.09	.81	.89	645	264.7	149.1	6.2	590
91.60	5.23		5.23	.80	.91	634	262.1	148.9	6.9	580
91.80	5.59		5.59	.78	.92	629	259.4	148.6	7.7	576
92.00	5.64		5.64	.77	.96	614	256.6	148.4	8.4	561
92.20	5.80		5.80	.76	-14.00	601	253.6	148.1	9.2	549
92.40	6.17		6.17	.73	.02	592	250.4	147.8	9.9	541
92.60	6.65		6.65	.70	.04	585	247.1	147.6	10.6	534
92.80	7.55		7.55	.65	.04	585	243.6	147.4	11.4	534
93.00	8.34		8.34	.61	.05	580	240.0	147.1	12.1	529
93.20	8.82		8.82	.58	.09	566	236.1	146.9	12.8	516
93.40	10.33		10.33	.52	.09	568	232.1	146.7	13.5	517
93.60	10.60		10.60	.51	.15	547	227.9	146.5	14.2	498
93.80	13.54		13.54	.41	.10	565	223.4	146.3	14.9	514
94.00	17.27		17.27	.31	.07	573	218.8	146.1	15.6	521

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38013.00	6.04		6.04	-13.23	-13.30	824	244.1	120.0	53.8	741
14.00	6.23		6.23	.21	.29	833	244.1	116.7	54.9	747
38015.00	6.4		6.4	-13.20	-13.28	841	244.1	113.4	55.9	751
15.20	6.8		6.8	.18	.25	860	244.1	112.8	56.1	768
15.40	7.0		7.0	.17	.24	869	244.1	112.1	56.3	775
15.60	7.6		7.6	.14	.21	897	244.1	111.4	56.5	800
15.80	7.9		7.9	.13	.19	911	244.1	110.8	56.7	811
16.00	8.1		8.1	.12	.18	920	244.1	110.1	56.9	819
16.20	8.1		8.1	.12	.18	920	244.1	109.5	57.1	818
16.40	7.9		7.9	.13	.19	911	244.2	108.8	57.3	810
16.60	7.9		7.9	.13	.19	911	244.2	108.1	57.5	810
16.80	7.5		7.5	.14	.21	893	244.2	107.5	57.7	793
17.00	7.0		7.0	.17	.24	870	244.2	106.8	57.9	772
17.20	6.7		6.7	.19	.26	856	244.2	106.1	58.1	759
17.40	6.8		6.8	.18	.25	861	244.3	105.5	58.3	765
17.60	6.8		6.8	.18	.25	861	244.3	104.8	58.5	761
17.80	6.8		6.8	.18	.25	861	244.3	104.2	58.7	762
18.00	6.5		6.5	.20	.27	847	244.3	103.5	59.0	750
18.20	6.3		6.3	.21	.28	838	244.3	102.8	59.2	741
18.40	6.1		6.1	.22	.29	828	244.4	102.2	59.4	732
18.60	5.8		5.8	.24	.31	814	244.4	101.5	59.6	719
18.80	5.8		5.8	.24	.31	814	244.4	100.8	59.8	718
19.00	5.9		5.9	.24	.31	819	244.5	100.1	59.9	722
38020.00	5.78		5.78	-13.25	-13.31	814	244.6	96.8	60.9	716
21.00	5.10		5.10	.29	.36	781	244.8	93.4	61.9	685
22.00	4.51		4.51	.34	.41	750	245.0	90.0	62.9	657
23.00	4.58		4.58	.34	.40	755	245.2	86.6	63.8	660
24.00	4.66		4.66	.33	.39	761	245.4	83.2	64.8	663
25.00	4.72		4.72	.33	.38	766	245.7	79.8	65.7	666
26.00	4.55		4.55	.34	.40	758	246.0	76.3	66.6	659
27.00	4.16		4.16	.38	.43	738	246.2	72.8	67.6	640
28.00	3.89		3.89	.40	.45	724	246.5	69.3	68.5	627
29.00	4.10		4.10	.39	.43	738	246.8	65.8	69.3	639
30.00	4.31		4.31	.37	.41	752	247.1	62.2	70.2	650
31.00	4.38		4.38	.36	.40	758	247.4	58.6	71.1	655
32.00	4.34		4.34	.37	.40	758	247.7	55.0	71.9	655
33.00	4.30		4.30	.37	.40	758	248.0	51.4	72.8	655
34.00	4.30		4.30	.37	.39	760	248.4	47.7	73.6	656
35.00	4.28		4.28	.37	.39	761	248.7	44.0	74.4	658
36.00	4.22		4.22	.38	.39	759	249.0	40.2	75.2	657
37.00	4.18		4.18	.39	.40	759	249.3	36.4	76.0	658
38.00	4.20		4.20	.39	.39	762	249.6	32.6	76.7	661
39.00	4.17		4.17	.39	.39	763	249.9	28.7	77.5	663
40.00	4.15		4.15	.39	.39	763	250.2	24.8	78.2	665
41.00	4.32		4.32	.38	.37	775	250.5	20.8	78.9	677
42.00	4.67		4.67	.35	.34	797	250.8	16.8	79.6	699
43.00	4.86		4.86	.33	.32	810	251.1	12.7	80.3	712
44.00	4.94		4.94	.33	.31	816	251.3	8.6	80.9	720
45.00	4.73		4.73	.34	.32	806	251.6	4.3	81.5	715
46.00	4.27		4.27	.38	.36	781	251.8	0.0	82.1	695
47.00	3.90		3.90	.42	.39	760	252.1	355.7	82.7	680
48.00	3.84		3.84	.43	.40	757	252.3	351.2	83.3	680
49.00	3.77		3.77	.44	.40	754	252.5	346.7	83.8	681
50.00	3.41		3.41	.48	.44	732	252.7	342.1	84.3	664
51.00	3.22		3.22	.50	.46	720	252.9	337.3	84.7	657
52.00	2.94		2.94	.54	.49	701	253.0	332.5	85.2	643
53.00	3.08		3.08	.52	.47	711	253.2	327.6	85.6	656
54.00	3.03		3.03	.53	.48	709	253.3	322.6	85.9	657

Table 3 (Cont.)

1962 β +2 (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_{\pi-a_\odot}$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38055.00	2.72		2.72	-13.57	-13.52	687	253.4	317.5	86.2	640
56.00	2.62		2.62	.58	.53	680	253.6	312.2	86.5	636
57.00	2.44		2.44	.61	.56	667	253.7	306.9	86.7	627
58.00	2.29		2.29	.64	.58	655	253.8	301.4	86.9	618
38059.00	3.0		3.0	-13.53	-13.48	708	253.9	295.9	87.0	671
59.20	3.3		3.3	.50	.44	730	253.9	294.8	87.0	692
59.40	3.5		3.5	.47	.42	744	253.9	293.6	87.1	706
59.60	4.1		4.1	.41	.36	781	253.9	292.5	87.1	742
59.80	4.8		4.8	.35	.30	822	253.9	291.4	87.1	782
60.00	5.6		5.6	.29	.24	867	254.0	290.3	87.1	825
60.20	5.9		5.9	.27	.22	884	254.0	289.1	87.1	842
60.40	7.2		7.2	.20	.15	950	254.0	288.0	87.1	905
60.60	6.6		6.6	.23	.18	923	254.0	286.8	87.1	879
60.80	5.6		5.6	.29	.24	870	254.0	285.7	87.1	830
61.00	4.8		4.8	.35	.30	825	254.0	284.5	87.1	787
61.20	4.6		4.6	.37	.32	813	254.0	283.4	87.1	776
61.40	4.1		4.1	.41	.36	784	254.0	282.2	87.1	748
61.60	4.0		4.0	.42	.37	777	254.0	281.1	87.1	742
61.80	3.7		3.7	.45	.40	758	254.0	279.9	87.1	725
62.00	3.3		3.3	.49	.44	732	254.0	278.7	87.1	700
38063.00	2.88		2.88	-13.55	-13.49	703	254.0	272.9	86.9	674
64.00	2.43		2.43	.61	.55	669	254.0	267.0	86.8	642
65.00	2.52		2.52	.60	.54	676	254.0	261.1	86.6	649
66.00	2.53		2.53	.59	.54	677	254.0	255.1	86.3	650
67.00	2.58		2.58	.59	.53	681	253.9	249.2	85.9	654
68.00	2.71		2.71	.57	.51	691	253.8	243.3	85.5	664
69.00	2.53		2.53	.59	.54	677	253.8	237.5	85.0	651
38069.20	2.4		2.4	-13.61	-13.56	667	253.8	236.3	84.9	641
69.40	2.4		2.4	.61	.56	667	253.7	235.1	84.8	640
69.60	2.5		2.5	.60	.54	674	253.7	234.0	84.7	648
69.80	2.5		2.5	.60	.54	674	253.7	232.8	84.6	648
70.00	3.0		3.0	.53	.48	711	253.7	231.7	84.5	683
70.20	4.1		4.1	.41	.36	783	253.7	230.5	84.4	752
70.40	4.8		4.8	.34	.30	825	253.6	229.4	84.2	792
70.60	5.8		5.8	.27	.23	880	253.6	228.2	84.1	845
70.80	5.0		5.0	.33	.28	838	253.6	227.1	84.0	805
71.00	4.6		4.6	.36	.31	815	253.6	226.0	83.9	782
71.20	4.5		4.5	.37	.32	808	253.5	224.8	83.8	776
71.40	4.0		4.0	.41	.37	778	253.5	223.7	83.6	747
71.60	4.0		4.0	.41	.37	777	253.5	222.6	83.5	746
71.80	3.8		3.8	.43	.39	765	253.5	221.4	83.4	734
72.00	3.7		3.7	.44	.40	758	253.4	220.3	83.2	728
72.20	3.7		3.7	.44	.40	758	253.4	219.2	83.1	727
72.40	3.7		3.7	.44	.40	758	253.4	218.1	83.0	727
72.60	3.8		3.8	.43	.39	764	253.4	217.0	82.8	733
72.80	3.7		3.7	.44	.40	757	253.3	215.9	82.7	727
73.00	3.5		3.5	.46	.42	744	253.3	214.8	82.5	714
38074.00	3.37		3.37	-13.48	-13.44	734	253.2	209.4	81.8	704
75.00	3.12		3.12	.51	.47	716	253.0	204.0	81.0	686
76.00	2.94		2.94	.53	.49	702	252.9	198.8	80.1	671
77.00	2.83		2.83	.55	.51	693	252.7	193.7	79.2	661
78.00	2.64		2.64	.57	.54	678	252.5	188.8	78.3	646
79.00	2.70		2.70	.56	.53	681	252.4	183.9	77.4	647
80.00	2.90		2.90	.54	.51	694	252.2	179.1	76.4	658
81.00	3.25		3.25	.49	.46	717	252.0	174.5	75.3	678
82.00	3.41		3.41	.47	.45	727	251.8	169.9	74.3	685

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38083.00	3.39		3.39	-13.47	-13.45	725	251.6	165.5	73.2	681
84.00	3.34		3.34	.48	.46	720	251.5	161.1	72.1	675
85.00	3.34		3.34	.48	.46	719	251.3	156.8	71.0	671
86.00	3.35		3.35	.48	.46	718	251.0	152.6	69.8	667
87.00	3.38		3.38	.47	.46	718	250.7	148.5	68.6	665
88.00	3.33		3.33	.48	.47	713	250.5	144.4	67.4	658
89.00	3.65		3.65	.44	.44	732	250.3	140.4	66.2	672
90.00	3.96		3.96	.41	.41	750	250.0	136.5	65.0	685
91.00	4.08		4.08	.40	.40	756	249.8	132.7	63.8	687
92.00	3.95		3.95	.41	.42	746	249.6	128.8	62.5	676
93.00	3.80		3.80	.42	.43	736	249.4	125.1	61.3	663
94.00	4.07		4.07	.40	.41	750	249.1	121.4	60.0	672
95.00	4.24		4.24	.38	.40	759	248.9	117.8	58.7	676
38095.80	4.6		4.6	-13.35	-13.37	778	248.7	114.9	57.7	690
96.00	4.6		4.6	.35	.37	778	248.6	114.1	57.4	689
96.20	4.9		4.9	.32	.34	794	248.6	113.4	57.1	703
96.40	5.1		5.1	.31	.33	804	248.5	112.7	56.9	711
96.60	5.5		5.5	.28	.30	825	248.5	112.0	56.6	729
96.80	5.5		5.5	.28	.30	825	248.4	111.3	56.3	728
97.00	5.5		5.5	.28	.30	825	248.4	110.6	56.1	727
97.20	5.6		5.6	.27	.29	829	248.3	109.9	55.8	730
97.40	5.6		5.6	.27	.29	829	248.3	109.2	55.6	729
97.60	5.6		5.6	.27	.29	829	248.2	108.5	55.3	728
97.80	5.6		5.6	.27	.29	828	248.2	107.8	55.0	727
98.00	5.3		5.3	.29	.32	812	248.1	107.1	54.8	712
98.20	5.5		5.5	.28	.30	822	248.1	106.4	54.5	720
98.40	5.6		5.6	.27	.30	827	248.0	105.7	54.2	724
98.60	5.7		5.7	.26	.29	832	248.0	105.0	54.0	727
98.80	5.7		5.7	.26	.29	832	247.9	104.3	53.7	726
99.00	5.4		5.4	.28	.31	816	247.9	103.6	53.4	711
38100.00	5.27		5.27	-13.29	-13.32	807	247.6	100.1	52.1	700
01.00	5.04		5.04	.31	.34	793	247.3	96.7	50.8	684
02.00	4.68		4.68	.34	.38	772	247.0	93.3	49.4	661
03.00	4.50		4.50	.35	.39	760	246.7	89.9	48.1	647
04.00	4.55		4.55	.35	.39	761	246.4	86.6	46.7	644
05.00	4.68		4.68	.33	.38	766	246.1	83.3	45.4	645
06.00	5.14		5.14	.30	.35	789	245.8	80.0	44.0	660
07.00	5.77		5.77	.25	.31	819	245.5	76.7	42.6	682
08.00	6.00		6.00	.23	.29	828	245.2	73.4	41.2	686
09.00	5.83		5.83	.24	.31	818	244.9	70.2	39.9	674
10.00	5.44		5.44	.27	.34	796	244.6	67.0	38.5	653
11.00	5.69		5.69	.25	.32	806	244.2	63.8	37.1	658
12.00	6.25		6.25	.21	.29	831	243.9	60.6	35.7	675
13.00	6.30		6.30	.21	.29	832	243.6	57.5	34.3	672
14.00	6.30		6.30	.21	.29	829	243.2	54.3	32.9	668
15.00	6.21		6.21	.21	.30	823	242.9	51.2	31.5	660
16.00	6.01		6.01	.22	.32	811	242.5	48.0	30.1	648
17.00	5.97		5.97	.22	.32	807	242.2	44.9	28.8	643
18.00	6.20		6.20	.21	.31	815	241.9	41.8	27.4	648
19.00	6.33		6.33	.20	.31	819	241.5	38.7	26.0	649
20.00	6.57		6.57	.18	.29	828	241.2	35.6	24.6	655
21.00	6.81		6.81	.17	.28	837	240.9	32.6	23.2	661
22.00	6.69		6.69	.18	.29	829	240.6	29.5	21.8	654
23.00	6.79		6.79	.17	.29	832	240.3	26.4	20.4	656
38123.20	6.8		6.8	-13.17	-13.29	832	240.3	25.8	20.1	656
23.40	7.1		7.1	.15	.27	845	240.2	25.2	19.8	667
23.60	7.5		7.5	.13	.25	862	240.2	24.6	19.5	680

Table 3 (Cont.)

1962 β T2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38123.80	7.5		7.5	-13.13	-13.25	862	240.1	24.0	19.2	680
24.00	7.7		7.7	.12	.24	870	240.1	23.4	18.9	686
24.20	7.8		7.8	.12	.24	874	240.0	22.8	18.7	690
24.40	8.3		8.3	.09	.21	895	240.0	22.1	18.4	706
24.60	8.4		8.4	.09	.21	899	239.9	21.5	18.1	710
24.80	8.0		8.0	.11	.23	882	239.9	20.9	17.8	696
25.00	8.1		8.1	.10	.22	886	239.8	20.3	17.5	699
25.20	7.9		7.9	.11	.23	877	239.8	19.7	17.3	692
25.40	7.8		7.8	.11	.24	872	239.7	19.1	17.0	689
25.60	7.5		7.5	.13	.25	859	239.7	18.5	16.7	678
25.80	7.5		7.5	.13	.26	859	239.7	17.9	16.4	678
38126.00	7.43		7.43	-13.13	-13.26	855	239.6	17.3	16.1	676
27.00	7.23		7.23	.14	.27	845	239.4	14.2	14.7	669
28.00	7.12		7.12	.15	.28	839	239.3	11.2	13.3	665
29.00	7.08		7.08	.15	.28	836	239.1	8.2	11.9	665
30.00	6.93		6.93	.16	.29	829	239.0	5.1	10.5	661
31.00	7.02		7.02	.15	.29	833	239.0	2.1	9.1	667
32.00	7.39		7.39	.13	.27	849	239.0	359.1	7.8	600
38132.20	7.4		7.4	-13.13	-13.27	849	238.9	358.5	7.5	684
32.40	7.6		7.6	.12	.26	858	238.9	357.9	7.2	691
32.60	7.9		7.9	.11	.24	870	238.9	357.3	6.9	702
32.80	8.1		8.1	.10	.23	879	238.9	356.7	6.6	709
33.00	8.0		8.0	.10	.24	874	238.9	356.1	6.4	706
33.20	8.2		8.2	.09	.23	883	238.8	355.5	6.1	714
33.40	8.3		8.3	.09	.22	887	238.8	354.9	5.8	718
33.60	8.7		8.7	.07	.20	903	238.8	354.3	5.5	732
33.80	9.0		9.0	.06	.19	916	238.8	353.7	5.3	743
34.00	8.5		8.5	.08	.21	895	238.8	353.1	5.0	727
34.20	8.3		8.3	.09	.22	886	238.7	352.5	4.7	721
34.40	8.1		8.1	.10	.23	877	238.7	351.9	4.4	714
34.60	7.9		7.9	.11	.24	869	238.7	351.3	4.1	708
34.80	7.8		7.8	.11	.25	864	238.7	350.7	3.9	705
35.00	7.8		7.8	.11	.25	864	238.7	350.1	3.6	706
35.20	7.9		7.9	.11	.24	868	238.7	349.5	3.3	710
35.40	7.7		7.7	.11	.25	860	238.7	348.9	3.0	704
35.60	7.2		7.2	.14	.28	838	238.6	348.3	2.8	687
35.80	7.2		7.2	.14	.28	838	238.6	347.7	2.5	688
38136.00	7.21		7.21	-13.14	-13.28	838	238.6	347.1	2.2	689
37.00	7.05		7.05	.15	.29	831	238.6	344.1	0.8	688
38.00	7.24		7.24	.14	.28	839	238.6	341.0	-0.6	699
39.00	7.25		7.25	.14	.28	839	238.6	338.0	-2.0	705
40.00	6.85		6.85	.16	.30	822	238.6	335.0	-3.3	695
41.00	6.46		6.46	.18	.33	805	238.6	332.0	-4.7	686
42.00	6.19		6.19	.20	.34	793	238.7	329.0	-6.1	682
43.00	5.80		5.80	.22	.37	775	238.8	326.0	-7.4	672
44.00	5.49		5.49	.24	.39	761	238.9	323.0	-8.8	666
45.00	5.22		5.22	.26	.41	749	239.1	320.0	-10.2	661
46.00	4.90		4.90	.29	.43	735	239.3	317.0	-11.5	654
47.00	4.80		4.80	.30	.44	731	239.5	314.0	-12.9	656
48.00	5.18		5.18	.27	.41	751	239.7	310.9	-14.2	680
49.00	5.55		5.55	.24	.38	770	239.9	307.9	-15.6	704
50.00	5.76		5.76	.23	.36	782	240.1	304.9	-16.9	720
51.00	6.14		6.14	.21	.33	801	240.2	301.9	-18.3	744
52.00	6.12		6.12	.21	.33	801	240.4	298.8	-19.6	750
53.00	5.93		5.93	.22	.34	794	240.6	295.8	-21.0	748
54.00	5.69		5.69	.24	.36	784	240.8	292.8	-22.3	744
55.00	5.53		5.53	.25	.37	777	241.0	289.7	-23.6	743

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38156.00	5.19		5.19	-13.27	-13.39	762	241.2	286.7	-24.9	732
57.00	5.09		5.09	.28	.40	758	241.4	283.6	-26.2	733
58.00	5.37		5.37	.26	.37	773	241.6	280.6	-27.6	752
59.00	5.74		5.74	.24	.34	793	241.8	277.5	-28.9	774
60.00	5.98		5.98	.22	.33	806	242.0	274.5	-30.2	790
61.00	5.99		5.99	.22	.32	808	242.2	271.4	-31.5	795
62.00	5.50		5.50	.26	.36	785	242.4	268.3	-32.8	776
63.00	5.20		5.20	.28	.38	771	242.6	265.2	-34.1	764
64.00	4.94		4.94	.30	.39	759	242.7	262.1	-35.3	754
65.00	4.60		4.60	.33	.42	743	242.9	259.0	-36.6	739
66.00	4.21		4.21	.36	.46	721	243.0	255.9	-37.9	719
67.00	4.12		4.12	.37	.46	718	243.2	252.8	-39.2	717
68.00	4.05		4.05	.38	.47	716	243.5	249.7	-40.4	715
69.00	3.82		3.82	.40	.49	705	243.8	246.5	-41.7	704
70.00	3.68		3.68	.42	.50	698	244.1	243.4	-42.9	698
71.00	3.46		3.46	.44	.52	687	244.5	240.2	-44.2	687
72.00	3.13		3.13	.48	.56	668	244.8	237.1	-45.4	668
73.00	2.77		2.77	.53	.60	645	245.1	233.9	-46.6	645
74.00	2.78		2.78	.53	.60	648	245.5	230.7	-47.8	647
75.00	2.93		2.93	.51	.57	660	245.8	227.6	-49.0	660
76.00	3.11		3.11	.49	.54	675	246.2	224.4	-50.2	674
77.00	3.20		3.20	.48	.53	683	246.6	221.1	-51.4	681
78.00	3.30		3.30	.47	.51	692	247.0	217.9	-52.6	690
79.00	3.35		3.35	.46	.50	697	247.4	214.7	-53.8	695
80.00	3.21		3.21	.48	.51	691	247.8	211.4	-54.9	687
81.00	3.13		3.13	.49	.52	688	248.2	208.2	-56.1	683
82.00	3.19		3.19	.49	.51	694	248.6	204.9	-57.3	688
83.00	3.23		3.23	.48	.50	700	249.0	201.6	-58.4	692
84.00	2.86		2.86	.53	.54	677	249.4	198.3	-59.5	668
85.00	2.37		2.37	.60	.61	643	249.9	194.9	-60.7	633
38186.00	2.3		2.3	-13.62	-13.61	639	250.3	191.6	-61.8	628
86.20	2.3		2.3	.62	.61	640	250.4	190.9	-62.0	628
86.40	2.3		2.3	.62	.61	640	250.5	190.2	-62.2	628
86.60	2.6		2.6	.57	.56	664	250.6	189.6	-62.4	651
86.80	2.6		2.6	.57	.56	665	250.7	188.9	-62.7	652
87.00	3.2		3.2	.49	.48	708	250.8	188.2	-62.9	694
87.20	3.8		3.8	.43	.41	748	250.9	187.5	-63.1	732
87.40	4.3		4.3	.38	.36	779	250.9	186.9	-63.3	762
87.60	4.5		4.5	.36	.35	791	251.0	186.2	-63.5	774
87.80	4.0		4.0	.40	.39	763	251.1	185.5	-63.8	746
88.00	3.5		3.5	.46	.44	732	251.2	184.8	-64.0	715
88.20	3.5		3.5	.46	.44	732	251.3	184.1	-64.2	715
88.40	3.3		3.3	.48	.46	720	251.4	183.5	-64.4	702
88.60	3.2		3.2	.49	.47	713	251.5	182.8	-64.6	696
88.80	3.0		3.0	.52	.49	700	251.6	182.1	-64.8	683
89.00	3.0		3.0	.52	.49	701	251.7	181.4	-65.1	683
38190.00	2.90		2.90	-13.53	-13.50	696	252.2	178.0	-66.1	676
91.00	2.85		2.85	.54	.50	696	252.6	174.5	-67.2	674
92.00	2.74		2.74	.56	.51	690	253.1	171.0	-68.3	667
93.00	2.71		2.71	.56	.51	691	253.6	167.5	-69.3	665
94.00	2.67		2.67	.57	.51	691	254.1	164.0	-70.3	663
95.00	2.78		2.78	.56	.49	702	254.6	160.4	-71.4	672
96.00	2.89		2.89	.54	.47	714	255.1	156.8	-72.4	680
97.00	2.77		2.77	.56	.48	708	255.7	153.2	-73.4	673
38198.00	2.9		2.9	-13.54	-13.46	721	256.2	149.5	-74.3	683
98.20	2.9		2.9	.54	.46	722	256.3	148.7	-74.5	683
98.40	2.9		2.9	.54	.46	723	256.4	148.0	-74.7	684

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_{\pi-u_\odot}$ (deg.)	$\delta_{\pi-\delta_\odot}$ (deg.)	T_N (°K)
38198.60	3.2		3.2	-13.51	-13.42	745	256.5	147.3	-74.9	704
98.80	3.3		3.3	.49	.41	753	256.6	146.5	-75.1	711
99.00	3.3		3.3	.49	.40	754	256.8	145.8	-75.3	712
99.20	3.7		3.7	.45	.36	781	256.9	145.0	-75.5	737
99.40	3.5		3.5	.47	.38	769	257.0	144.3	-75.7	725
99.60	3.3		3.3	.49	.40	756	257.1	143.5	-75.9	713
99.80	3.2		3.2	.51	.41	750	257.2	142.8	-76.1	706
38200.00	3.2		3.2	.51	.41	750	257.3	142.0	-76.2	706
38201.00	2.52		2.52	-13.60	-13.49	704	257.9	138.2	-77.2	660
02.00	2.17		2.17	.66	.54	677	258.5	134.4	-78.1	633
03.00	1.97		1.97	.70	.57	662	259.1	130.5	-79.0	617
04.00	1.89		1.89	.72	.58	657	259.7	126.5	-79.9	611
05.00	1.90		1.90	.72	.57	660	260.1	122.5	-80.7	612
38205.20	2.0		2.0	-13.70	-13.55	670	260.2	121.7	-80.9	620
05.40	2.3		2.3	.64	.50	697	260.3	120.9	-81.1	645
05.60	2.4		2.4	.63	.48	706	260.4	120.1	-81.2	654
05.80	2.7		2.7	.58	.44	731	260.4	119.3	-81.4	676
06.00	3.0		3.0	.54	.40	755	260.5	118.5	-81.6	698
06.20	3.4		3.4	.49	.36	784	260.6	117.7	-81.7	724
06.40	3.4		3.4	.49	.35	786	260.6	116.8	-81.9	726
06.60	2.7		2.7	.58	.43	736	260.7	116.0	-82.1	679
06.80	2.6		2.6	.60	.45	726	260.8	115.2	-82.2	670
07.00	2.4		2.4	.63	.48	710	260.8	114.3	-82.4	655
38208.00	2.39		2.39	-13.63	-13.48	711	261.1	110.1	-83.2	653
09.00	2.37		2.37	.63	.48	710	261.4	105.9	-84.0	651
10.00	2.35		2.35	.64	.48	710	261.6	101.5	-84.7	649
11.00	2.30		2.30	.65	.48	707	261.8	97.1	-85.4	645
12.00	2.11		2.11	.68	.51	692	262.0	92.6	-86.1	629
13.00	2.03		2.03	.70	.52	685	262.2	88.0	-86.8	622
14.00	2.11		2.11	.68	.51	692	262.3	83.2	-87.4	627
38215.00	2.4		2.4	-13.63	-13.46	718	262.5	78.4	-88.0	650
15.20	2.4		2.4	.63	.46	720	262.5	77.5	-88.2	651
15.40	2.6		2.6	.60	.43	736	262.5	76.5	-88.3	665
15.60	2.6		2.6	.60	.43	737	262.6	75.5	-88.4	666
15.80	2.7		2.7	.59	.42	745	262.6	74.5	-88.5	673
16.00	3.2		3.2	.52	.36	782	262.6	73.5	-88.6	706
16.20	3.2		3.2	.52	.36	785	262.6	72.5	-88.7	708
16.40	3.0		3.0	.54	.38	770	262.6	71.5	-88.8	695
16.60	2.7		2.7	.59	.41	747	262.7	70.5	-88.9	674
16.80	2.5		2.5	.62	.44	730	262.7	69.5	-89.0	659
17.00	2.5		2.5	.62	.44	730	262.7	68.5	-89.1	658
17.20	2.5		2.5	.62	.44	730	262.7	67.5	-89.2	658
38218.00	2.39		2.39	-13.63	-13.46	721	262.8	63.3	-89.6	649
19.00	2.32		2.32	.65	.47	716	262.9	58.1	-90.0	644
20.00	2.29		2.29	.65	.47	714	263.0	52.7	-90.4	641
21.00	2.14		2.14	.68	.49	701	263.0	47.2	-90.8	629
22.00	1.94		1.94	.71	.53	683	263.1	41.6	-91.1	613
23.00	1.72		1.72	.76	.57	661	263.2	35.9	-91.3	593
24.00	1.75		1.75	.75	.56	664	263.2	30.1	-91.5	596
25.00	1.78		1.78	.75	.56	667	263.3	24.3	-91.6	600
38225.50	1.88		1.9	-13.72	-13.53	679	263.3	21.3	-91.6	611
26.00	2.00		2.0	.70	.51	689	263.3	18.3	-91.6	620
26.50	2.13		2.1	.68	.50	699	263.3	15.3	-91.6	629
27.00	2.30		2.3	.65	.46	717	263.3	12.3	-91.6	646

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38227.50	2.48		2.5	-13.62	-13.44	735	263.4	9.3	-91.6	663
28.00	2.48		2.5	.62	.43	736	263.4	6.3	-91.5	664
28.50	2.30		2.3	.65	.46	719	263.4	3.3	-91.5	650
29.00	2.17		2.2	.66	.48	709	263.4	0.3	-91.4	642
29.50	2.09		2.1	.68	.49	700	263.4	357.3	-91.3	635
30.00	1.94		1.9	.72	.53	681	263.4	354.2	-91.2	619
30.50	1.88		1.9	.72	.53	680	263.4	351.2	-91.0	619
31.00	2.24		2.2	.67	.48	707	263.4	348.2	-90.9	645
31.50	2.39		2.4	.63	.45	726	263.4	345.2	-90.7	663
32.00	2.32		2.3	.65	.46	718	263.4	342.3	-90.5	657
32.50	2.16		2.2	.67	.48	709	263.4	339.3	-90.3	650
33.00	2.16		2.2	.67	.48	708	263.4	336.4	-90.1	651
33.50	2.21		2.2	.67	.48	708	263.4	333.4	-89.9	652
34.00	2.32		2.3	.65	.47	716	263.4	330.5	-89.6	661
34.50	2.29		2.3	.65	.47	716	263.4	327.6	-89.4	662
35.00	2.14		2.1	.69	.50	698	263.4	324.8	-89.1	648
38236.00	2.10		2.10	-13.69	-13.50	697	263.3	319.1	-88.5	649
37.00	2.06		2.06	.70	.51	692	263.3	313.6	-87.9	648
38.00	1.84		1.84	.74	.55	671	263.2	308.2	-87.2	631
39.00	1.73		1.73	.77	.57	658	263.1	302.9	-86.4	622
38239.20	1.8		1.8	-13.75	-13.56	665	263.0	301.8	-86.3	629
39.40	1.8		1.8	.75	.56	665	263.0	300.8	-86.1	629
39.60	1.7		1.7	.77	.58	655	263.0	299.7	-86.0	620
39.80	1.5		1.5	.82	.63	633	263.0	298.7	-85.8	600
40.00	1.3		1.3	.88	.68	610	262.9	297.7	-85.6	578
40.20	1.7		1.7	.77	.59	652	262.9	296.6	-85.5	619
40.40	2.6		2.6	.61	.44	733	262.9	295.6	-85.3	696
40.60	3.1		3.1	.54	.37	774	262.9	294.6	-85.1	736
40.80	3.3		3.3	.51	.35	790	262.8	293.6	-85.0	752
41.00	2.8		2.8	.58	.40	754	262.8	292.6	-84.8	719
41.20	2.8		2.8	.58	.41	752	262.8	291.6	-84.6	717
41.40	2.6		2.6	.61	.43	736	262.7	290.6	-84.5	703
41.60	2.5		2.5	.62	.45	727	262.7	289.6	-84.3	695
41.80	2.5		2.5	.62	.45	727	262.6	288.6	-84.1	695
38242.00	2.34		2.34	-13.65	-13.47	713	262.6	287.6	-83.9	683
43.00	2.16		2.16	.68	.50	696	262.4	282.8	-83.0	668
44.00	2.17		2.17	.68	.50	695	262.1	278.1	-82.1	669
45.00	2.13		2.13	.68	.51	690	261.8	273.4	-81.1	666
46.00	2.15		2.15	.68	.52	688	261.3	268.9	-80.1	667
47.00	2.02		2.02	.70	.54	675	261.0	264.5	-79.0	656
48.00	1.98		1.98	.71	.55	670	260.7	260.1	-78.0	652
49.00	1.88		1.88	.73	.57	659	260.4	255.9	-76.9	642
50.00	1.84		1.84	.73	.58	653	260.1	251.7	-75.8	638
51.00	1.75		1.75	.75	.61	643	259.7	247.6	-74.7	628
52.00	1.62		1.62	.78	.64	627	259.4	243.5	-73.5	614
53.00	1.52		1.52	.80	.67	615	259.0	239.6	-72.4	602
54.00	1.53		1.53	.80	.67	613	258.6	235.7	-71.2	601
55.00	1.56		1.56	.79	.67	614	258.2	231.8	-70.0	602
56.00	1.38		1.38	.84	.72	593	257.8	228.0	-68.8	582
57.00	1.59		1.59	.78	.67	612	257.4	224.3	-67.5	601
38257.50	1.80		1.8	-13.73	-13.63	633	257.1	222.5	-66.9	621
58.00	1.90		1.9	.71	.61	641	256.9	220.6	-66.3	629
58.50	1.93		1.9	.71	.61	640	256.7	218.8	-65.7	628
59.00	1.95		2.0	.69	.59	648	256.5	217.0	-65.0	636
59.50	2.51		2.5	.60	.52	689	256.3	215.2	-64.4	676
60.00	2.61		2.6	.59	.50	696	256.0	213.4	-63.8	683

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38260.50	2.56		2.6	-13.59	-13.50	695	255.8	211.6	-63.1	682
61.00	3.63		3.6	.46	.39	764	255.6	209.8	-62.5	749
61.50	3.81		3.8	.44	.37	777	255.4	208.0	-61.9	761
62.00	3.20		3.2	.50	.43	737	255.1	206.3	-61.2	721
62.50	3.05		3.0	.53	.46	720	254.9	204.5	-60.6	705
63.00	2.82		2.8	.55	.49	704	254.7	202.8	-59.9	688
63.50	2.82		2.8	.55	.49	702	254.5	201.1	-59.3	686
64.00	2.82		2.8	.55	.49	701	254.2	199.3	-58.6	684
64.50	2.85		2.8	.55	.50	699	254.0	197.6	-58.0	682
65.00	2.82		2.8	.55	.50	698	253.8	195.9	-57.3	680
65.50	2.75		2.7	.57	.52	689	253.5	194.2	-56.6	671
66.00	2.75		2.7	.56	.52	688	253.3	192.5	-56.0	669
66.50	2.72		2.7	.56	.52	686	253.1	190.8	-55.3	667
67.00	2.78		2.8	.55	.51	692	252.8	189.2	-54.6	672
67.50	2.75		2.8	.55	.51	691	252.6	187.5	-54.0	670
68.00	2.78		2.8	.55	.51	689	252.4	185.8	-53.3	667
68.50	2.78		2.8	.55	.52	688	252.1	184.2	-52.6	665
69.00	2.83		2.8	.55	.52	687	251.9	182.5	-52.0	663
69.50	3.32		3.3	.48	.46	720	251.7	180.8	-51.3	694
70.00	3.45		3.4	.47	.45	726	251.4	179.2	-50.6	698
70.50	3.04		3.0	.52	.50	697	251.2	177.6	-49.9	670
71.00	2.94		2.9	.53	.52	688	251.0	175.9	-49.3	660
71.50	2.90		2.9	.53	.52	687	250.8	174.3	-48.6	657
72.00	2.92		2.9	.53	.52	686	250.5	172.7	-47.9	655
38273.00	2.98		2.98	-13.52	-13.52	688	250.1	169.4	-46.5	655
74.00	2.87		2.87	.53	.54	678	249.6	166.2	-45.2	643
75.00	2.56		2.56	.57	.59	653	249.2	163.0	-43.8	616
76.00	2.56		2.56	.57	.59	650	248.7	159.8	-42.4	611
77.00	2.63		2.63	.56	.59	653	248.3	156.7	-41.0	610
78.00	2.80		2.80	.53	.57	662	247.8	153.5	-39.6	616
79.00	3.04		3.04	.50	.54	676	247.4	150.4	-38.2	626
80.00	3.13		3.13	.49	.53	680	247.0	147.2	-36.8	626
81.00	3.43		3.43	.45	.50	697	246.5	144.1	-35.4	638
82.00	3.74		3.74	.42	.47	714	246.1	141.0	-34.0	650
83.00	3.88		3.88	.40	.46	719	245.7	137.9	-32.6	652
84.00	3.96		3.96	.39	.46	722	245.2	134.8	-31.2	650
38284.50	4.11		4.1	-13.38	-13.45	726	244.7	133.3	-30.5	652
38285.00	4.3		4.3	-13.36	-13.43	736	244.5	131.7	-29.8	659
85.20	4.1		4.1	.38	.45	724	244.4	131.1	-29.5	648
85.40	4.1		4.1	.38	.45	724	244.3	130.5	-29.2	647
85.60	3.8		3.8	.40	.48	706	244.3	129.9	-28.9	630
85.80	3.6		3.6	.43	.51	693	244.2	129.3	-28.7	618
86.00	4.0		4.0	.38	.47	717	244.1	128.7	-28.4	638
86.20	5.0		5.0	.30	.38	771	244.0	128.0	-28.1	685
86.40	6.2		6.2	.22	.29	830	244.0	127.4	-27.8	737
86.60	6.8		6.8	.18	.26	858	243.9	126.8	-27.5	762
86.80	6.3		6.3	.21	.29	835	243.8	126.2	-27.2	740
87.00	6.1		6.1	.22	.30	824	243.8	125.6	-26.9	730
87.20	6.2		6.2	.21	.29	829	243.7	125.0	-26.7	733
87.40	6.1		6.1	.22	.30	823	243.6	124.4	-26.4	727
87.60	6.2		6.2	.21	.30	828	243.5	123.8	-26.1	730
87.80	6.2		6.2	.21	.30	827	243.5	123.1	-25.8	729
88.00	6.3		6.3	.21	.29	832	243.4	122.5	-25.5	732
38288.50	6.29		6.3	-13.21	-13.29	830	243.2	121.0	-24.8	729
89.00	6.43		6.4	.20	.29	834	243.1	119.5	-24.1	730
89.50	6.52		6.5	.19	.28	838	242.9	118.0	-23.4	731

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38290.00	6.49		6.5	-13.19	-13.28	837	242.8	116.4	-22.7	727
90.50	6.51		6.5	.19	.28	836	242.6	114.9	-22.0	724
91.00	6.44		6.4	.20	.29	830	242.5	113.4	-21.2	717
91.50	6.38		6.4	.20	.29	829	242.3	111.9	-20.5	714
92.00	6.37		6.4	.20	.30	828	242.2	110.4	-19.8	711
92.50	6.37		6.4	.20	.30	827	242.0	108.8	-19.1	708
93.00	6.92		6.9	.17	.27	849	241.9	107.3	-18.4	725
93.50	7.96		8.0	.11	.21	897	241.8	105.8	-17.7	764
38293.80	8.1		8.1	-13.11	-13.21	901	241.7	104.9	-17.2	766
94.00	8.7		8.7	.08	.18	926	241.6	104.3	-16.9	787
94.20	9.1		9.1	.06	.16	943	241.6	103.7	-16.7	800
94.40	9.4		9.4	.05	.15	956	241.5	103.1	-16.4	810
94.60	9.5		9.5	.05	.14	960	241.5	102.5	-16.1	812
94.80	11.0		11.0	-12.99	.09	1023	241.4	101.9	-15.8	865
95.00	10.8		10.8	-13.00	.09	1015	241.4	101.3	-15.5	857
95.20	10.0		10.0	.03	.12	980	241.3	100.7	-15.2	827
95.40	9.2		9.2	.06	.16	946	241.2	100.1	-14.9	797
95.60	8.5		8.5	.09	.19	915	241.2	99.5	-14.6	770
95.80	8.4		8.4	.09	.20	910	241.1	98.9	-14.4	765
96.00	8.2		8.2	.10	.21	901	241.1	98.3	-14.1	756
96.20	7.9		7.9	.11	.22	887	241.0	97.7	-13.8	744
96.40	7.4		7.4	.14	.25	865	241.0	97.0	-13.5	724
96.60	7.4		7.4	.14	.25	864	240.9	96.4	-13.2	723
97.00	7.20		7.2	.15	.26	855	240.8	95.2	-12.6	714
97.50	7.20		7.2	.15	.26	854	240.7	93.7	-11.9	711
98.00	7.14		7.1	.15	.27	848	240.6	92.2	-11.2	704
98.50	7.03		7.0	.16	.28	843	240.4	90.7	-10.5	698
99.00	6.89		6.9	.16	.28	838	240.3	89.2	-9.7	692
99.50	6.97		7.0	.16	.28	841	240.2	87.7	-9.0	693
38300.00	7.29		7.3	.14	.26	854	240.1	86.2	-8.3	701
00.50	7.60		7.6	.12	.25	866	239.9	84.7	-7.6	709
01.00	7.33		7.3	.14	.26	852	239.8	83.2	-6.9	696
01.50	7.24		7.2	.14	.27	846	239.7	81.7	-6.1	690
02.00	6.85		6.8	.16	.30	828	239.6	80.2	-5.4	673
02.50	6.64		6.6	.18	.31	818	239.4	78.7	-4.7	664
03.00	6.46		6.5	.18	.32	812	239.3	77.2	-4.0	658
03.50	6.08		6.1	.20	.34	793	239.2	75.7	-3.3	641
04.00	5.92		5.9	.22	.36	783	239.1	74.2	-2.5	631
04.50	5.94		5.9	.22	.36	782	239.0	72.7	-1.8	629
05.00	6.02		6.0	.21	.35	786	238.9	71.1	-1.1	631
05.50	6.28		6.3	.19	.33	799	238.8	69.6	-0.4	640
06.00	6.31		6.3	.19	.34	799	238.7	68.1	0.3	639
06.50	6.47		6.5	.18	.32	807	238.6	66.6	1.1	644
07.00	6.63		6.6	.17	.32	811	238.5	65.1	1.8	646
07.50	6.67		6.7	.17	.31	814	238.4	63.6	2.5	648
08.00	6.77		6.8	.16	.31	818	238.3	62.1	3.2	650
08.50	6.87		6.9	.15	.30	822	238.2	60.6	3.9	652
09.00	7.01		7.0	.15	.30	826	238.2	59.1	4.7	654
09.50	7.16		7.2	.14	.29	834	238.1	57.6	5.4	660
10.00	7.49		7.5	.12	.27	847	238.0	56.1	6.1	669
10.50	7.72		7.7	.11	.26	855	238.0	54.6	6.8	675
11.00	8.01		8.0	.10	.25	867	237.9	53.1	7.5	684
11.50	7.72		7.7	.11	.26	854	237.9	51.6	8.2	673
12.00	7.68		7.7	.11	.26	854	237.9	50.1	9.0	672
12.50	7.99		8.0	.10	.25	866	237.9	48.5	9.7	681
13.00	8.53		8.53	.07	.22	889	237.9	47.0	10.4	699
38313.50	9.05		9.0	-13.05	-13.20	908	237.9	45.5	11.1	713
14.00	9.41		9.4	.04	.18	924	237.9	44.0	11.8	726

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log p_\pi$	$\log p_s$	T_π ($^{\circ}\text{K}$)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N ($^{\circ}\text{K}$)
38314.50	10.72		10.7	-12.99	-13.13	977	237.9	42.5	12.5	767
15.00	10.32		10.3	-13.00	.14	961	237.9	41.0	13.2	754
15.50	10.01		10.0	.02	.15	949	237.9	39.5	14.0	745
16.00	9.68		9.7	.03	.17	936	237.9	37.9	14.7	735
16.50	10.29		10.3	.01	.14	961	237.9	36.4	15.4	754
17.00	10.46		10.5	.00	.13	969	237.9	34.9	16.1	761
17.50	10.07		10.1	.01	.15	953	237.9	33.4	16.8	749
18.00	9.87		9.9	.02	.16	945	238.0	31.9	17.5	743
18.50	9.59		9.6	.03	.17	933	238.0	30.3	18.2	734
38319.00	9.42		9.42	-13.04	-13.18	926	238.0	28.8	18.9	729
20.00	9.18		9.18	.05	.19	916	238.1	25.8	20.4	723
21.00	9.34		9.34	.04	.18	923	238.2	22.7	21.8	730
22.00	9.58		9.58	.03	.17	934	238.3	19.6	23.2	741
23.00	9.59		9.59	.03	.17	935	238.4	16.6	24.6	744
24.00	9.10		9.10	.05	.19	916	238.6	13.5	26.0	732
38324.50	8.59		8.60	-13.08	-13.21	895	238.6	12.0	26.7	717
25.00	7.84		7.80	.11	.25	862	238.7	10.4	27.4	692
38325.60	7.1		7.1	-13.15	-13.29	832	238.8	8.6	28.3	670
25.80	8.5		8.5	.08	.22	892	238.8	7.9	28.5	719
26.00	9.4		9.4	.04	.17	930	238.8	7.3	28.8	750
26.20	10.9		10.9	-12.99	.11	992	238.9	6.7	29.1	801
26.40	11.2		11.2	.98	.10	1005	238.9	6.1	29.4	812
26.60	12.3		12.3	.95	.07	1050	238.9	5.5	29.7	850
26.80	11.6		11.6	.97	.09	1022	239.0	4.8	29.9	828
27.00	11.3		11.3	.98	.10	1009	239.0	4.2	30.2	819
27.20	10.8		10.8	.99	.12	989	239.0	3.6	30.5	803
27.40	10.6		10.6	-13.00	.12	981	239.1	3.0	30.8	798
27.60	10.1		10.1	.02	.14	961	239.1	2.4	31.1	782
27.80	9.7		9.7	.03	.16	944	239.1	1.7	31.3	770
38328.00	8.62		8.6	-13.08	-13.21	899	239.2	1.1	31.6	733
28.50	7.37		7.4	.14	.27	848	239.2	359.5	32.3	694
29.00	7.30		7.3	.14	.27	844	239.3	358.0	33.0	693
29.50	7.15		7.1	.15	.28	836	239.4	356.4	33.7	689
30.00	7.10		7.1	.15	.28	836	239.5	354.9	34.4	691
30.50	6.72		6.7	.18	.31	819	239.6	353.3	35.1	680
31.00	7.67		7.7	.12	.25	863	239.7	351.7	35.8	719
38331.20	8.1		8.1	-13.10	-13.23	881	239.7	351.1	36.1	734
31.40	8.8		8.8	.07	.19	911	239.8	350.5	36.3	760
31.60	9.9		9.9	.03	.15	957	239.8	349.8	36.6	800
31.80	10.0		10.0	.03	.14	961	239.8	349.2	36.9	805
32.00	10.4		10.4	.01	.13	978	239.9	348.6	37.2	820
32.20	11.5		11.5	-12.98	.09	1024	239.9	347.9	37.4	860
32.40	11.8		11.8	.97	.08	1037	239.9	347.3	37.7	873
32.60	11.4		11.4	.98	.09	1021	240.0	346.7	38.0	860
32.80	10.3		10.3	-13.02	.13	975	240.0	346.0	38.3	823
33.00	8.5		8.5	.09	.21	900	240.1	345.4	38.5	761
33.20	7.2		7.2	.15	.27	844	240.1	344.8	38.8	715
33.40	6.2		6.2	.21	.33	800	240.1	344.1	39.1	678
38334.00	6.10		6.1	-13.21	-13.34	795	240.3	342.2	39.9	678
34.50	6.26		6.3	.20	.33	805	240.4	340.7	40.6	689
35.00	6.45		6.5	.19	.31	815	240.5	339.1	41.3	700
35.50	6.69		6.7	.18	.30	824	240.6	337.5	42.0	711
36.00	6.76		6.8	.18	.29	830	240.7	335.9	42.6	719
36.50	6.67		6.7	.18	.30	826	240.8	334.3	43.3	719

Table 3 (Cont.)

1962 β -E (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38337.00	6.41		6.4	-13.20	-13.32	813	240.9	332.7	44.0	710
37.50	6.12		6.1	.22	.33	799	241.0	331.0	44.7	702
38.00	5.71		5.7	.24	.36	781	241.1	329.4	45.3	689
38.50	5.58		5.6	.25	.37	777	241.2	327.8	46.0	688
38339.00	5.58		5.58	-13.25	-13.37	776	241.3	326.2	46.7	690
40.00	6.25		6.25	.21	.32	809	241.5	322.9	48.0	726
41.00	7.22		7.22	.16	.26	854	241.7	319.7	49.4	773
42.00	7.04		7.04	.17	.27	848	241.9	316.4	50.7	774
43.00	6.48		6.48	.20	.30	824	242.2	313.1	52.0	758
44.00	6.02		6.02	.23	.33	804	242.4	309.8	53.3	745
45.00	5.59		5.59	.26	.36	785	242.6	306.4	54.6	733
46.00	5.22		5.22	.29	.38	768	242.8	303.1	55.9	722
47.00	4.90		4.90	.31	.41	753	243.1	299.7	57.2	713
48.00	4.80		4.80	.32	.41	749	243.3	296.3	58.5	714
49.00	4.47		4.47	.35	.44	733	243.5	292.9	59.7	703
38349.50	4.63		4.6	-13.34	-13.43	741	243.6	291.2	60.4	712
50.00	4.94		4.9	.32	.40	757	243.7	289.4	61.0	730
50.50	5.20		5.2	.29	.37	773	243.9	287.7	61.6	747
51.00	5.37		5.4	.28	.36	784	244.0	286.0	62.2	759
51.50	5.30		5.3	.29	.36	780	244.1	284.2	62.8	757
52.00	4.98		5.0	.31	.39	765	244.2	282.5	63.5	744
52.50	4.65		4.6	.34	.42	745	244.3	280.7	64.1	726
38353.00	4.52		4.52	-13.35	-13.42	744	244.8	278.9	64.7	726
54.00	4.19		4.19	.38	.45	728	245.0	275.4	65.9	713
55.00	4.07		4.07	.39	.46	722	245.3	271.8	67.1	709
56.00	4.17		4.17	.38	.44	730	245.5	268.2	68.3	718
38356.50	4.46		4.5	-13.35	-13.41	749	245.6	266.4	68.9	738
57.00	4.64		4.6	.35	.40	755	245.8	264.5	69.5	744
57.50	4.94		4.9	.32	.38	772	245.9	262.7	70.0	761
58.00	5.34		5.3	.29	.34	793	246.0	260.8	70.6	783
58.50	4.44		4.4	.36	.41	747	246.1	259.0	71.2	738
59.00	3.84		3.8	.42	.47	713	246.2	257.1	71.8	705
59.50	3.62		3.6	.44	.49	702	246.4	255.2	72.3	694
60.00	3.50		3.5	.45	.50	697	246.5	253.3	72.9	688
60.50	3.41		3.4	.46	.51	691	246.6	251.4	73.5	683
61.00	3.17		3.2	.49	.53	679	246.7	249.5	74.0	671
61.50	3.08		3.1	.50	.55	673	246.9	247.6	74.6	665
62.00	2.97		3.0	.51	.56	667	247.0	245.6	75.1	660
62.50	2.71		2.7	.55	.60	647	247.1	243.7	75.7	640
63.00	3.43		3.4	.47	.50	695	247.2	241.7	76.2	686
63.50	4.25		4.2	.38	.42	744	247.4	239.7	76.8	735
64.00	3.66		3.7	.43	.47	716	247.5	237.7	77.3	707
64.50	3.41		3.4	.47	.50	698	247.6	235.7	77.8	689
65.00	3.08		3.1	.50	.53	679	247.7	233.7	78.4	670
65.50	2.72		2.7	.56	.59	652	247.9	231.7	78.9	643
66.00	3.25		3.2	.49	.52	687	248.0	229.6	79.4	677
66.50	3.47		3.5	.46	.48	707	248.1	227.5	79.9	697
67.00	3.77		3.8	.43	.45	726	248.3	225.4	80.4	715
67.50	3.80		3.8	.43	.45	727	248.4	223.3	80.9	716
68.00	3.81		3.8	.43	.45	728	248.5	221.2	81.4	716
68.50	3.91		3.9	.42	.43	735	248.7	219.1	81.9	723
69.00	4.17		4.2	.39	.40	753	248.8	216.9	82.4	740
69.50	3.67		3.7	.44	.45	725	248.9	214.7	82.9	712
70.00	3.23		3.2	.49	.51	694	249.1	212.5	83.3	681
70.50	3.04		3.0	.52	.53	681	249.2	210.3	83.8	667

Table 3 (Cont.)

1962 β +2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_\beta$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38371.00	2.96		2.96	-13.52	-13.53	679	249.3	208.1	84.2	665
72.00	2.93		2.93	.53	.54	678	249.6	203.5	85.1	663
73.00	2.85		2.85	.54	.54	674	249.9	198.9	86.0	658
74.00	2.68		2.68	.57	.56	664	250.1	194.1	86.8	646
75.00	2.84		2.84	.54	.54	677	250.4	189.3	87.6	657
76.00	3.07		3.07	.51	.51	695	250.7	184.3	88.4	672
77.00	3.32		3.32	.48	.47	713	250.9	179.2	89.1	688
78.00	3.57		3.57	.46	.44	731	251.2	174.0	89.8	703
79.00	3.31		3.31	.49	.47	716	251.4	168.7	90.4	687
80.00	3.08		3.08	.52	.49	702	251.7	163.3	91.0	671
81.00	2.74		2.74	.56	.53	679	251.9	157.8	91.6	648
82.00	2.51		2.51	.60	.57	663	252.1	152.1	92.1	630
83.00	3.28		3.28	.49	.46	718	252.3	146.3	92.5	680
84.00	3.55		3.55	.46	.43	738	252.5	140.5	92.9	697
85.00	3.51		3.51	.47	.43	736	252.7	134.5	93.2	693
86.00	3.43		3.43	.48	.44	732	252.8	128.4	93.4	687
87.00	3.14		3.14	.51	.47	714	253.0	122.3	93.6	667
88.00	2.93		2.93	.54	.50	699	253.1	116.7	93.7	652
89.00	2.69		2.69	.57	.53	682	253.2	110.0	93.8	634
90.00	2.62		2.62	.58	.54	677	253.2	103.7	93.7	626
91.00	2.79		2.79	.56	.51	689	253.2	97.5	93.6	636
38391.50	2.95		2.9	-13.54	-13.50	696	253.0	94.4	93.5	641
92.00	3.16		3.2	.51	.47	717	253.0	91.3	93.5	659
92.50	3.49		3.5	.47	.43	737	253.1	88.3	93.3	677
93.00	3.15		3.1	.52	.47	712	253.1	85.2	93.2	652
93.50	2.93		2.9	.54	.50	698	253.2	82.2	93.1	638
94.00	2.88		2.9	.54	.50	698	253.2	79.1	92.9	637
94.50	2.86		2.9	.54	.50	698	253.2	76.1	92.7	636
95.00	2.73		2.7	.57	.53	684	253.3	73.2	92.5	622
95.50	2.78		2.8	.56	.51	691	253.3	70.2	92.3	627
96.00	3.33		3.3	.49	.45	726	253.3	67.3	92.1	658
96.50	3.64		3.6	.46	.42	746	253.3	64.4	91.9	675
97.00	4.54		4.5	.37	.33	800	253.3	61.5	91.6	723
97.50	4.88		4.9	.34	.30	824	253.2	58.6	91.4	743
98.00	3.34		3.3	.49	.45	728	253.2	55.8	91.1	656
98.50	3.05		3.1	.52	.47	713	253.2	53.0	90.8	641
99.00	2.99		3.0	.53	.48	706	253.2	50.3	90.5	634
99.50	3.00		3.0	.53	.49	706	253.1	47.5	90.1	632
38400.00	3.88		3.9	.43	.39	764	253.1	44.8	89.8	684
00.50	3.06		3.1	.51	.47	713	253.0	42.2	89.5	638
01.00	3.12		3.1	.51	.47	712	253.0	39.5	89.1	636
01.50	3.14		3.1	.51	.47	712	252.9	36.9	88.8	635
02.00	3.25		3.2	.50	.46	718	252.8	34.3	88.4	640
02.50	3.47		3.5	.47	.43	738	252.7	31.8	88.0	657
03.00	3.72		3.7	.44	.41	750	252.7	29.3	87.6	668
03.50	3.82		3.8	.43	.40	756	252.6	26.8	87.2	673
04.00	3.92		3.9	.42	.39	762	252.5	24.3	86.8	677
04.50	3.90		3.9	.42	.39	762	252.4	21.9	86.3	677
05.00	3.62		3.6	.45	.42	743	252.3	19.4	85.9	659
05.50	3.54		3.5	.46	.43	735	252.2	17.1	85.5	653
06.00	3.46		3.5	.46	.44	735	252.1	14.7	85.0	652
06.50	3.38		3.4	.47	.45	727	252.0	12.4	84.6	646
07.00	3.27		3.3	.49	.46	720	251.9	10.0	84.1	639
07.50	3.21		3.2	.50	.47	713	251.8	7.8	83.6	633
08.00	3.11		3.1	.51	.49	705	251.6	5.5	83.1	626
08.50	3.05		3.0	.52	.50	697	251.5	3.3	82.6	620
09.00	2.91		2.9	.53	.51	689	251.4	1.0	82.2	613
09.50	2.76		2.8	.55	.53	681	251.3	358.8	81.7	606
10.00	3.35		3.3	.48	.47	715	251.1	356.6	81.1	637

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38410.50	4.06		4.1	-13.40	-13.39	764	251.0	354.5	80.6	681
11.00	4.63		4.6	.36	.34	793	250.9	352.3	80.1	708
11.50	3.84		3.8	.43	.42	746	250.7	350.2	79.6	666
12.00	3.48		3.5	.46	.45	725	250.6	348.1	79.1	649
12.50	3.27		3.3	.48	.48	711	250.4	346.0	78.5	637
38413.00	3.24		3.24	-13.49	-13.48	706	250.3	344.0	78.0	634
14.00	3.20		3.20	.49	.49	701	250.0	339.9	76.9	632
15.00	3.03		3.03	.51	.52	688	249.7	335.8	75.8	622
16.00	2.87		2.87	.53	.54	675	249.4	331.9	74.6	612
17.00	2.81		2.81	.54	.55	668	249.1	328.0	73.5	609
18.00	3.07		3.07	.51	.52	684	248.7	324.1	72.3	627
38418.50	3.13		3.1	-13.50	-13.52	685	248.6	322.2	71.7	629
19.00	3.35		3.4	.47	.49	704	248.4	320.3	71.2	648
19.50	3.62		3.6	.44	.47	715	248.2	318.4	70.6	660
20.00	3.52		3.5	.45	.48	708	248.1	316.5	70.0	655
20.50	3.34		3.3	.48	.51	694	247.9	314.6	69.4	644
21.00	3.08		3.1	.50	.53	680	247.7	312.8	68.8	632
21.50	2.83		2.8	.54	.57	658	247.6	310.9	68.1	614
22.00	2.70		2.7	.55	.59	650	247.4	309.1	67.5	608
22.50	2.78		2.8	.54	.58	656	247.2	307.3	66.9	615
23.00	3.35		3.3	.48	.52	688	247.0	305.4	66.3	647
23.50	3.47		3.5	.45	.50	700	246.9	303.6	65.7	660
24.00	3.63		3.6	.44	.49	705	246.7	301.8	65.1	667
24.50	3.38		3.4	.46	.51	692	246.5	300.0	64.4	656
25.00	3.31		3.3	.47	.52	684	246.3	298.2	63.8	650
25.50	3.21		3.2	.48	.54	676	246.2	296.5	63.2	644
38426.00	3.16		3.16	-13.49	-13.55	673	246.0	294.7	62.5	642
27.00	3.11		3.11	.49	.56	667	245.6	291.2	61.3	640
28.00	2.97		2.97	.51	.58	656	245.3	287.7	60.0	632
29.00	2.76		2.76	.54	.61	639	244.9	284.2	58.7	619
30.00	2.97		2.97	.51	.59	651	244.5	280.8	57.4	633
38430.50	3.20		3.2	-13.48	-13.56	665	244.3	279.0	56.7	648
31.00	3.94		3.9	.40	.48	706	244.1	277.3	56.1	690
31.50	4.12		4.1	.38	.47	717	244.0	275.6	55.4	701
32.00	3.82		3.8	.41	.50	698	243.8	273.9	54.7	685
32.50	3.75		3.7	.42	.51	691	243.6	272.3	54.1	679
33.00	3.73		3.7	.42	.51	690	243.4	270.6	53.4	679
33.50	4.01		4.0	.39	.48	706	243.2	268.9	52.7	695
34.00	4.15		4.1	.38	.48	710	243.0	267.2	52.1	701
34.50	3.71		3.7	.42	.52	686	242.8	265.5	51.4	678
38435.00	3.51		3.51	-13.44	-13.54	674	242.6	263.9	50.7	666
36.00	3.22		3.22	.47	.58	653	242.2	260.6	49.4	648
37.00	3.25		3.25	.47	.59	653	241.8	257.3	48.0	648
38437.50	3.31		3.3	-13.46	-13.58	655	241.6	255.6	47.3	651
38.00	4.11		4.1	.37	.50	700	241.4	254.0	46.6	696
38.50	4.64		4.6	.33	.45	725	241.2	252.3	46.0	722
39.00	4.45		4.4	.35	.47	714	241.0	250.7	45.3	711
39.50	4.08		4.1	.37	.50	696	240.7	249.1	44.6	693
38440.00	3.89		3.89	-13.39	-13.53	683	240.5	247.4	43.9	681
41.00	3.82		3.82	.40	.54	676	240.1	244.2	42.5	674
42.00	3.77		3.77	.40	.55	670	239.6	241.0	41.1	669

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log p_\pi$	$\log p_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38484.00	5.17		5.2	-13.27	-13.41	751	239.8	111.0	-19.8	646
84.50	4.75		4.8	.30	.43	735	240.4	109.4	-20.5	631
85.00	4.84		4.8	.30	.43	739	240.9	107.9	-21.3	633
85.50	5.42		5.4	.26	.37	773	241.4	106.3	-22.0	661
86.00	5.77		5.8	.24	.34	796	241.9	104.8	-22.7	679
86.50	6.43		6.4	.20	.29	828	242.4	103.2	-23.5	705
87.00	7.23		7.2	.16	.24	869	242.8	101.7	-24.2	738
87.50	7.63		7.6	.14	.22	890	243.2	100.1	-24.9	754
88.00	7.07		7.1	.16	.24	871	243.6	98.6	-25.6	736
88.50	6.71		6.7	.18	.26	855	243.9	97.0	-26.4	722
89.00	6.50		6.5	.20	.27	848	244.2	95.5	-27.1	714
89.50	6.24		6.2	.22	.28	836	244.5	93.9	-27.8	703
38490.00	6.16		6.16	-13.22	-13.28	836	244.8	92.3	-28.5	702
91.00	5.97		5.97	.23	.29	830	245.3	89.2	-30.0	695
92.00	5.94		5.94	.24	.29	832	245.7	86.1	-31.4	694
93.00	5.86		5.86	.24	.29	831	246.1	82.9	-32.9	691
94.00	5.85		5.85	.24	.29	833	246.4	79.8	-34.3	690
38494.50	5.76		5.8	-13.25	-13.29	831	246.6	78.2	-35.0	688
95.00	5.68		5.7	.25	.30	827	246.7	76.6	-35.7	684
95.50	5.51		5.5	.27	.31	818	246.8	75.0	-36.4	675
96.00	5.55		5.6	.26	.30	823	247.0	73.4	-37.2	679
96.50	5.81		5.8	.25	.29	834	247.1	71.8	-37.9	688
97.00	5.82		5.8	.25	.29	835	247.2	70.2	-38.6	688
97.50	5.49		5.5	.27	.30	821	247.3	68.6	-39.3	676
98.00	5.33		5.3	.29	.32	811	247.4	67.0	-40.0	667
98.50	5.29		5.3	.29	.32	812	247.5	65.4	-40.7	667
38499.00	5.09		5.09	-13.30	-13.33	801	247.7	63.8	-41.4	658
38500.00	5.09		5.09	.30	.33	803	247.9	60.6	-42.8	659
01.00	5.27		5.27	.29	.31	813	248.1	57.3	-44.2	667
02.00	5.35		5.35	.29	.31	819	248.3	54.0	-45.6	672
38502.50	5.37		5.4	-13.28	-13.30	823	248.5	52.4	-46.3	675
03.00	5.55		5.6	.27	.29	834	248.6	50.8	-47.0	684
03.50	5.78		5.8	.26	.27	845	248.7	49.1	-47.7	694
04.00	5.81		5.8	.26	.27	846	248.9	47.5	-48.4	695
04.50	5.25		5.3	.29	.30	821	249.0	45.8	-49.1	674
05.00	5.19		5.2	.30	.31	816	249.2	44.2	-49.8	671
05.50	4.97		5.0	.32	.32	807	249.3	42.5	-50.5	663
38506.00	4.90		4.90	-13.32	-13.33	802	249.5	40.8	-51.2	660
07.00	4.67		4.67	.34	.35	792	249.8	37.5	-52.5	653
08.00	4.31		4.31	.38	.37	773	250.2	34.1	-53.9	639
09.00	4.08		4.08	.40	.39	762	250.6	30.7	-55.3	631
10.00	4.24		4.24	.39	.37	774	251.0	27.2	-56.6	643
11.00	4.50		4.50	.36	.35	792	251.4	23.8	-58.0	660
38511.50	4.66		4.7	-13.35	-13.33	805	251.6	22.0	-58.6	673
12.00	4.69		4.7	.35	.32	806	251.9	20.3	-59.3	675
12.50	4.86		4.9	.33	.31	819	252.1	18.5	-60.0	688
13.00	5.08		5.1	.32	.29	832	252.3	16.8	-60.6	700
13.50	5.20		5.2	.31	.28	839	252.6	15.0	-61.3	708
14.00	4.82		4.8	.34	.31	819	252.8	13.2	-61.9	692
14.50	4.25		4.3	.39	.35	791	253.1	11.4	-62.6	671
15.00	3.65		3.7	.45	.40	756	253.3	9.6	-63.2	642
15.50	3.85		3.8	.44	.39	763	253.6	7.8	-63.9	650
16.00	4.63		4.6	.36	.32	812	253.8	6.0	-64.5	634
16.50	4.22		4.2	.40	.35	792	254.1	4.2	-65.2	679

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_{\pi}$	$\log \rho_s$	T_{π} (°K)	z (km)	$a_{\pi} - a_{\odot}$ (deg.)	$\delta_{\pi} - \delta_{\odot}$ (deg.)	T_N (°K)
38517.00	3.82		3.8	-13.44	-13.38	768	254.3	2.3	-65.8	660
17.50	3.64		3.6	.46	.40	757	254.6	0.5	-66.5	652
38518.00	3.52		3.52	-13.47	-13.41	753	254.8	358.6	-67.1	651
19.00	3.22		3.22	.51	.43	735	255.3	354.9	-68.4	640
20.00	2.92		2.92	.55	.47	717	255.8	351.1	-69.6	628
21.00	2.85		2.85	.56	.47	714	256.2	347.2	-70.9	630
22.00	2.76		2.76	.57	.48	709	256.7	343.3	-72.1	630
23.00	2.53		2.53	.61	.51	694	257.0	339.3	-73.3	621
24.00	2.37		2.37	.63	.53	682	257.3	335.3	-74.5	615
38524.20	2.4		2.4	-13.63	-13.52	685	257.4	334.4	-74.7	618
24.40	2.3		2.3	.65	.54	677	257.5	333.6	-75.0	612
24.60	2.3		2.3	.65	.54	677	257.5	332.8	-75.2	613
24.80	1.8		1.8	.74	.63	633	257.6	332.0	-75.4	574
25.00	1.9		1.9	.72	.61	641	257.6	331.1	-75.7	582
25.20	2.4		2.4	.63	.52	685	257.6	330.3	-75.9	622
25.40	2.5		2.5	.61	.51	694	257.7	329.5	-76.1	632
25.60	2.9		2.9	.56	.45	725	257.7	328.6	-76.4	661
25.80	4.0		4.0	.43	.34	799	257.7	327.8	-76.6	729
26.00	4.3		4.3	.40	.31	820	257.8	326.9	-76.8	750
26.20	5.5		5.5	.31	.22	889	257.8	326.1	-77.0	814
26.40	4.5		4.5	.38	.29	835	257.8	325.2	-77.3	766
26.60	3.1		3.1	.53	.42	744	257.8	324.4	-77.5	683
26.80	2.9		2.9	.56	.45	727	257.9	323.5	-77.7	668
27.00	2.6		2.6	.60	.49	704	257.9	322.7	-77.9	648
27.20	2.4		2.4	.63	.52	687	257.9	321.8	-78.2	634
27.40	2.2		2.2	.66	.55	670	257.9	320.9	-78.4	619
38527.50	2.24		2.2	-13.67	-13.55	670	257.9	320.5	-78.5	619
28.00	2.08		2.1	.68	.57	661	257.9	318.3	-79.1	613
28.50	2.19		2.2	.67	.55	669	257.8	316.1	-79.6	622
29.00	2.50		2.5	.62	.51	693	257.8	313.9	-80.1	647
29.50	2.58		2.6	.60	.49	701	257.7	311.6	-80.7	656
30.00	2.56		2.6	.60	.51	692	256.0	309.4	-81.2	650
30.50	2.62		2.6	.60	.51	691	256.0	307.1	-81.7	650
31.00	2.51		2.5	.61	.53	683	256.0	304.8	-82.2	644
31.50	2.31		2.3	.64	.56	666	256.0	302.4	-82.7	631
32.00	2.18		2.2	.66	.58	658	256.0	300.0	-83.2	624
32.50	2.03		2.0	.70	.61	641	256.0	297.6	-83.7	609
33.00	1.93		1.9	.72	.63	632	256.0	295.2	-84.1	602
33.50	1.84		1.8	.74	.65	622	256.1	292.8	-84.6	595
38534.00	1.66		1.66	-13.77	-13.68	609	256.1	290.3	-85.1	583
35.00	1.44		1.44	.83	.73	587	256.3	285.2	-85.9	564
36.00	1.43		1.43	.83	.73	587	256.5	280.1	-86.8	566
37.00	1.47		1.47	.82	.72	593	256.7	274.8	-87.6	572
38.00	1.38		1.38	.85	.73	585	257.0	269.4	-88.3	566
38539.00	1.54		1.5	-13.81	-13.70	599	257.3	263.8	-89.0	581
39.50	1.98		2.0	.70	.59	649	257.5	261.0	-89.3	629
40.00	2.11		2.1	.68	.57	660	257.7	258.2	-89.6	641
40.50	1.85		1.9	.72	.60	644	257.8	255.3	-89.9	625
41.00	1.81		1.8	.74	.62	636	258.0	252.4	-90.2	617
41.50	1.83		1.8	.74	.62	636	258.2	249.5	-90.5	618
42.00	1.74		1.7	.76	.64	628	258.4	246.5	-90.8	610
42.50	1.71		1.7	.76	.63	629	258.5	243.5	-91.0	611
38543.00	1.66		1.66	-13.77	-13.64	626	258.7	240.5	-91.2	608
44.00	1.46		1.46	.82	.68	607	259.1	234.5	-91.6	590

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38545.00	1.38		1.38	-13.85	-13.70	600	259.5	228.4	-91.9	582
46.00	1.37		1.37	.85	.70	601	259.9	222.2	-92.2	583
47.00	1.35		1.35	.86	.70	600	260.2	216.0	-92.4	582
48.00	1.25		1.25	.89	.72	590	260.6	209.8	-92.5	572
49.00	1.19		1.19	.91	.74	585	261.0	203.6	-92.5	566
50.00	1.16		1.16	.92	.74	582	261.3	197.4	-92.5	563
51.00	1.12		1.12	.93	.75	578	261.6	191.3	-92.4	559
52.00	1.19		1.19	.91	.73	588	261.9	185.3	-92.3	567
53.00	1.32		1.32	.87	.69	606	262.1	179.4	-92.1	583
54.00	1.51		1.51	.82	.64	628	262.3	173.5	-91.8	603
55.00	1.64		1.64	.79	.60	644	262.5	167.8	-91.4	617
38555.50	1.67		1.7	-13.77	-13.59	651	262.6	164.9	-91.2	623
56.00	2.08		2.1	.69	.52	689	262.7	162.1	-91.0	658
56.50	2.64		2.6	.61	.44	733	262.7	159.4	-90.8	699
57.00	2.36		2.4	.64	.46	719	262.8	156.6	-90.6	685
57.50	2.23		2.2	.67	.49	701	262.8	153.9	-90.3	667
58.00	2.10		2.1	.69	.51	692	262.8	151.2	-90.1	657
58.50	1.99		2.0	.71	.53	682	262.8	148.6	-89.8	647
59.00	1.79		1.8	.75	.56	663	262.8	146.0	-89.5	628
38560.00	1.69		1.69	-13.78	-13.59	651	262.7	140.8	-88.9	615
61.00	1.69		1.69	.78	.59	650	262.6	135.8	-88.3	611
62.00	1.63		1.63	.79	.61	642	262.4	130.8	-87.6	602
63.00	1.56		1.56	.81	.63	633	262.1	126.0	-86.9	591
64.00	1.59		1.59	.80	.62	634	261.8	121.3	-86.2	590
65.00	1.81		1.81	.75	.58	654	261.4	116.7	-85.4	606
66.00	2.16		2.16	.68	.52	684	260.9	112.2	-84.6	631
67.00	2.32		2.32	.65	.50	695	260.3	107.7	-83.8	638
68.00	2.11		2.11	.68	.54	674	259.7	103.3	-82.9	616
69.00	1.98		1.98	.71	.58	657	258.9	99.1	-82.0	598
70.00	2.16		2.16	.67	.56	667	257.9	94.8	-81.1	603
71.00	2.19		2.19	.66	.56	667	257.5	90.7	-80.2	601
72.00	2.07		2.07	.69	.58	655	257.1	86.6	-79.2	587
73.00	2.10		2.10	.68	.58	655	256.7	82.6	-78.3	584
74.00	2.04		2.04	.69	.60	648	256.3	78.6	-77.3	575
75.00	2.18		2.18	.66	.58	658	256.0	74.7	-76.3	581
76.00	2.19		2.19	.66	.58	657	255.6	70.8	-75.3	577
77.00	2.03		2.03	.69	.61	642	255.3	67.0	-74.2	561
78.00	1.93		1.93	.71	.63	631	255.0	63.3	-73.2	549
79.00	2.14		2.14	.67	.60	647	254.7	59.5	-72.1	561
80.00	2.54		2.54	.60	.54	678	254.4	55.8	-71.0	585
81.00	2.61		2.61	.58	.53	683	254.0	52.2	-69.9	586
82.00	2.63		2.63	.58	.53	682	253.7	48.5	-68.8	584
83.00	2.59		2.59	.59	.54	678	253.4	44.9	-67.7	577
38583.50	2.74		2.7	-13.57	-13.52	685	253.2	43.1	-67.1	583
84.00	2.96		3.0	.53	.48	706	253.0	41.3	-66.6	599
84.50	3.65		3.7	.45	.41	752	252.8	39.6	-66.0	637
85.00	3.48		3.5	.46	.43	739	252.7	37.8	-65.4	625
85.50	3.31		3.3	.49	.45	724	252.5	36.0	-64.9	612
86.00	3.07		3.1	.51	.48	709	252.3	34.3	-64.3	599
86.50	3.16		3.2	.50	.47	715	252.1	32.5	-63.7	603
87.00	3.09		3.1	.51	.48	707	251.9	30.8	-63.1	595
87.50	3.01		3.0	.52	.50	699	251.7	29.1	-62.5	588
38588.00	2.92		2.92	-13.53	-13.51	692	251.5	27.3	-61.9	582
89.00	2.85		2.85	.54	.52	685	251.1	23.9	-60.8	575
90.00	2.91		2.91	.53	.52	686	250.7	20.5	-59.6	575
91.00	2.89		2.89	.53	.53	683	250.2	17.0	-58.4	572

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\phi_\pi - \delta_\odot$ (deg.)	T_N (°K)
38592.00	2.75		2.75	-13.55	-13.55	670	249.8	13.7	-57.2	561
93.00	2.78		2.78	.54	.55	669	249.3	10.3	-55.9	561
94.00	3.54		3.54	.45	.46	717	248.8	6.9	-54.7	602
95.00	3.70		3.70	.43	.45	725	248.3	3.6	-53.5	609
96.00	3.55		3.55	.44	.47	713	247.8	0.3	-52.2	600
97.00	3.36		3.36	.46	.50	697	247.3	357.0	-51.0	588
98.00	3.04		3.04	.50	.55	673	246.7	353.7	-49.7	569
99.00	2.93		2.93	.51	.57	662	246.2	350.4	-48.4	562
38600.00	2.92		2.92	.51	.57	658	245.7	347.1	-47.2	561
01.00	2.79		2.79	.53	.60	646	245.1	343.9	-45.9	553
02.00	2.70		2.70	.54	.62	636	244.6	340.6	-44.6	547
03.00	2.42		2.42	.58	.67	613	244.1	337.4	-43.3	530
04.00	2.38		2.38	.58	.68	607	243.6	334.2	-42.0	528
05.00	2.62		2.62	.55	.65	621	243.1	331.0	-40.7	544
06.00	2.92		2.92	.50	.61	639	242.6	327.8	-39.4	563
07.00	3.21		3.21	.46	.58	656	242.1	324.6	-38.0	581
08.00	3.11		3.11	.48	.60	647	241.7	321.4	-36.7	577
09.00	2.76		2.76	.52	.65	621	241.3	318.2	-35.4	558
38610.00	2.97		3.0	-13.49	-13.62	636	241.1	315.0	-34.1	575
10.50	3.14		3.1	.47	.61	641	240.9	313.4	-33.4	582
11.00	3.85		3.8	.40	.53	682	240.7	311.9	-32.7	622
11.50	3.86		3.9	.38	.52	687	240.5	310.3	-32.1	628
12.00	3.70		3.7	.40	.54	674	240.3	308.7	-31.4	619
12.50	3.61		3.6	.41	.56	667	240.1	307.1	-30.7	614
13.00	3.62		3.6	.41	.56	666	240.0	305.6	-30.0	615
38614.00	3.65		3.65	-13.41	-13.56	666	239.6	302.4	-28.7	620
15.00	3.38		3.38	.44	.59	648	239.3	299.3	-27.3	608
16.00	3.27		3.27	.45	.61	640	239.0	296.1	-25.9	603
17.00	3.48		3.48	.43	.59	651	238.8	293.0	-24.6	618
38618.00	3.59		3.6	-13.41	-13.58	656	238.5	289.9	-23.2	626
18.50	3.63		3.6	.41	.58	655	238.4	288.3	-22.5	628
19.00	4.05		4.0	.37	.54	677	238.3	286.7	-21.8	650
19.50	4.16		4.2	.35	.52	687	238.2	285.2	-21.1	662
20.00	4.05		4.1	.36	.53	681	238.1	283.6	-20.4	658
20.50	3.65		3.7	.40	.58	658	238.0	282.1	-19.7	637
21.00	3.62		3.6	.41	.59	652	237.9	280.5	-19.0	632
38622.00	3.54		3.54	-13.42	-13.60	647	237.7	277.4	-17.6	631
23.00	3.51		3.51	.42	.60	644	237.6	274.3	-16.2	631
24.00	3.48		3.48	.42	.61	641	237.4	271.2	-14.8	630
25.00	3.41		3.41	.43	.62	636	237.3	268.1	-13.4	628
26.00	3.32		3.32	.44	.63	630	237.2	265.0	-12.0	623
27.00	3.23		3.23	.45	.64	624	237.2	261.9	-10.5	619
28.00	3.13		3.13	.46	.66	618	237.1	258.8	-9.1	613
29.00	3.03		3.03	.48	.67	611	237.1	255.7	-7.7	608
30.00	2.93		2.93	.49	.69	605	237.1	252.6	-6.3	602
31.00	3.01		3.01	.48	.68	610	237.1	249.5	-4.8	607
32.00	3.12		3.12	.46	.66	617	237.1	246.4	-3.4	615
33.00	3.22		3.22	.45	.65	623	237.1	243.3	-2.0	621
34.00	3.43		3.43	.43	.62	636	237.1	240.2	-0.5	634
38680.50	4.01		4.0	-13.41	-13.43	738	248.3	84.1	65.2	641
81.00	4.19		4.2	.39	.41	751	248.5	82.0	65.9	651
81.50	4.37		4.4	.37	.39	763	248.6	80.0	66.5	661
82.00	4.35		4.3	.38	.40	758	248.7	77.9	67.1	657
82.50	4.27		4.3	.38	.40	759	248.8	75.8	67.8	657

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38683.00	4.14		4.1	-13.40	-13.41	748	249.0	73.6	68.4	648
83.50	4.09		4.1	.40	.41	749	249.1	71.5	69.0	648
84.00	4.02		4.0	.41	.42	744	249.2	69.3	69.6	644
84.50	4.03		4.0	.41	.42	745	249.3	67.1	70.2	644
85.00	4.04		4.0	.41	.42	746	249.4	64.9	70.8	645
85.50	4.01		4.0	.41	.42	747	249.6	62.7	71.4	646
86.00	4.13		4.1	.40	.40	753	249.7	60.4	72.0	651
86.50	4.66		4.7	.35	.35	788	249.8	58.2	72.5	682
87.00	4.89		4.9	.33	.33	800	249.9	55.8	73.1	692
87.50	4.95		5.0	.32	.32	807	250.0	53.5	73.7	698
88.00	4.96		5.0	.32	.32	808	250.2	51.2	74.2	699
88.50	4.92		4.9	.33	.33	803	250.3	48.8	74.8	696
89.00	4.85		4.8	.34	.34	799	250.4	46.3	75.3	692
89.50	4.75		4.8	.34	.33	799	250.5	43.9	75.8	693
90.00	4.41		4.4	.37	.37	778	250.6	41.4	76.4	675
90.50	4.13		4.1	.40	.39	761	250.7	38.9	76.9	661
91.00	3.74		3.7	.44	.43	738	250.8	36.4	77.4	641
91.50	3.56		3.6	.45	.44	732	250.9	33.8	77.9	637
92.00	3.69		3.7	.44	.43	739	251.0	31.2	78.4	643
92.50	3.80		3.8	.43	.42	746	251.1	28.6	78.8	650
93.00	3.88		3.9	.42	.41	753	251.3	25.9	79.3	657
93.50	4.01		4.0	.41	.39	759	251.4	23.2	79.7	664
38694.00	4.0		4.0	-13.41	-13.39	760	251.5	20.5	80.2	666
94.20	4.3		4.3	.39	.37	778	251.5	19.4	80.4	682
94.40	5.2		5.2	.31	.29	828	251.5	18.3	80.5	727
94.60	5.5		5.5	.29	.27	846	251.6	17.2	80.7	742
94.80	5.2		5.2	.31	.29	830	251.6	16.1	80.9	729
95.00	4.7		4.7	.35	.33	803	251.7	15.0	81.0	706
95.20	4.1		4.1	.40	.38	768	251.7	13.9	81.2	676
95.40	4.1		4.1	.40	.38	768	251.7	12.7	81.4	676
38695.50	4.25		4.3	-13.39	-13.36	780	251.8	12.2	81.4	687
96.00	4.23		4.2	.40	.37	775	251.9	9.3	81.8	684
96.50	4.15		4.1	.40	.38	769	251.9	6.4	82.2	681
97.00	4.12		4.1	.41	.38	770	252.0	3.5	82.6	682
97.50	4.36		4.4	.38	.35	788	252.1	0.6	82.9	700
98.00	4.40		4.4	.38	.35	789	252.2	357.6	83.2	703
98.50	4.14		4.1	.41	.38	771	252.3	354.7	83.6	689
99.00	3.94		3.9	.43	.39	759	252.4	351.6	83.9	680
99.50	3.88		3.9	.43	.39	759	252.4	348.6	84.1	682
38700.00	3.75		3.7	.45	.41	748	252.5	345.6	84.4	673
00.50	3.66		3.7	.45	.41	747	252.6	342.5	84.7	675
38700.60	3.6		3.6	-13.46	-13.42	741	252.6	341.9	84.7	670
00.80	3.9		3.9	.43	.39	760	252.6	340.7	84.8	688
01.00	4.2		4.2	.40	.37	778	252.6	339.4	84.9	705
01.20	5.9		5.9	.27	.24	870	252.7	338.2	85.0	790
01.40	5.5		5.5	.30	.26	852	252.7	337.0	85.1	774
01.60	4.8		4.8	.35	.31	814	252.7	335.7	85.2	741
01.80	4.0		4.0	.42	.38	767	252.7	334.5	85.2	699
02.00	4.0		4.0	.42	.38	766	252.8	333.2	85.3	699
02.20	4.0		4.0	.42	.38	766	252.8	332.0	85.4	700
02.40	3.8		3.8	.44	.40	754	252.8	330.8	85.5	690
38702.50	3.75		3.8	-13.44	-13.40	754	252.8	330.1	85.5	690
03.00	3.42		3.4	.48	.44	729	252.9	327.0	85.7	669
03.50	3.65		3.7	.45	.41	747	252.9	323.9	85.8	688
04.00	3.64		3.6	.46	.42	741	252.9	320.8	85.9	685
04.50	3.75		3.7	.45	.41	748	253.0	317.7	86.1	693

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38705.00	3.61		3.6	-13.46	-13.42	741	253.0	314.6	86.2	689
05.50	3.38		3.4	.49	.45	728	253.0	311.5	86.2	679
06.00	3.19		3.2	.51	.47	715	253.0	308.4	86.3	668
06.50	2.82		2.8	.56	.52	687	253.0	305.3	86.3	644
07.00	2.59		2.6	.59	.55	671	253.0	302.3	86.4	631
07.50	2.91		2.9	.55	.51	692	253.0	299.2	86.4	653
38707.60	2.8		2.8	-13.56	-13.52	686	252.9	298.6	86.4	647
07.80	3.4		3.4	.49	.45	726	252.9	297.4	86.4	686
08.00	3.8		3.8	.45	.41	752	252.9	296.2	86.4	711
08.20	5.3		5.3	.32	.28	837	252.9	295.0	86.4	792
08.40	5.2		5.2	.32	.29	833	252.9	293.8	86.4	790
08.60	4.2		4.2	.40	.37	777	252.9	292.6	86.4	737
08.80	3.6		3.6	.47	.43	740	252.9	291.5	86.3	703
09.00	3.5		3.5	.48	.44	733	252.8	290.3	86.3	696
09.20	3.4		3.4	.49	.45	726	252.8	289.1	86.3	691
09.40	3.4		3.4	.49	.45	726	252.8	287.9	86.3	691
38709.50	3.34		3.3	-13.50	-13.46	719	252.8	287.3	86.3	685
10.00	3.11		3.1	.52	.49	705	252.7	284.4	86.2	673
10.50	2.86		2.9	.55	.51	691	252.6	281.5	86.1	661
11.00	2.71		2.7	.58	.54	676	252.5	278.7	86.0	648
11.50	2.95		3.0	.54	.50	696	252.4	275.8	85.9	669
12.00	3.24		3.2	.51	.48	709	252.3	273.0	85.8	683
12.50	3.44		3.4	.49	.46	722	252.2	270.3	85.7	696
13.00	2.83		2.8	.56	.53	681	252.0	267.5	85.5	657
13.50	2.42		2.4	.62	.59	650	251.9	264.8	85.4	628
14.00	2.50		2.5	.60	.58	656	251.7	262.1	85.2	635
14.50	2.92		2.9	.55	.52	684	251.5	259.5	85.0	663
15.00	3.59		3.6	.46	.44	729	251.3	256.8	84.8	708
15.50	3.84		3.8	.44	.42	741	251.1	254.2	84.6	720
16.00	3.45		3.4	.48	.47	715	250.8	251.7	84.4	696
16.50	3.15		3.1	.51	.51	694	250.6	249.1	84.2	675
17.00	3.11		3.1	.51	.51	694	250.6	246.6	83.9	676
17.50	2.94		2.9	.54	.53	680	250.5	244.2	83.7	663
18.00	2.82		2.8	.55	.55	672	250.4	241.7	83.4	656
18.50	2.72		2.7	.57	.56	664	250.3	239.3	83.2	649
19.00	2.65		2.6	.58	.58	656	250.2	236.9	82.9	641
19.50	2.58		2.6	.58	.58	656	250.1	234.5	82.6	641
20.00	2.53		2.5	.60	.60	648	250.0	232.2	82.4	634
20.50	2.54		2.5	.60	.60	647	249.9	229.8	82.1	633
21.00	2.69		2.7	.57	.57	661	249.8	227.5	81.8	647
21.50	2.81		2.8	.55	.56	668	249.6	225.2	81.5	654
38721.60	2.9		2.9	-13.54	-13.54	675	249.6	224.8	81.4	661
21.80	3.2		3.2	.50	.50	695	249.6	223.9	81.3	681
22.00	3.2		3.2	.50	.51	695	249.5	223.0	81.2	681
22.20	3.3		3.3	.49	.49	701	249.5	222.1	81.0	687
22.40	4.4		4.4	.38	.38	766	249.4	221.2	80.9	751
22.60	4.7		4.7	.35	.36	784	249.4	220.3	80.8	768
22.80	4.4		4.4	.37	.38	767	249.4	219.4	80.6	752
23.00	4.0		4.0	.41	.42	744	249.3	218.5	80.5	729
23.20	3.1		3.1	.51	.52	687	249.3	217.6	80.4	674
23.40	3.1		3.1	.51	.52	686	249.2	216.8	80.3	673
38723.50	3.04		3.0	-13.52	-13.53	679	249.2	216.3	80.2	666
24.00	3.00		3.0	.52	.54	678	249.1	214.1	79.8	665
24.50	2.77		2.8	.55	.56	664	249.0	212.0	79.5	651
25.00	2.75		2.8	.55	.57	663	248.8	209.8	79.2	650
25.50	2.94		2.9	.54	.55	669	248.7	207.7	78.8	656

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log p_n$	$\log p_s$	T_π (°K)	z (km)	$\alpha_\pi - \alpha_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38726.00	3.36		3.4	-13.47	-13.49	701	248.6	205.6	78.4	687
26.50	3.64		3.6	.45	.47	713	248.5	203.5	78.1	699
27.00	3.44		3.4	.47	.50	700	248.3	201.4	77.7	686
27.50	3.24		3.2	.50	.52	686	248.2	199.4	77.3	672
28.00	3.23		3.2	.50	.52	685	248.1	197.3	77.0	671
38729.00	3.22		3.22	-13.49	-13.52	684	247.8	193.2	76.2	669
30.00	3.27		3.27	.49	.52	686	247.5	189.2	75.4	669
31.00	3.29		3.29	.48	.52	685	247.2	185.3	74.6	667
32.00	3.33		3.33	.48	.52	686	246.8	181.4	73.8	666
33.00	3.34		3.34	.47	.52	684	246.5	177.5	72.9	663
34.00	3.37		3.37	.47	.53	684	246.1	173.6	72.1	661
35.00	3.39		3.39	.47	.53	683	245.8	169.8	71.2	658
36.00	3.40		3.40	.46	.53	681	245.4	166.0	70.3	654
37.00	3.54		3.54	.45	.52	687	245.0	162.3	69.5	658
38.00	3.72		3.72	.43	.50	695	244.6	158.6	68.5	663
39.00	3.77		3.77	.42	.50	696	244.2	154.9	67.6	661
40.00	3.65		3.65	.43	.52	686	243.8	151.2	66.7	649
41.00	3.55		3.55	.44	.54	678	243.4	147.6	65.7	638
42.00	3.64		3.64	.43	.53	681	243.0	144.0	64.8	638
43.00	4.10		4.10	.38	.49	704	242.6	140.4	63.8	657
44.00	4.42		4.42	.35	.46	719	242.2	136.8	62.8	667
45.00	4.64		4.64	.33	.45	729	241.8	133.2	61.8	672
46.00	4.83		4.83	.32	.43	736	241.5	129.7	60.8	675
47.00	4.78		4.78	.32	.44	733	241.3	126.2	59.8	669
48.00	4.82		4.82	.32	.44	733	241.0	122.7	58.7	665
49.00	4.91		4.91	.31	.43	736	240.8	119.2	57.7	664
50.00	4.90		4.90	.31	.44	734	240.5	115.7	56.6	658
51.00	4.69		4.69	.32	.46	722	240.3	112.2	55.6	643
52.00	4.57		4.57	.33	.47	714	240.1	108.8	54.5	633
53.00	4.41		4.41	.34	.49	705	239.9	105.3	53.4	621
54.00	4.41		4.41	.34	.49	704	239.7	101.9	52.3	616
55.00	4.46		4.46	.34	.49	705	239.5	98.5	51.2	614
56.00	4.47		4.47	.34	.49	705	239.3	95.1	50.1	609
57.00	4.44		4.44	.34	.49	702	239.1	91.7	49.0	603
58.00	4.62		4.62	.32	.48	711	238.9	88.3	47.8	607
59.00	4.78		4.78	.31	.46	718	238.7	84.9	46.7	609
60.00	4.94		4.94	.29	.45	725	238.5	81.5	45.5	611
61.00	5.06		5.06	.28	.44	730	238.4	78.2	44.4	612
62.00	5.36		5.36	.26	.42	743	238.2	74.8	43.2	620
63.00	5.77		5.77	.23	.39	762	238.0	71.4	42.0	631
64.00	6.07		6.07	.21	.37	774	237.8	68.1	40.8	638
65.00	6.03		6.03	.21	.38	772	237.6	64.8	39.6	633
66.00	6.08		6.08	.21	.37	773	237.4	61.4	38.4	631
67.00	6.06		6.06	.21	.38	771	237.3	58.1	37.2	626
38767.50	5.88		5.9	-13.22	-13.39	763	237.2	56.4	36.6	619
68.00	6.22		6.2	.20	.37	776	237.1	54.8	36.0	628
68.50	7.38		7.4	.13	.30	827	237.0	53.1	35.3	668
69.00	7.46		7.5	.13	.29	831	236.9	51.5	34.7	670
69.50	6.98		7.0	.15	.32	810	236.8	49.8	34.1	651
70.00	6.74		6.7	.17	.34	796	236.8	48.1	33.5	639
70.50	6.65		6.7	.17	.34	795	236.6	46.5	32.9	637
71.00	6.57		6.6	.17	.35	790	236.6	44.8	32.2	632
71.50	6.44		6.4	.18	.36	781	236.5	43.2	31.6	624
72.00	6.34		6.3	.19	.37	776	236.4	41.5	31.0	619
72.50	6.42		6.4	.18	.36	780	236.3	39.9	30.3	622
73.00	6.76		6.8	.16	.34	797	236.3	38.2	29.7	635
73.50	7.13		7.1	.14	.32	810	236.2	36.6	29.1	644
74.00	6.82		6.8	.16	.34	797	236.1	34.9	28.4	633

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38774.50	6.56		6.6	-13.17	-13.35	788	236.1	33.3	27.8	625
75.00	6.39		6.4	.18	.37	779	236.0	31.7	27.2	618
75.50	6.34		6.3	.19	.37	774	236.0	30.0	26.5	614
76.00	6.12		6.1	.20	.39	765	236.0	28.4	25.9	606
76.50	5.82		5.8	.22	.41	751	235.9	26.7	25.2	595
77.00	5.91		5.9	.21	.40	756	235.9	25.1	24.6	598
77.50	6.22		6.2	.19	.38	769	235.9	23.5	23.9	609
78.00	6.26		6.3	.19	.37	773	235.8	21.8	23.3	612
78.50	6.17		6.2	.19	.38	769	235.8	20.2	22.6	609
79.00	5.90		5.9	.21	.40	755	235.8	18.6	22.0	599
79.50	5.84		5.8	.22	.41	751	235.8	16.9	21.3	596
80.00	5.66		5.7	.23	.42	746	235.8	15.3	20.7	592
80.50	5.69		5.7	.23	.42	746	235.8	13.6	20.0	593
81.00	5.97		6.0	.21	.39	760	235.8	12.0	19.3	604
81.50	5.98		6.0	.21	.39	760	235.8	10.4	18.7	605
38782.00	6.3		6.3	-13.19	-13.37	773	235.9	8.8	18.0	617
82.20	6.6		6.6	.17	.35	787	235.9	8.1	17.7	628
82.40	7.4		7.4	.13	.30	821	235.9	7.4	17.5	655
82.60	7.4		7.4	.13	.30	821	235.9	6.8	17.2	656
82.80	7.7		7.7	.11	.29	833	235.9	6.1	16.9	666
83.00	7.4		7.4	.13	.30	821	235.9	5.5	16.7	657
83.20	6.5		6.5	.18	.36	783	236.0	4.8	16.4	627
83.40	6.5		6.5	.18	.36	783	236.0	4.2	16.1	627
83.60	6.3		6.3	.19	.37	774	236.0	3.5	15.9	621
83.80	6.3		6.3	.19	.37	774	236.0	2.9	15.6	621
84.00	6.1		6.1	.20	.39	766	236.0	2.2	15.3	615
38784.50	5.92		5.9	-13.21	-13.40	757	236.1	0.6	14.7	609
85.00	5.57		5.6	.23	.42	744	236.2	359.0	14.0	600
85.50	5.49		5.5	.24	.43	740	236.2	357.3	13.3	598
86.00	5.17		5.2	.26	.45	726	236.3	355.7	12.6	588
86.50	5.06		5.0	.28	.47	717	236.4	354.1	12.0	582
87.00	5.12		5.1	.27	.46	722	236.5	352.5	11.3	588
87.50	5.40		5.4	.25	.43	737	236.6	350.8	10.6	602
88.00	5.64		5.6	.24	.41	747	236.7	349.2	9.9	612
38789.00	5.71		5.71	-13.23	-13.40	754	237.0	346.0	8.5	622
90.00	5.81		5.81	.22	.39	760	237.2	342.7	7.2	631
91.00	5.44		5.44	.25	.42	745	237.6	339.5	5.8	623
92.00	5.17		5.17	.27	.44	735	237.9	336.2	4.4	619
93.00	5.06		5.06	.28	.44	732	238.3	333.0	3.0	621
94.00	5.04		5.04	.28	.44	733	238.7	329.7	1.6	628
95.00	5.18		5.18	.27	.42	743	239.2	326.5	0.2	641
38795.50	5.27		5.3	-13.27	-13.41	751	239.5	324.8	-0.5	651
96.00	5.30		5.3	.27	.41	753	239.7	323.2	-1.2	655
96.50	5.31		5.3	.27	.40	755	240.0	321.6	-1.9	659
38797.00	5.24		5.24	-13.27	-13.41	752	240.0	320.0	-2.6	659
38797.50	5.13		5.1	-13.28	-13.42	746	240.2	318.3	-3.3	657
98.00	5.30		5.3	.27	.40	757	240.4	316.7	-4.0	669
38798.20	5.4		5.4	-13.26	-13.39	762	240.5	316.0	-4.2	675
98.40	5.6		5.6	.25	.37	772	240.5	315.4	-4.5	685
98.60	7.0		7.0	.17	.28	837	240.6	314.7	-4.8	744
98.80	7.7		7.7	.13	.24	868	240.7	314.1	-5.1	773
99.00	7.6		7.6	.14	.25	864	240.8	313.4	-5.4	771
99.20	6.8		6.8	.18	.29	830	240.9	312.8	-5.7	741

Table 3 (Cont.)

1962 β T2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38799.40	6.2		6.2	-13.21	-13.33	803	240.9	312.1	-5.9	719
99.60	5.0		5.0	.29	.42	746	241.0	311.5	-6.2	669
99.80	5.1		5.1	.29	.41	752	241.1	310.8	-6.5	675
38800.00	5.8		5.8	.24	.35	786	241.2	310.2	-6.8	707
00.20	5.3		5.3	.27	.39	763	241.3	309.5	-7.1	687
00.40	5.3		5.3	.27	.39	763	241.4	308.9	-7.4	688
00.60	5.1		5.1	.29	.40	754	241.5	308.2	-7.6	681
00.80	5.0		5.0	.30	.41	749	241.6	307.5	-7.9	678
38801.00	4.91		4.91	-13.30	-13.42	745	241.6	306.9	-8.2	676
02.00	4.66		4.66	.33	.43	735	242.1	303.6	-9.6	672
03.00	4.53		4.53	.34	.44	732	242.6	300.3	-11.0	673
04.00	3.97		3.97	.39	.49	704	243.1	297.0	-12.5	652
05.00	3.61		3.61	.43	.52	686	243.6	293.8	-13.9	640
06.00	3.93		3.93	.40	.48	708	244.1	290.5	-15.3	664
07.00	3.62		3.62	.43	.51	693	244.6	287.1	-16.8	653
08.00	3.39		3.39	.46	.53	682	245.1	283.8	-18.2	646
09.00	3.20		3.20	.48	.55	672	245.6	280.5	-19.6	640
10.00	3.18		3.18	.49	.54	674	246.1	277.2	-21.1	644
11.00	3.26		3.26	.48	.53	682	246.6	273.8	-22.5	654
12.00	3.40		3.40	.46	.51	694	247.1	270.5	-24.0	668
13.00	3.37		3.37	.47	.50	695	247.5	267.1	-25.4	670
14.00	3.34		3.34	.47	.50	696	248.0	263.7	-26.8	672
15.00	3.33		3.33	.48	.50	698	248.4	260.3	-28.3	675
16.00	3.63		3.63	.44	.46	719	248.8	256.9	-29.7	696
17.00	3.49		3.49	.46	.47	713	249.2	253.4	-31.2	690
18.00	3.30		3.30	.48	.49	703	249.5	250.0	-32.6	681
19.00	3.15		3.15	.50	.50	696	249.9	246.5	-34.0	673
20.00	2.99		2.99	.52	.52	687	250.2	243.0	-35.5	664
21.00	2.98		2.98	.53	.52	680	250.5	239.5	-36.9	665
22.00	3.38		3.38	.48	.47	716	250.8	235.9	-38.3	691
23.00	3.94		3.94	.42	.40	753	251.1	232.4	-39.7	726
24.00	3.88		3.88	.43	.41	752	251.4	228.7	-41.1	724
25.00	3.62		3.62	.45	.43	738	251.7	225.1	-42.6	709
26.00	3.26		3.26	.49	.47	716	251.9	221.4	-44.0	687
27.00	3.09		3.09	.52	.49	705	252.2	217.7	-45.4	676
28.00	2.80		2.80	.56	.52	686	252.5	214.0	-46.8	657
29.00	2.55		2.55	.59	.52	689	255.1	210.2	-48.2	657
30.00	2.32		2.32	.64	.55	669	255.7	206.3	-49.5	637
31.00	2.47		2.47	.61	.52	684	256.4	202.5	-50.9	650
32.00	2.61		2.61	.59	.50	699	257.0	198.5	-52.3	662
33.00	2.78		2.78	.57	.47	716	257.5	194.5	-53.6	676
34.00	2.79		2.79	.57	.46	721	258.1	190.4	-54.9	678
35.00	2.68		2.68	.59	.47	716	258.7	186.3	-56.3	672
36.00	2.52		2.52	.61	.48	707	259.2	182.1	-57.6	661
37.00	2.50		2.50	.62	.48	708	259.7	177.8	-58.8	660
38.00	2.41		2.41	.63	.49	703	260.2	173.4	-60.1	653
39.00	2.37		2.37	.64	.49	703	260.7	168.9	-61.4	650
40.00	2.46		2.46	.63	.47	712	261.1	164.4	-62.6	657
41.00	2.67		2.67	.60	.44	732	261.5	159.7	-63.8	673
42.00	3.16		3.16	.53	.38	771	261.9	154.9	-64.9	706
43.00	3.47		3.47	.50	.34	796	262.3	150.0	-66.1	727
44.00	3.46		3.46	.50	.34	798	262.6	145.0	-67.2	727
45.00	3.45		3.45	.50	.33	800	262.9	139.9	-68.3	725
46.00	3.24		3.24	.52	.35	787	263.1	134.6	-69.3	711
47.00	2.99		2.99	.56	.38	769	263.3	129.3	-70.3	693
48.00	2.89		2.89	.57	.39	762	263.5	123.7	-71.2	684
49.00	2.81		2.81	.58	.40	756	263.7	118.1	-72.1	677
50.00	2.70		2.70	.60	.41	748	263.8	112.3	-72.9	668
51.00	2.66		2.66	.60	.42	745	263.9	106.4	-73.7	664

Table 3 (Cont.)

1962 β T2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_n$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38852.00	2.61		2.61	-13.61	-13.42	742	263.9	100.4	-74.4	658
53.00	2.56		2.56	.62	.43	738	263.9	94.4	-75.1	653
54.00	2.65		2.65	.61	.42	745	263.9	88.2	-75.7	657
55.00	2.74		2.74	.59	.41	752	263.9	82.0	-76.2	662
56.00	2.76		2.76	.59	.40	755	264.0	75.7	-76.6	663
57.00	2.93		2.93	.57	.38	767	263.9	69.4	-77.0	672
58.00	3.07		3.07	.55	.37	777	263.8	63.2	-77.3	680
59.00	3.13		3.13	.54	.36	782	263.6	56.9	-77.6	682
60.00	3.11		3.11	.54	.36	779	263.4	50.8	-77.7	679
61.00	3.11		3.11	.54	.37	778	263.2	44.7	-77.8	678
62.00	3.22		3.22	.52	.36	784	262.9	38.7	-77.9	683
63.00	3.13		3.13	.53	.37	777	262.6	32.8	-77.8	676
64.00	2.97		2.97	.55	.39	763	262.2	27.0	-77.8	664
65.00	3.01		3.01	.55	.39	763	261.9	21.3	-77.6	664
66.00	3.20		3.20	.52	.37	774	261.5	15.8	-77.4	675
67.00	3.38		3.38	.50	.36	785	261.1	10.4	-77.2	685
38867.40	3.5		3.5	-13.49	-13.34	792	260.9	8.3	-77.1	693
67.60	3.8		3.8	.45	.32	812	260.8	7.2	-77.0	710
67.80	3.5		3.5	.48	.34	793	260.8	6.2	-77.0	693
68.00	4.4		4.4	.40	.27	848	260.7	5.1	-76.9	742
68.20	5.1		5.1	.34	.22	891	260.6	4.1	-76.8	781
68.40	6.2		6.2	.27	.15	953	260.5	3.1	-76.8	835
68.60	6.8		6.8	.23	.12	988	260.4	2.0	-76.7	866
68.80	5.9		5.9	.28	.16	942	260.3	1.0	-76.6	826
69.00	5.1		5.1	.34	.21	894	260.2	360.0	-76.6	785
69.20	4.8		4.8	.36	.24	873	260.2	359.0	-76.5	767
69.40	4.2		4.2	.41	.28	836	260.1	358.0	-76.4	735
69.60	4.1		4.1	.42	.30	827	260.0	356.9	-76.4	728
69.80	4.0		4.0	.43	.31	820	259.9	355.9	-76.3	722
70.00	3.7		3.7	.46	.33	800	259.8	354.9	-76.2	704
38871.00	3.26		3.26	-13.51	-13.38	766	259.4	350.0	-75.8	678
72.00	3.03		3.03	.54	.42	746	258.9	345.2	-75.4	662
73.00	2.92		2.92	.55	.44	734	258.5	340.5	-74.9	655
74.00	2.82		2.82	.56	.45	723	258.0	336.0	-74.4	649
75.00	2.61		2.61	.59	.49	704	257.6	331.5	-73.9	635
76.00	2.44		2.44	.62	.52	688	257.1	327.0	-73.4	624
77.00	2.42		2.42	.62	.53	683	256.7	322.7	-72.8	623
78.00	2.34		2.34	.64	.54	674	256.3	318.5	-72.2	619
79.00	2.38		2.38	.63	.54	674	255.9	314.3	-71.6	623
80.00	2.22		2.22	.65	.57	659	255.6	310.2	-71.0	613
81.00	2.17		2.17	.66	.59	652	255.2	306.1	-70.3	611
38890.00	2.85		2.85	-13.54	-13.56	663	248.4	271.8	-63.9	650
91.00	2.69		2.69	.56	.59	649	247.8	268.2	-63.1	638
92.00	2.55		2.55	.58	.62	635	247.3	264.6	-62.4	627
93.00	2.45		2.45	.60	.64	625	246.8	261.0	-61.6	618
94.00	2.26		2.26	.63	.68	608	246.4	257.5	-60.7	603
95.00	2.24		2.24	.63	.69	605	246.1	253.9	-59.9	601
96.00	2.76		2.76	.55	.61	642	245.8	250.4	-59.1	638
97.00	3.06		3.06	.50	.57	661	245.5	246.9	-58.2	658
98.00	2.91		2.91	.52	.59	650	245.3	243.4	-57.4	648
99.00	2.87		2.87	.53	.60	647	245.2	240.0	-56.5	645
38900.00	2.91		2.91	.52	.59	649	245.1	236.5	-55.7	647
01.00	3.01		3.01	.51	.58	655	245.0	233.1	-54.8	654
02.00	3.08		3.08	.50	.57	659	244.9	229.7	-53.9	658
03.00	3.38		3.38	.46	.54	678	244.9	226.3	-53.0	677
04.00	3.51		3.51	.45	.52	687	244.9	222.9	-52.1	685

Table 3 (Cont.)

1962 β -T2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log p_\pi$	$\log p_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38905.00	3.32		3.32	-13.47	-13.54	675	244.8	219.5	-51.2	673
06.00	3.15		3.15	.49	.56	664	244.9	216.1	-50.2	662
07.00	3.07		3.07	.50	.57	659	244.9	212.7	-49.3	656
08.00	2.85		2.85	.53	.60	645	244.9	209.3	-48.4	641
09.00	2.83		2.83	.53	.60	644	244.9	206.0	-47.4	639
10.00	2.80		2.80	.53	.61	642	244.9	202.6	-46.4	636
11.00	2.40		2.40	.59	.67	614	245.0	199.3	-45.5	606
38918.00	3.70		3.70	-13.42	-13.50	699	244.6	176.1	-38.5	673
19.00	3.75		3.75	.42	.49	702	244.5	172.8	-37.5	673
20.00	3.85		3.85	.40	.48	707	244.4	169.5	-36.4	675
21.00	3.92		3.92	.40	.48	710	244.3	166.2	-35.4	675
22.00	3.97		3.97	.39	.47	712	244.1	162.9	-34.4	673
23.00	4.05		4.05	.38	.47	716	244.0	159.6	-33.3	673
24.00	4.12		4.12	.38	.46	719	243.8	156.3	-32.2	672
25.00	4.16		4.16	.37	.46	720	243.6	153.0	-31.2	669
26.00	4.25		4.25	.36	.45	723	243.3	149.7	-30.1	668
27.00	5.33		5.33	.28	.37	778	243.1	146.5	-29.0	715
28.00	8.69		8.69	.09	.17	929	242.8	143.2	-27.9	848
29.00	5.84		5.84	.24	.33	801	242.5	139.9	-26.9	726
30.00	4.87		4.87	.31	.41	750	242.2	136.6	-25.8	676
31.00	4.70		4.70	.32	.43	739	241.9	133.3	-24.7	661
32.00	4.68		4.68	.32	.43	735	241.6	130.1	-23.5	654
33.00	4.61		4.61	.32	.44	729	241.2	126.8	-22.4	645
34.00	4.65		4.65	.32	.44	729	240.9	123.5	-21.3	640
35.00	4.54		4.54	.33	.46	721	240.5	120.2	-20.2	629
36.00	5.01		5.01	.29	.42	742	240.2	117.0	-19.0	643
37.00	5.92		5.92	.23	.36	783	239.8	113.7	-17.9	675
38.00	6.12		6.12	.21	.35	790	239.4	110.4	-16.8	676
39.00	5.83		5.83	.23	.37	774	239.0	107.1	-15.6	658
40.00	5.81		5.81	.23	.38	770	238.7	103.9	-14.5	651
41.00	5.78		5.78	.23	.38	766	238.3	100.6	-13.3	643
42.00	5.76		5.76	.23	.39	762	238.0	97.3	-12.1	637
43.00	5.65		5.65	.24	.40	755	237.7	94.0	-11.0	627
44.00	5.38		5.38	.26	.43	740	237.4	90.7	-9.8	611
45.00	5.22		5.22	.27	.44	730	237.1	87.4	-8.6	600
46.00	4.99		4.99	.28	.46	717	236.8	84.2	-7.5	585
38946.50	5.08		5.1	-13.27	-13.46	723	236.8	82.5	-6.9	589
47.00	5.78		5.8	.23	.40	756	236.9	80.9	-6.3	614
47.50	6.82		6.8	.17	.33	800	236.9	79.2	-5.7	648
48.00	6.60		6.6	.18	.35	792	237.0	77.6	-5.1	640
48.50	6.14		6.1	.21	.38	770	237.0	75.9	-4.5	621
49.00	5.36		5.4	.25	.43	738	237.0	74.2	-3.9	594
49.50	6.41		6.4	.19	.36	784	237.1	72.6	-3.2	629
50.00	6.44		6.4	.19	.36	784	237.1	70.9	-2.6	628
50.50	5.36		5.4	.25	.43	739	237.2	69.3	-2.0	591
51.00	6.67		5.7	.23	.40	753	237.2	67.6	-1.4	601
51.50	6.33		6.3	.20	.36	781	237.3	65.9	-0.8	622
52.00	5.28		5.3	.26	.43	735	237.3	64.3	-0.2	584
52.50	5.23		5.2	.27	.44	730	237.4	62.6	0.5	580
38953.00	5.10		5.10	-13.28	-13.45	726	237.4	60.9	1.1	575
54.00	5.45		5.45	.25	.42	743	237.5	57.6	2.3	587
55.00	6.13		6.13	.21	.37	775	237.6	54.3	3.6	611
56.00	6.07		6.07	.21	.37	773	237.8	50.9	4.8	608
57.00	6.30		6.30	.20	.36	784	237.9	47.5	6.1	616

Table 3 (Cont.)

1962 β +2 (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_\beta$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
38962.00	5.87		5.87	-13.23	-13.38	769	238.7	30.6	12.5	603
63.00	5.70		5.70	.24	.39	762	238.9	27.2	13.8	598
64.00	5.73		5.73	.24	.39	765	239.1	23.7	15.1	601
65.00	5.96		5.96	.23	.37	777	239.3	20.3	16.3	612
66.00	5.70		5.70	.25	.38	766	239.5	16.8	17.6	605
67.00	5.39		5.39	.27	.41	752	239.7	13.4	18.9	597
68.00	5.06		5.06	.29	.43	738	239.9	9.9	20.2	587
38969.00	4.87		4.9	-13.31	-13.44	731	240.1	6.3	21.5	584
69.50	6.12		6.1	.22	.35	789	240.3	4.6	22.2	632
70.00	5.47		5.5	.26	.39	762	240.4	2.8	22.8	612
70.50	5.35		5.3	.28	.41	753	240.5	1.0	23.5	606
38971.00	5.26		5.26	-13.28	-13.41	752	240.6	359.2	24.1	607
72.00	5.03		5.03	.30	.42	742	240.9	355.7	25.4	603
73.00	4.79		4.79	.32	.44	731	241.2	352.1	26.7	597
74.00	5.20		5.20	.29	.41	753	241.4	348.4	28.0	619
75.00	5.71		5.71	.26	.36	779	241.7	344.8	29.3	645
76.00	5.82		5.82	.25	.35	786	242.0	341.1	30.6	656
77.00	5.38		5.38	.28	.38	767	242.3	337.3	31.9	644
78.00	5.08		5.08	.30	.40	754	242.5	333.6	33.2	638
79.00	4.79		4.79	.33	.43	741	242.8	329.8	34.5	631
38987.00	3.89		3.89	-13.42	-13.48	706	245.2	297.5	44.6	634
88.00	3.71		3.71	.44	.50	697	245.5	293.2	45.8	629
89.00	3.83		3.83	.43	.48	706	245.8	288.8	47.0	640
90.00	4.02		4.02	.41	.46	719	246.1	284.3	48.1	654
91.00	4.03		4.03	.41	.46	722	246.4	279.7	49.3	659
92.00	4.14		4.14	.40	.44	730	246.7	275.1	50.4	668
93.00	3.95		3.95	.42	.46	722	247.0	270.3	51.6	661
94.00	3.47		3.47	.47	.50	695	247.3	265.4	52.6	638
95.00	3.25		3.25	.49	.53	683	247.5	260.4	53.7	628
96.00	3.27		3.27	.49	.52	686	247.8	255.2	54.7	631
97.00	3.46		3.46	.47	.49	700	248.0	250.0	55.7	644
98.00	3.46		3.46	.47	.49	702	248.3	244.6	56.7	646
99.00	3.07		3.07	.51	.53	679	248.5	239.1	57.6	624
39000.00	2.85		2.85	.54	.56	665	248.7	233.4	58.5	611
01.00	2.68		2.68	.57	.58	654	248.9	227.7	59.3	601
02.00	2.85		2.85	.54	.56	667	249.1	221.8	60.0	612
03.00	3.07		3.07	.52	.53	683	249.3	215.8	60.7	627
04.00	3.10		3.10	.51	.52	686	249.5	209.7	61.4	629
05.00	2.88		2.88	.54	.55	672	249.6	203.5	62.0	615
06.00	2.79		2.79	.55	.56	666	249.8	197.3	62.5	609
07.00	3.01		3.01	.53	.53	682	249.9	191.0	63.0	623
08.00	3.69		3.69	.45	.45	726	250.0	184.7	63.4	662
09.00	3.66		3.66	.45	.45	726	250.1	178.4	63.7	660
10.00	3.55		3.55	.46	.46	719	250.1	172.2	63.9	652
11.00	3.45		3.45	.47	.47	714	250.3	166.0	64.1	646
12.00	3.20		3.20	.50	.50	698	250.3	159.8	64.3	630
13.00	3.02		3.02	.53	.52	685	250.3	153.7	64.3	617
14.00	3.07		3.07	.52	.52	688	250.3	147.8	64.3	618
15.00	3.26		3.26	.50	.49	701	250.3	141.9	64.3	628
16.00	3.63		3.63	.46	.45	724	250.3	136.2	64.2	646
17.00	3.67		3.67	.45	.45	726	250.3	130.6	64.0	647
18.00	3.55		3.55	.47	.46	719	250.2	125.2	63.8	637
39018.50	3.90		3.9	-13.43	-13.43	739	250.2	122.5	63.7	655
19.00	4.71		4.7	.36	.36	785	250.2	119.8	63.6	694
19.50	5.26		5.3	.31	.31	817	250.1	117.2	63.4	721

Table 3 (Cont.)

1962 β -2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39020.00	5.06		5.1	-13.33	-13.32	807	250.1	114.6	63.3	710
20.50	4.98		5.0	.33	.33	801	250.0	112.1	63.1	704
21.00	4.71		4.7	.36	.36	784	250.0	109.6	63.0	688
39022.00	4.68		4.68	-13.36	-13.36	782	249.8	104.6	62.6	683
23.00	4.33		4.33	.39	.39	761	249.7	99.8	62.2	663
24.00	3.99		3.99	.42	.43	740	249.5	95.1	61.8	642
25.00	3.88		3.88	.43	.44	732	249.3	90.4	61.4	633
26.00	4.08		4.08	.41	.42	743	249.1	85.9	60.9	639
27.00	4.44		4.44	.38	.39	762	248.9	81.5	60.4	653
28.00	4.73		4.73	.35	.37	776	248.6	77.2	59.9	662
29.00	5.09		5.09	.32	.34	794	248.4	72.9	59.4	675
30.00	5.47		5.47	.29	.32	812	248.1	68.7	58.9	687
31.00	6.18		6.18	.25	.27	845	247.8	64.6	58.3	713
32.00	6.28		6.28	.24	.27	848	247.5	60.5	57.7	713
33.00	5.95		5.95	.26	.29	830	247.1	56.6	57.1	695
34.00	5.60		5.60	.28	.32	810	246.8	52.6	56.6	676
35.00	6.02		6.02	.25	.30	828	246.4	48.7	55.9	689
36.00	6.66		6.66	.21	.26	856	246.1	44.9	55.3	711
37.00	6.59		6.59	.21	.27	850	245.7	41.1	54.7	704
38.00	6.45		6.45	.22	.28	841	245.3	37.4	54.1	695
39.00	6.67		6.67	.21	.27	848	244.9	33.6	53.4	700
40.00	6.94		6.94	.19	.26	857	244.5	30.0	52.8	707
41.00	7.17		7.17	.18	.25	865	244.0	26.3	52.1	713
42.00	7.33		7.33	.17	.24	869	243.6	22.7	51.4	716
43.00	7.11		7.11	.18	.26	856	243.2	19.1	50.8	706
44.00	6.74		6.74	.19	.28	836	242.8	15.6	50.1	690
45.00	6.53		6.53	.20	.30	824	242.4	12.0	49.4	681
46.00	6.40		6.40	.21	.31	815	242.1	8.5	48.7	675
47.00	6.61		6.61	.20	.30	822	241.7	5.0	48.0	682
48.00	6.46		6.46	.21	.32	813	241.3	1.6	47.3	677
49.00	6.09		6.09	.23	.34	794	241.0	358.1	46.6	663
50.00	5.75		5.75	.25	.37	775	240.6	354.7	45.8	650
51.00	5.63		5.63	.25	.38	767	240.3	351.3	45.1	646
52.00	5.62		5.62	.25	.39	764	239.9	347.8	44.4	647
53.00	5.71		5.71	.25	.38	766	239.6	344.4	43.6	653
54.00	5.67		5.67	.25	.39	762	239.3	341.1	42.9	653
55.00	5.51		5.51	.26	.41	752	239.0	337.7	42.1	649
39055.50	5.63		5.6	-13.25	-13.40	756	238.8	336.0	41.8	654
56.00	6.82		6.8	.18	.32	808	238.7	334.3	41.4	701
56.50	7.84		7.8	.13	.27	849	238.5	332.6	41.0	740
57.00	7.41		7.4	.14	.29	832	238.4	331.0	40.6	727
57.50	7.17		7.2	.15	.30	822	238.2	329.3	40.3	721
58.00	7.00		7.0	.16	.32	813	238.1	327.6	39.9	715
39059.00	6.74		6.74	-13.18	-13.33	799	237.8	324.3	39.1	709
60.00	6.42		6.42	.20	.36	783	237.5	321.0	38.3	700
61.00	6.43		6.43	.19	.36	782	237.3	317.6	37.5	704
62.00	6.53		6.53	.19	.36	785	237.1	314.3	36.8	712
63.00	6.18		6.18	.21	.38	768	236.8	311.0	36.0	702
64.00	6.03		6.03	.22	.39	760	236.6	307.7	35.2	700
65.00	6.19		6.19	.21	.39	765	236.5	304.4	34.4	711
66.00	6.11		6.11	.21	.39	761	236.3	301.1	33.6	712
67.00	5.93		5.93	.22	.41	752	236.1	297.8	32.8	708
68.00	5.78		5.78	.23	.42	744	236.0	294.5	31.9	706
69.00	6.07		6.07	.21	.40	756	235.9	291.1	31.1	722
39069.50	6.77		6.8	-13.17	-13.35	788	235.9	289.5	30.7	754
70.00	8.30		8.3	.09	.27	848	235.9	287.8	30.3	815

Table 3 (Cont.)

1962 β -2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	Γ_N (°K)
39070.50	8.00		8.0	-13.11	-13.28	836	235.8	286.2	29.9	806
71.00	7.31		7.3	.14	.32	808	235.8	284.5	29.5	780
71.50	6.73		6.7	.17	.36	783	235.8	282.9	29.1	758
39072.00	6.58		6.58	-13.18	-13.37	777	235.8	281.2	28.6	755
73.00	6.08		6.08	.21	.40	756	235.8	277.9	27.8	738
74.00	5.63		5.63	.24	.43	736	235.8	274.6	26.9	722
39125.00	4.37		4.37	-13.38	-13.34	795	253.1	97.1	-24.4	658
26.00	4.34		4.34	.39	.34	795	253.7	93.2	-25.6	656
27.00	4.46		4.46	.38	.33	806	254.3	89.2	-26.7	662
28.00	4.47		4.47	.38	.32	810	254.7	85.2	-27.8	663
29.00	4.53		4.53	.38	.31	817	255.2	81.2	-29.0	667
30.00	4.57		4.57	.37	.30	822	255.6	77.1	-30.1	669
31.00	4.62		4.62	.37	.30	827	255.9	73.0	-31.2	671
32.00	4.74		4.74	.36	.28	836	256.2	68.8	-32.3	677
33.00	4.96		4.96	.34	.27	850	256.4	64.5	-33.4	687
34.00	5.00		5.00	.34	.26	854	256.6	60.2	-34.5	690
35.00	4.88		4.88	.35	.27	849	256.8	55.8	-35.6	685
36.00	4.72		4.72	.36	.28	840	256.9	51.4	-36.7	677
37.00	4.58		4.58	.38	.29	832	256.9	46.8	-37.8	671
38.00	4.60		4.60	.37	.29	834	257.0	42.2	-38.9	672
39.00	4.70		4.70	.37	.28	839	257.0	37.5	-39.9	677
40.00	4.85		4.85	.35	.27	848	257.0	32.7	-41.0	685
41.00	4.84		4.84	.36	.27	847	257.0	27.8	-42.0	686
42.00	4.85		4.85	.35	.27	847	256.9	22.8	-43.0	688
43.00	4.95		4.95	.35	.26	852	256.8	17.7	-43.9	694
44.00	5.15		5.15	.33	.25	862	256.7	12.4	-44.9	704
45.00	5.52		5.52	.31	.23	882	256.6	7.1	-45.8	723
46.00	5.76		5.76	.29	.21	894	256.5	1.6	-46.6	737
47.00	5.79		5.79	.29	.21	894	256.3	355.9	-47.5	741
48.00	5.74		5.74	.29	.22	890	256.2	350.2	-48.3	741
49.00	5.26		5.26	.33	.25	862	256.0	344.3	-49.0	723
50.00	4.76		4.76	.36	.29	832	255.9	338.2	-49.7	702
51.00	4.48		4.48	.39	.32	813	255.8	332.1	-50.4	691
52.00	4.15		4.15	.42	.35	792	255.6	325.8	-51.0	677
53.00	3.74		3.74	.46	.39	764	255.5	319.5	-51.5	658
39170.50	3.15		3.1	-13.53	-13.45	724	255.6	213.6	-51.0	665
71.00	2.86		2.9	.55	.48	710	255.5	211.1	-50.8	652
71.50	2.99		3.0	.54	.47	716	255.4	208.6	-50.5	658
72.00	3.01		3.0	.54	.47	715	255.4	206.1	-50.3	658
72.50	2.89		2.9	.55	.48	708	255.3	203.7	-50.0	652
73.00	2.86		2.9	.55	.48	707	255.2	201.3	-49.8	651
73.50	2.85		2.8	.57	.50	700	255.1	198.9	-49.5	644
74.00	3.00		3.0	.54	.47	713	255.0	196.6	-49.3	657
74.50	3.23		3.2	.52	.45	726	254.9	194.3	-49.0	669
75.00	3.36		3.4	.49	.43	739	254.8	192.0	-48.7	681
75.50	3.72		3.7	.46	.40	758	254.7	189.7	-48.4	698
76.00	3.90		3.9	.44	.38	770	254.6	187.5	-48.1	709
76.50	4.15		4.1	.42	.36	781	254.5	185.2	-47.8	719
77.00	4.05		4.0	.43	.37	775	254.4	183.0	-47.5	713
77.50	3.90		3.9	.44	.38	768	254.2	180.9	-47.2	706
78.00	4.01		4.0	.43	.37	772	254.1	178.7	-46.9	710
78.50	3.96		4.0	.43	.38	771	253.9	176.6	-46.6	709
79.00	4.05		4.0	.43	.38	770	253.7	174.4	-46.3	707
79.50	4.27		4.3	.40	.35	787	253.5	172.3	-46.0	722
80.00	4.43		4.4	.39	.35	791	253.4	170.3	-45.7	725

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39181.00	4.15		4.15	-13.41	-13.36	781	253.9	166.1	-45.6	714
82.00	3.67		3.67	.46	.41	751	253.7	162.1	-44.3	685
83.00	3.39		3.39	.49	.44	731	253.6	158.1	-43.7	665
84.00	3.26		3.26	.50	.46	721	253.4	154.2	-43.0	654
85.00	3.28		3.28	.50	.46	721	253.2	150.3	-42.4	652
86.00	3.65		3.65	.46	.42	743	252.9	146.5	-41.7	670
87.00	3.93		3.93	.43	.40	759	252.7	142.7	-41.0	682
88.00	4.17		4.17	.41	.38	772	252.4	138.9	-40.3	691
89.00	4.47		4.47	.38	.35	787	252.1	135.2	-39.6	702
90.00	4.39		4.39	.38	.36	781	251.8	131.6	-38.9	693
91.00	4.51		4.51	.37	.35	786	251.4	127.9	-38.2	694
92.00	4.42		4.42	.38	.37	778	251.0	124.3	-37.5	685
93.00	4.37		4.37	.38	.37	773	250.6	120.7	-36.8	677
94.00	4.41		4.41	.38	.37	772	250.2	117.2	-36.1	673
95.00	4.56		4.56	.36	.37	778	249.8	113.6	-35.4	674
96.00	4.68		4.68	.35	.36	781	249.3	110.1	-34.7	674
97.00	4.89		4.89	.33	.35	790	248.8	106.6	-33.9	678
39197.60	5.2		5.2	-13.31	-13.33	804	248.5	104.6	-33.5	688
97.80	5.5		5.5	.29	.31	819	248.4	103.9	-33.4	700
98.00	6.0		6.0	.25	.27	843	248.3	103.2	-33.2	720
98.20	7.3		7.3	.18	.20	905	248.2	102.5	-33.1	771
98.40	8.2		8.2	.14	.16	946	248.1	101.8	-32.9	806
98.60	8.6		8.6	.12	.14	964	248.0	101.1	-32.8	820
98.80	8.5		8.5	.12	.14	959	247.9	100.4	-32.6	815
99.00	7.5		7.5	.17	.19	913	247.8	99.7	-32.5	775
99.20	6.4		6.4	.23	.25	860	247.7	99.1	-32.3	729
99.40	6.1		6.1	.24	.27	844	247.6	98.4	-32.2	715
99.60	6.3		6.3	.23	.26	852	247.5	97.7	-32.0	721
39200.00	6.14		6.1	-13.24	-13.28	841	247.3	96.3	-31.7	710
00.50	6.22		6.2	.24	.27	844	247.0	94.6	-31.4	711
01.00	6.29		6.3	.23	.27	847	246.7	92.9	-31.0	711
01.50	6.47		6.5	.22	.26	854	246.4	91.2	-30.6	716
02.00	6.63		6.6	.21	.26	857	246.1	89.5	-30.3	716
02.50	6.72		6.7	.20	.25	859	245.8	87.8	-29.9	716
03.00	6.91		6.9	.19	.25	866	245.5	86.1	-29.5	720
03.50	7.24		7.2	.17	.23	878	245.2	84.4	-29.2	728
04.00	7.59		7.6	.15	.21	894	244.9	82.7	-28.8	739
04.50	7.87		7.9	.14	.20	905	244.6	81.1	-28.4	746
05.00	7.93		7.9	.14	.20	902	244.3	79.4	-28.0	742
05.50	7.92		7.9	.14	.21	900	244.0	77.7	-27.7	738
06.00	7.94		7.9	.14	.21	897	243.6	76.0	-27.3	734
06.50	7.80		7.8	.14	.22	890	243.3	74.4	-26.9	727
39207.00	7.8		7.8	-13.14	-13.22	887	243.0	72.7	-26.5	723
07.20	7.9		7.9	.13	.22	891	242.9	72.0	-26.4	725
07.40	7.9		7.9	.13	.22	890	242.7	71.4	-26.2	723
07.60	8.1		8.1	.12	.21	897	242.6	70.7	-26.1	729
07.80	8.2		8.2	.12	.21	900	242.5	70.1	-25.9	731
08.00	8.5		8.5	.10	.19	912	242.3	69.4	-25.8	739
08.20	8.6		8.6	.10	.19	915	242.2	68.7	-25.6	741
08.40	8.4		8.4	.11	.20	906	242.1	68.1	-25.5	733
08.60	8.3		8.3	.11	.21	900	241.9	67.4	-25.3	728
08.80	8.2		8.2	.11	.21	895	241.8	66.7	-25.2	723
39209.00	7.71		7.7	-13.14	-13.24	872	241.7	66.1	-25.0	704
09.50	7.81		7.8	.13	.24	874	241.3	64.4	-24.7	704
10.00	7.99		8.0	.12	.23	880	241.0	62.8	-24.3	707
10.50	8.21		8.2	.11	.22	885	240.6	61.1	-23.9	710

Table 3 (Cont.)

1962 β -2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39211.00	8.17		8.2	-13.11	-13.23	883	240.3	59.5	-23.5	707
11.50	8.15		8.1	.11	.23	875	239.9	57.8	-23.1	700
12.00	8.18		8.2	.11	.23	879	239.9	56.2	-22.8	702
39212.20	8.2		8.2	-13.11	-13.23	878	239.7	55.5	-22.6	700
12.40	8.9		8.9	.08	.20	905	239.5	54.9	-22.4	721
12.60	9.5		9.5	.05	.18	928	239.3	54.2	-22.3	739
12.80	9.9		9.9	.04	.16	942	239.1	53.5	-22.1	750
13.00	10.2	10.2	10.2	.02	.15	953	239.0	52.9	-22.0	758
13.20	9.8		9.8	.04	.17	935	238.8	52.2	-21.8	743
13.40	9.5		9.5	.05	.18	922	238.6	51.6	-21.7	732
13.60	9.2		9.2	.06	.20	908	238.4	50.9	-21.5	721
13.80	9.1		9.1	.06	.20	903	238.3	50.3	-21.4	716
39214.00	8.94		8.9	-13.07	-13.21	893	238.1	49.6	-21.2	708
14.50	8.69		8.7	.08	.23	882	237.7	48.0	-20.8	698
15.00	8.57		8.6	.08	.24	875	237.4	46.3	-20.5	692
15.50	8.60		8.6	.08	.24	872	237.0	44.7	-20.1	689
16.00	8.08		8.1	.10	.27	849	236.7	43.1	-19.7	670
16.50	8.25		8.3	.09	.26	855	236.4	41.4	-19.3	674
39216.60	8.1		8.1	-13.10	-13.27	846	236.4	41.1	-19.2	667
16.80	8.6		8.6	.08	.25	865	236.3	40.5	-19.1	682
17.00	10.3	10.3	10.3	.01	.17	930	236.1	39.8	-18.9	733
17.20	10.0	10.0	10.0	.02	.19	918	236.0	39.2	-18.8	723
17.40	9.6		9.6	.04	.20	902	235.9	38.5	-18.6	710
17.60	9.3		9.3	.05	.22	889	235.8	37.9	-18.4	700
17.80	8.9		8.9	.07	.24	873	235.7	37.2	-18.3	687
18.00	8.6		8.6	.08	.25	860	235.6	36.6	-18.1	677
39218.50	8.57		8.6	-13.08	-13.26	858	235.4	34.9	-17.8	675
19.00	8.33		8.3	.09	.27	845	235.2	33.3	-17.4	664
19.50	8.55		8.6	.08	.26	855	235.0	31.7	-17.0	672
20.00	8.66		8.7	.07	.26	857	234.8	30.0	-16.6	674
20.50	8.97		9.0	.06	.24	868	234.7	28.4	-16.2	682
21.00	9.07		9.1	.05	.24	870	234.5	26.8	-15.8	684
21.50	9.18		9.2	.05	.24	873	234.4	25.2	-15.4	686
22.00	9.60		9.6	.03	.22	887	234.2	23.5	-15.0	698
22.50	9.84		9.8	.02	.21	894	234.1	21.9	-14.6	703
23.00	9.99		10.0	.02	.21	900	234.0	20.3	-14.2	709
23.50	10.14	10.1	10.1	.01	.20	903	233.9	18.7	-13.9	712
24.00	10.13	10.1	10.1	.01	.20	902	233.8	17.0	-13.5	712
24.50	9.57		9.6	.03	.23	883	233.8	15.4	-13.1	697
25.00	9.19		9.2	.05	.24	867	233.7	13.8	-12.7	686
25.50	9.03		9.0	.05	.25	859	233.7	12.2	-12.3	681
26.00	9.01		9.0	.05	.26	859	233.6	10.5	-11.9	681
26.50	8.83		8.8	.06	.27	851	233.6	8.9	-11.5	676
27.00	8.75		8.7	.07	.27	847	233.5	7.3	-11.1	674
27.50	8.53		8.5	.08	.28	839	233.5	5.7	-10.7	669
28.00	8.67		8.7	.07	.27	846	233.5	4.0	-10.3	676
28.50	9.41		9.4	.04	.24	873	233.5	2.4	-9.9	699
29.00	10.78	10.8	10.8	-12.99	.18	924	233.5	0.8	-9.5	742
29.50	11.38	11.4	11.4	.97	.16	947	233.5	359.2	-9.1	762
30.00	10.68	10.7	10.7	.99	.18	921	233.5	357.5	-8.7	743
30.50	9.81		9.8	-13.02	.22	887	233.5	355.9	-8.3	718
31.00	9.47		9.5	.03	.23	876	233.5	354.3	-7.9	711
39232.00	9.17		9.17	-13.05	-13.25	864	233.6	351.0	-7.1	705
33.00	8.72		8.72	.07	.27	847	233.6	347.8	-6.3	696
34.00	8.19		8.19	.09	.30	827	233.7	344.5	-5.5	684

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39235.00	8.18		8.18	-13.09	-13.30	827	233.7	341.2	-4.7	689
36.00	8.44		8.44	.08	.28	837	233.8	337.9	-3.8	703
37.00	9.03		9.03	.06	.25	860	233.9	334.7	-3.0	728
38.00	9.76		9.76	.03	.22	888	234.0	331.4	-2.2	758
39.00	9.44		9.44	.04	.23	876	234.1	328.1	-1.4	754
40.00	9.67		9.67	.03	.22	885	234.2	324.8	-0.6	769
41.00	8.66		8.66	.08	.27	847	234.3	321.5	0.3	742
42.00	8.27		8.27	.09	.29	833	234.4	318.2	1.1	735
43.00	8.14		8.14	.10	.29	828	234.5	314.9	2.0	737
44.00	8.59		8.59	.08	.27	846	234.6	311.6	2.8	760
45.00	9.10		9.10	.06	.25	866	234.8	308.2	3.6	783
46.00	9.40		9.40	.05	.23	877	234.9	304.9	4.5	800
47.00	9.08		9.08	.06	.25	866	235.0	301.5	5.3	795
48.00	8.60		8.60	.08	.27	848	235.1	298.2	6.2	785
49.00	8.27		8.27	.10	.28	836	235.3	294.8	7.0	778
50.00	7.94		7.94	.12	.30	824	235.4	291.4	7.9	771
51.00	7.82		7.82	.12	.31	820	235.6	288.0	8.8	772
52.00	7.33		7.33	.15	.33	801	235.7	284.6	9.6	758
53.00	6.78		6.78	.18	.36	780	235.9	281.2	10.5	740
39253.50	6.55		6.5	-13.20	-13.38	767	235.8	279.5	11.0	730
54.00	6.46		6.5	.20	.38	768	236.0	277.8	11.4	732
54.50	6.33		6.3	.21	.39	760	236.1	276.0	11.8	726
55.00	6.06		6.1	.22	.41	753	236.2	274.3	12.3	719
55.50	5.93		5.9	.23	.42	745	236.4	272.6	12.7	713
56.00	5.65		5.6	.25	.44	733	236.6	270.9	13.1	702
56.50	5.68		5.7	.25	.43	739	236.7	269.1	13.6	708
57.00	6.00		6.0	.23	.40	753	236.9	267.4	14.0	722
57.50	6.08		6.1	.22	.40	759	237.1	265.6	14.5	728
58.00	6.06		6.1	.22	.39	760	237.3	263.9	14.9	730
58.50	5.97		6.0	.23	.40	758	237.6	262.1	15.3	727
59.00	5.74		5.7	.25	.42	746	237.8	260.4	15.8	716
59.50	5.68		5.7	.25	.41	748	238.0	258.6	16.2	717
60.00	5.48		5.5	.27	.43	740	238.3	256.8	16.7	710
60.50	5.22		5.2	.29	.45	728	238.5	255.1	17.1	698
61.00	4.95		5.0	.31	.46	720	238.8	253.3	17.6	690
61.50	5.35		5.4	.28	.42	741	239.0	251.5	18.0	710
62.00	5.62		5.6	.26	.41	752	239.3	249.7	18.4	720
62.50	5.75		5.7	.26	.40	759	239.6	247.9	18.9	726
63.00	5.88		5.9	.24	.38	770	239.9	246.1	19.3	736
39267.00	5.54		5.54	-13.28	-13.38	771	242.3	231.4	22.9	730
68.00	5.45		5.45	.28	.38	771	242.9	227.7	23.8	728
69.00	5.46		5.46	.28	.37	776	243.5	223.9	24.7	730
39269.50	5.48		5.5	-13.28	-13.36	780	243.8	222.0	25.2	733
70.00	5.48		5.5	.28	.36	782	244.1	220.1	25.6	734
70.50	5.50		5.5	.28	.36	784	244.4	218.2	26.1	735
71.00	5.57		5.6	.28	.35	791	244.7	216.3	26.5	740
39271.20	6.1		6.1	-13.25	-13.31	816	244.9	215.5	26.7	762
71.40	6.2		6.2	.24	.30	822	245.0	214.7	26.9	767
71.60	7.2		7.2	.18	.24	868	245.1	214.0	27.1	810
71.80	8.8		8.8	.11	.17	938	245.2	213.2	27.2	875
72.00	10.5	10.5	10.5	.05	.10	1012	245.4	212.4	27.4	943
72.20	9.5		9.5	.08	.13	972	245.5	211.6	27.6	905
72.40	7.6		7.6	.16	.22	891	245.6	210.9	27.8	829

Table 3 (Cont.)

1962 β 2 (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39273.00	5.55		5.6	-13.28	-13.33	801	246.0	208.5	28.3	744
73.50	4.86		4.9	.33	.38	767	246.3	206.5	28.8	711
74.00	5.07		5.1	.32	.36	779	246.6	204.5	29.2	720
74.50	5.23		5.2	.31	.35	787	246.8	202.5	29.7	726
75.00	5.63		5.6	.28	.32	809	247.1	200.5	30.1	744
75.50	5.73		5.7	.28	.31	816	247.4	198.5	30.5	749
76.00	6.19		6.2	.25	.28	842	247.7	196.4	31.0	772
76.50	6.72		6.7	.22	.24	868	248.0	194.4	31.4	794
77.00	8.62		8.6	.13	.15	956	248.2	192.3	31.9	872
77.50	7.14		7.1	.20	.21	893	248.5	190.2	32.3	813
39309.00	6.97		6.97	-13.20	-13.20	903	250.0	11.5	45.4	738
10.00	6.99		6.99	.20	.21	899	249.6	5.4	45.0	736
11.00	7.20		7.20	.19	.20	904	249.1	359.6	44.5	743
39311.50	7.18		7.2	-13.19	-13.20	902	248.9	356.7	44.2	743
12.00	6.80		6.8	.21	.23	882	248.7	353.8	44.0	727
12.50	6.64		6.6	.22	.24	870	248.4	351.0	43.7	719
13.00	6.31		6.3	.24	.26	853	248.2	348.2	43.4	707
13.50	6.27		6.3	.24	.26	851	248.0	345.5	43.1	707
14.00	6.09		6.1	.25	.28	839	247.7	342.7	42.8	699
39314.20	5.9		5.9	-13.26	-13.29	829	247.6	341.7	42.6	691
14.40	7.1		7.1	.20	.22	884	247.5	340.6	42.5	738
14.60	8.8		8.8	.12	.14	959	247.4	339.5	42.4	801
14.80	9.7		9.7	.08	.11	998	247.3	338.5	42.3	835
15.00	10.1	10.1	10.1	.06	.09	1015	247.2	337.4	42.1	850
15.20	9.2		9.2	.10	.13	976	247.1	336.4	42.0	818
15.40	8.8		8.8	.11	.15	957	247.0	335.3	41.9	803
15.60	9.0		9.0	.10	.14	964	246.9	334.3	41.7	810
15.80	9.4		9.4	.09	.12	980	246.8	333.3	41.6	825
16.00	8.7		8.7	.12	.15	950	246.7	332.2	41.5	800
16.20	8.9		8.9	.11	.15	956	246.6	331.2	41.3	807
16.40	9.9		9.9	.07	.11	998	246.5	330.2	41.2	843
16.60	8.8		8.8	.11	.15	951	246.4	329.2	41.0	804
16.80	7.1		7.1	.15	.24	875	246.3	328.2	40.9	741
17.00	6.8		6.8	.21	.25	859	246.2	327.2	40.8	728
17.20	6.8		6.8	.21	.26	858	246.1	326.2	40.6	728
17.40	6.4		6.4	.23	.28	839	246.0	325.2	40.5	713
39317.50	6.96		7.0	-13.20	-13.25	865	246.0	324.7	40.4	736
18.00	7.84		7.8	.16	.21	899	245.8	322.2	40.0	767
18.50	7.84		7.8	.16	.21	897	245.5	319.8	39.7	768
19.00	7.17		7.2	.19	.24	868	245.3	317.4	39.3	746
19.50	6.81		6.8	.21	.27	848	245.0	315.0	38.9	732
20.00	6.25		6.2	.24	.31	818	244.8	312.6	38.5	709
20.50	5.95		6.0	.25	.32	807	244.6	310.3	38.1	701
21.00	5.66		5.7	.27	.35	791	244.3	308.0	37.7	690
21.50	5.72		5.7	.27	.35	789	244.1	305.7	37.4	690
22.00	6.38		6.4	.23	.31	819	243.9	303.5	37.0	720
22.50	6.46		6.5	.22	.30	822	243.7	301.2	36.6	725
23.00	6.83		6.8	.21	.29	834	243.5	299.0	36.2	738
23.50	6.59		6.6	.22	.30	823	243.3	296.8	35.7	731
24.00	6.17		6.2	.24	.33	804	243.1	294.6	35.3	716
24.50	5.86		5.9	.26	.35	788	242.9	292.5	34.9	705
25.00	5.61		5.6	.28	.37	773	242.7	290.3	34.5	694
25.50	5.54		5.5	.28	.38	767	242.5	288.2	34.1	691
26.00	5.83		5.8	.26	.36	779	242.3	286.1	33.7	704
26.50	6.00		6.0	.25	.35	787	242.2	284.0	33.3	714

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_\beta$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39327.00	5.86		5.9	-13.26	-13.36	782	242.0	281.9	32.8	711
27.50	5.96		6.0	.25	.36	785	241.9	279.8	32.4	717
28.00	5.93		5.9	.26	.36	780	241.8	277.8	32.0	714
28.50	5.91		5.9	.26	.36	779	241.6	275.8	31.6	715
29.00	6.64		6.6	.21	.32	809	241.5	273.7	31.1	745
29.50	6.73		6.7	.21	.32	813	241.5	271.7	30.7	751
39388.00	11.00		11.00	-13.00	-13.14	959	237.1	69.9	-18.8	774
89.00	10.79		10.79	.00	.16	948	236.8	66.5	-19.6	762
90.00	10.69		10.69	.01	.16	942	236.6	63.2	-20.4	755
91.00	10.79		10.79	.00	.16	943	236.4	59.8	-21.2	754
92.00	10.91		10.91	.00	.16	947	236.3	56.5	-22.0	755
93.00	11.07		11.07	.00	.15	952	236.3	53.1	-22.8	758
94.00	11.15		11.15	-12.99	.15	955	236.4	49.7	-23.6	759
95.00	10.99		10.99	-13.00	.15	950	236.5	46.3	-24.4	754
96.00	10.64		10.64	.01	.17	938	236.6	42.8	-25.2	744
97.00	10.18		10.18	.03	.18	922	236.9	39.4	-26.0	731
98.00	9.92		9.92	.04	.19	914	237.1	36.0	-26.8	725
99.00	9.71		9.71	.05	.20	908	237.5	32.5	-27.5	721
39400.00	9.17		9.17	.07	.22	890	237.8	29.0	-28.3	707
01.00	9.15		9.15	.07	.21	893	238.2	25.5	-29.1	710
39402.00	9.21		9.2	-13.07	-13.21	898	238.7	22.0	-29.9	716
02.50	9.31		9.3	.07	.20	904	238.9	20.3	-30.3	722
03.00	10.85		10.8	.02	.14	964	239.1	18.5	-30.7	771
03.50	12.23		12.2	-12.97	.09	1021	237.4	16.7	-31.1	818
04.00	11.13		11.1	-13.01	.12	981	239.6	14.9	-31.5	787
04.50	9.95		9.9	.05	.17	936	239.9	13.2	-31.8	752
39421.50	7.00		7.0	-13.22	-13.21	893	250.5	307.3	-44.5	798
22.00	7.29		7.3	.20	.19	910	250.8	305.1	-44.8	815
22.50	7.36		7.4	.20	.19	918	251.1	302.9	-45.2	824
23.00	7.87		7.9	.18	.16	943	251.4	300.7	-45.5	848
23.50	7.94		7.9	.18	.16	946	251.6	298.5	-45.8	853
24.00	8.02		8.0	.17	.15	953	251.9	296.2	-46.2	861
24.50	7.70		7.7	.19	.16	942	252.2	293.9	-46.5	852
25.00	7.35		7.4	.20	.17	930	252.5	291.6	-46.8	843
25.50	6.42		6.4	.26	.22	884	252.7	289.3	-47.1	803
26.00	6.30		6.3	.27	.23	880	253.0	286.9	-47.4	801
26.50	5.90		5.9	.29	.25	862	253.2	284.5	-47.7	785
39433.00	5.82		5.82	-13.30	-13.22	886	255.9	250.7	-51.1	807
34.00	5.64		5.64	.31	.23	876	256.2	244.9	-51.4	797
35.00	5.82		5.82	.30	.22	887	256.5	239.0	-51.8	806
36.00	5.91		5.91	.29	.21	894	256.7	232.9	-52.1	811
37.00	5.97		5.97	.29	.21	899	256.9	226.7	-52.3	813
38.00	5.97		5.97	.29	.21	900	257.1	220.3	-52.5	813
39.00	6.07		6.07	.28	.20	906	257.2	213.8	-52.6	816
40.00	6.08		6.08	.28	.20	908	257.4	207.1	-52.6	815
41.00	6.19		6.19	.28	.19	914	257.4	200.4	-52.6	818
42.00	6.32		6.32	.27	.18	921	257.5	193.5	-52.4	822
43.00	6.42		6.42	.26	.18	926	257.5	186.6	-52.3	824
44.00	6.45		6.45	.26	.18	927	257.4	179.8	-52.0	822
45.00	6.52		6.52	.26	.17	930	257.4	172.9	-51.6	822
39445.50	6.53		6.5	-13.26	-13.17	929	257.3	169.4	-51.4	819
46.00	6.59		6.6	.25	.17	933	257.3	166.0	-51.2	821

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_S$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39446.50	6.80		6.8	-13.24	-13.16	943	257.2	162.6	-51.0	828
47.00	7.17		7.2	.22	.14	962	257.2	159.3	-50.7	843
47.50	7.39		7.4	.21	.13	972	257.1	155.9	-50.5	850
48.00	7.33		7.3	.22	.14	967	257.0	152.6	-50.2	844
39449.00	7.35		7.35	-13.21	-13.14	967	256.8	146.0	-49.5	841
50.00	7.10		7.10	.23	.15	953	256.6	139.6	-48.8	825
51.00	6.84		6.84	.24	.17	938	256.4	133.3	-48.1	808
52.00	6.70		6.70	.25	.18	928	256.1	127.2	-47.3	796
53.00	6.62		6.62	.25	.18	921	255.8	121.2	-46.4	786
54.00	6.77		6.77	.24	.18	925	255.5	115.4	-45.5	786
39455.00	7.18		7.2	-13.22	-13.16	943	255.1	109.7	-44.6	798
55.50	7.00		7.0	.23	.17	933	255.0	106.9	-44.1	787
56.00	7.04		7.0	.23	.17	931	254.8	104.2	-43.6	783
56.50	7.13		7.1	.22	.17	934	254.6	101.5	-43.1	784
57.00	7.05		7.1	.22	.17	933	254.4	98.8	-42.6	781
57.50	7.32		7.3	.21	.16	941	254.2	96.1	-42.1	785
58.00	8.30		8.3	.16	.12	986	254.0	93.5	-41.5	821
58.50	7.82		7.8	.18	.14	963	253.8	90.9	-41.0	800
59.00	7.50		7.5	.20	.16	946	253.6	88.4	-40.5	784
59.50	8.59		8.6	.15	.11	994	253.3	85.8	-39.9	822
60.00	7.93		7.9	.18	.14	962	253.1	83.4	-39.4	794
60.50	7.53		7.5	.20	.16	941	252.9	80.9	-38.8	774
61.00	8.01		8.0	.17	.14	961	252.7	78.4	-38.3	789
61.50	8.69		8.7	.14	.11	992	252.4	76.0	-37.7	812
87.50	11.59		11.6	.00	.10	1003	240.2	329.4	-7.2	851
88.00	10.14		10.1	.04	.16	941	239.7	327.5	-6.6	802
88.50	10.26		10.3	.04	.16	944	239.3	325.6	-6.0	809
89.00	10.16		10.2	.04	.17	936	239.0	323.8	-5.5	806
89.50	10.10		10.1	.04	.17	929	238.6	321.9	-4.9	803
90.00	9.95		9.9	.05	.19	918	238.2	320.1	-4.3	797
90.50	10.64		10.6	.02	.16	941	237.9	318.3	-3.8	821
91.00	10.46		10.5	.03	.17	934	237.5	316.4	-3.2	819
91.50	11.02		11.0	.01	.15	949	237.2	314.6	-2.6	837
92.00	12.42		12.4	-12.96	.11	998	236.9	312.7	-2.1	884
92.50	11.80		11.8	.98	.13	972	236.6	310.9	-1.5	866
93.00	11.68		11.7	.98	.14	965	236.3	309.1	-1.0	864
93.50	12.92		12.9	.95	.10	1006	236.0	307.3	-0.4	905
94.00	11.53		11.5	.99	.15	952	235.7	305.4	0.2	861
94.50	11.22		11.2	-13.00	.16	939	235.5	303.6	0.7	852
95.00	11.73		11.7	-12.98	.15	954	235.2	301.8	1.3	870
95.50	11.55		11.6	.98	.16	948	235.0	300.0	1.8	869
96.00	11.71		11.7	.98	.15	949	234.7	298.2	2.4	874
96.50	11.45		11.5	.99	.16	939	234.5	296.3	2.9	869
97.00	11.43		11.4	.99	.17	934	234.3	294.5	3.5	867
39497.20	11.4		11.4	-12.99	-13.17	933	234.2	293.8	3.7	868
97.40	11.7		11.7	.98	.16	942	234.1	293.1	3.9	879
97.60	12.5		12.5	.95	.13	970	234.0	292.4	4.2	906
97.80	13.7		13.7	.92	.10	1012	233.9	291.6	4.4	946
98.00	15.6		15.6	.88	.04	1080	233.8	290.9	4.6	1012
98.20	19.3		19.3	.80	-12.96	1229	233.8	290.2	4.8	1153
98.40	19.3		19.3	.80	.96	1229	233.7	289.5	5.0	1155
98.60	15.4		15.4	.88	-13.05	1070	233.6	288.7	5.3	1008
98.80	13.5		13.5	.92	.11	1000	233.5	288.0	5.5	943
99.00	13.3		13.3	.93	.11	992	233.5	287.3	5.7	937
39499.50	11.88		11.9	-12.97	-13.16	941	233.3	285.5	6.2	893
39500.00	11.22		11.2	.99	.19	915	233.1	283.7	6.8	871

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{P}$	\dot{P}_r	$-10^6 \dot{P}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39500.50	10.34		10.3	-13.02	-13.23	882	232.9	281.9	7.3	842
01.00	9.98		10.0	.03	.24	870	232.8	280.1	7.9	834
01.50	9.99		10.0	.03	.24	858	232.6	278.3	8.4	835
02.00	9.86		9.9	.04	.25	853	232.5	276.5	9.0	833
02.50	9.76		9.8	.04	.26	858	232.3	274.7	9.5	831
03.00	9.98		10.0	.03	.25	864	232.2	272.9	10.0	839
03.50	9.81		9.8	.04	.26	856	232.0	271.1	10.6	833
39503.80	9.9		9.9	-13.03	-13.26	859	231.9	270.0	10.9	837
04.00	16.0		16.0	-12.86	.05	1069	231.9	269.3	11.1	1043
04.20	20.8		20.8	.78	-12.94	1263	231.8	268.6	11.3	1233
04.40	13.8		13.8	.91	-13.11	991	231.8	267.9	11.6	969
04.60	11.2		11.2	.99	.20	902	231.7	267.2	11.8	882
04.80	11.0		11.0	.99	.21	894	231.7	266.5	12.0	876
39505.00	10.35		10.3	-13.02	-13.24	870	231.6	265.8	12.2	852
05.50	9.56		9.6	.04	.27	844	231.5	264.0	12.7	829
06.00	9.12		9.1	.06	.30	826	231.4	262.2	13.3	813
06.50	9.04		9.0	.07	.30	821	231.3	260.4	13.8	810
07.00	9.10		9.1	.06	.30	824	231.2	258.6	14.3	813
07.50	8.94		8.9	.07	.31	816	231.0	256.8	14.9	807
08.00	8.76		8.8	.07	.32	911	230.9	255.1	15.4	803
08.50	8.67		8.7	.08	.32	807	230.8	253.3	15.9	800
09.00	8.62		8.6	.08	.33	802	230.7	251.5	16.5	796
09.50	8.38		8.4	.09	.34	794	230.6	249.7	17.0	789
39552.50	13.43		13.4	-12.95	-13.08	1028	237.9	93.3	55.7	890
53.00	13.31		13.3	.95	.08	1027	238.1	91.3	56.1	886
53.50	13.59		13.6	.95	.07	1039	238.2	89.3	56.5	895
54.00	13.91		13.9	.94	.06	1052	238.3	87.2	56.8	905
54.50	14.08		14.1	.94	.06	1061	238.5	85.2	57.2	911
55.00	14.39		14.4	.93	.05	1074	238.6	83.1	57.6	921
55.50	13.97		14.0	.94	.06	1061	238.8	81.0	57.9	908
56.00	13.75		13.7	.95	.07	1051	239.0	78.9	58.3	898
56.50	13.40		13.4	.96	.07	1041	239.1	76.8	58.6	889
57.00	13.30		13.3	.96	.07	1039	239.3	74.7	59.0	886
57.50	13.25		13.2	.96	.08	1037	239.5	72.5	59.3	883
58.00	13.28		13.3	.96	.07	1043	239.7	70.4	59.7	887
58.50	13.74		13.7	.95	.06	1060	239.9	68.2	60.0	900
59.00	14.41		14.4	.93	.04	1090	240.1	66.0	60.4	924
59.50	13.68		13.7	.95	.05	1065	240.3	63.8	60.7	902
60.00	13.40		13.4	.96	.06	1056	240.4	61.5	61.0	893
60.50	13.25		13.3	.96	.06	1054	240.6	59.3	61.3	891
61.00	13.18		13.2	.97	.06	1052	240.8	57.0	61.7	889
61.50	12.91		12.9	.98	.07	1043	241.0	54.7	62.0	881
62.00	12.56		12.6	.98	.08	1033	241.2	52.4	62.3	872
62.50	12.92		12.9	.98	.07	1047	241.4	50.0	62.6	883
63.00	14.89		14.9	.93	.01	1128	241.6	47.6	62.9	952
63.50	13.37		13.4	.96	.05	1072	241.8	45.2	63.2	904
64.00	12.44		12.4	.99	.08	1034	242.0	42.8	63.5	872
64.50	12.59		12.6	.99	.07	1044	242.2	40.3	63.7	880
65.00	12.68		12.7	.99	.07	1050	242.4	37.8	64.0	886
65.50	12.66		12.7	.99	.06	1052	242.6	35.3	64.3	888
66.00	12.52		12.5	.99	.07	1046	242.8	32.7	64.5	884
66.50	12.67		12.7	.99	.06	1056	243.0	30.1	64.8	892
67.00	12.95		12.9	.98	.05	1066	243.1	27.5	65.0	901
67.50	13.15		13.1	.98	.05	1076	243.3	24.9	65.2	911

Table 3 (Cont.)

1962 $\beta\tau 2$ (Injun 3)

MJD	$-10^6 \dot{p}$	\dot{p}_r	$-10^6 \dot{p}_a$	$\log \rho_\pi$	$\log \rho_s$	T_π (°K)	z (km)	$a_\pi - a_\odot$ (deg.)	$\delta_\pi - \delta_\odot$ (deg.)	T_N (°K)
39567.60	13.2		13.2	-12.97	-13.04	1080	243.3	24.3	65.3	915
67.80	13.0		13.0	.98	.05	1073	243.4	23.3	65.4	909
68.00	14.3		14.3	.95	.01	1126	243.5	22.2	65.5	955
68.20	19.2		19.2	.86	-12.92	1345	243.5	21.1	65.5	1140
68.40	16.2		16.2	.90	.96	1220	243.6	20.0	65.6	1035
68.60	12.2		12.2	-13.00	-13.07	1047	243.7	18.9	65.7	888
68.80	11.7		11.7	.02	.09	1024	243.7	17.8	65.8	870
69.00	15.8		15.8	-12.92	-12.98	1191	243.8	16.7	65.9	1012
69.20	16.2		16.2	.91	.96	1217	243.9	15.6	65.9	1034
69.40	13.9		13.9	.96	-13.02	1119	243.9	14.4	66.0	952
69.60	13.7		13.7	.96	.02	1109	244.0	13.3	66.1	944
69.80	14.6		14.6	.94	.00	1146	244.0	12.2	66.2	976
70.00	14.2		14.2	.95	.01	1131	244.1	11.0	66.2	964
39570.50	13.50		13.5	-12.97	-13.03	1103	244.2	8.1	66.4	942
71.00	13.45		13.5	.97	.03	1104	244.4	5.2	66.6	944
71.50	13.45		13.4	.97	.03	1101	244.5	2.2	66.7	944
72.00	13.04		13.0	.98	.04	1085	244.6	359.2	66.8	932
72.50	12.80		12.8	.99	.05	1078	244.7	356.2	66.9	928
73.00	12.86		12.9	.99	.04	1082	244.8	353.1	67.0	934
73.50	12.98		13.0	.99	.04	1087	244.9	349.9	67.1	941
74.00	13.04		13.0	.99	.04	1087	245.0	346.8	67.2	944
74.50	13.10		13.1	.99	.04	1092	245.1	343.5	67.2	950
75.00	13.25		13.3	.98	.03	1100	245.2	340.3	67.3	960
75.50	13.31		13.3	.98	.03	1100	245.2	337.0	67.3	963
76.00	13.38		13.4	.98	.03	1104	245.3	333.7	67.3	969
76.50	13.90		13.9	.97	.01	1124	245.3	330.3	67.2	990
77.00	14.66		14.7	.95	-12.99	1158	245.3	327.0	67.2	1023
77.50	14.59		14.6	.95	-13.00	1157	245.6	323.7	67.1	1025
78.00	14.03		14.0	.97	.01	1130	245.6	320.2	67.0	1005
78.50	13.99		14.0	.97	.01	1129	245.6	316.8	66.9	1007
39585.50	12.39		12.4	-13.01	-13.06	1055	245.2	268.6	63.2	971
86.00	12.11		12.1	.02	.07	1042	245.1	265.3	62.8	960
86.50	11.79		11.8	.03	.08	1030	245.1	262.1	62.4	950
87.00	11.66		11.7	.03	.09	1025	245.0	258.9	62.0	947
39592.50	10.58		10.6	-13.06	-13.13	974	243.7	226.3	56.1	904
93.00	10.43		10.4	.07	.14	964	243.5	223.6	55.5	895
93.50	10.35		10.4	.07	.14	962	243.4	220.9	54.9	894
94.00	10.58		10.6	.06	.14	968	243.2	218.2	54.2	899
94.50	10.45		10.5	.06	.14	963	243.0	215.6	53.6	895
95.00	10.61		10.6	.06	.14	965	242.8	213.0	53.0	896

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.

The Reports are regularly distributed to all institutions participating in the U. S. space research program and to individual scientists who request them from the Publications Division, Distribution Section, Smithsonian Astrophysical Observatory, Cambridge, Massachusetts 02138.