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LANDSAT-4 HORIZON SCANNER

FULL ORBIT DATA AVERAGES

Prepared for:

GODDARD SPACE FLIGHT CENTER

FEB 1984
RECEIVED
NASA STI FACILITY
ACQ BRANCH

By

John P. Stanley

Stephen Bilanow

Under

Contract No. NAS5-27664

November, 1983

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SECTION 1 - INTRODUCTION

This document describes the averages taken over full orbit data spans of the pitch and roll residual measurement errors of the two Conical Earth Sensors operating on the Landsat-4 spacecraft. The variability of these full orbit averages over representative days throughout the year is analyzed. The full orbit averages demonstrate the long term stability of the sensor measurements. In general, the orbit period systematic effects will average out over the orbits and the remaining variability of the full orbit averages represents a very low frequency noise. There is interest in the variability of these full orbit averages because consideration is being given to design of a system which uses the full orbit averages in an onboard processor in combination with gyro data for spacecraft control.

The data analyzed consists of 23 segments of sensor measurements made at 2 to 4 week intervals from August 1982 to August 1983. Each segment is roughly 24 hours in length. The variation of full orbit average as a function of orbit within a day and as a function of day of year is examined. The dependence on day of year is based on associating the start date of each segment with the mean full orbit average for the segment. In addition, the peak-to-peak and standard deviation values of the averages for each data segment are computed and their variation with day of year examined as well.

SECTION 2 - DATA PROCESSING PROCEDURES AND ACCURACY

The full orbit averages were computed on data tapes containing preaveraged data, where 128 individual observations at 0.128 second intervals were averaged to represent the major frame interval. Discussion and plots of the original and the preaveraged data is presented in Reference 1. In the absence of data gaps, an orbit is represented by 362 or 363 frames at 16.384 second intervals. In general, however, gaps of varying lengths occur frequently.

The position in the orbit where data gaps occur can bias the orbit average depending on whether the gap occurs at maximum or minimum data values. For this reason, the residuals (observed-predicted) rather than the raw measurements, were selected for the present study. The predicted data takes into account the effects due to reference attitude changes, spacecraft orbit, and Earth oblateness. Raw pitch and roll exhibit significantly more variation than the corresponding residuals. This variation is largely due to earth oblateness and orbit effects present in the sensor measurements. These effects are effectively removed from the residuals and consequently, the presence of data gaps may bias the full orbit averages of the residuals significantly less than the averages of the raw uncorrected pitch and roll measurements.

Data gap length varies greatly. The number of points per orbit ranges from 1 to 363. In order not to include orbits with large data gaps in the averaging, only orbits with at least 350 points were used. Under this restriction, the number of usable orbits per 24 hour segment varies from 6

to 17. A calculation of the worst case effects due to data gaps shows that this selection criterion can introduce a maximum error of about 0.01 degree with a more likely error of less than 0.002 degree. This calculation is described as follows: Assume a complete orbit to contain 363 points let X be the full orbit average for an orbit containing N points, where N < 363. Therefore, the orbit has a data gap of 363-N points. Assume that the missing points are all equal to the average X plus some constant offset D. Then a measure of the error introduced by the missing points is given by:

$$\text{Error} = \frac{NX + (363 - N)(X + D)}{363} = X$$

This can be simplified to:

$$\text{Error} = \frac{(363 - N)\,D}{363}$$

If N is 350 and the offset D is equal to the maximum observed pitch or roll residual, about 0.36 degree, the error is roughly 0.01 degree. A more typical estimate of the error introduced is obtained by letting D be the maximum standard deviation of the full orbit average pitch and roll value. This is about 0.06 degrees, giving an error of about 0.002 degrees. Also from the above formula if the number of points missing is fewer, the maximum error is reduced proportionally.

SECTION 3 - FULL ORBIT DATA AVERAGES RESULTS

Complete sets of plots of pitch and roll residual as a function of orbit phase for both sensors are provided in Appendices A through D. Each segment is plotted in a serial stacked format, that is, the data is organized vertically by orbit. This plotting format is used as it provides a clear presentation of orbit to orbit trends and indicates the location and extent of data gaps. Moreover, individual orbit peculiarities, such as sun and moon interference, are readily recognized. These plots were prepared to aid in understanding any peculiarities in the behavior of the full orbit averages. Immediately following each plot, statistical information for each orbit is presented. At the end of each appendix, a table summarizing the statistical information for each of the 23 segments is provided. This table includes the mean, peak-to-peak variation and standard deviation of the full orbit averages for each segment. The number of usable orbits per segment (orbits of at least 350 points with 363 being the maximum) is also indicated.

3.1 DAILY VARIATION OF FULL ORBIT AVERAGES

Figures 1 through 4 show full orbit average pitch and roll residual as a function of orbit on four dates for which successive orbits are well represented over a period of 24 hours. Generally, the orbit coverage per day is far less complete, as can be seen from the plots presented in the appendices. The vertical scale is in degrees and horizontal bars indicate mean full orbit average for each 24 hour segment. From these figures,

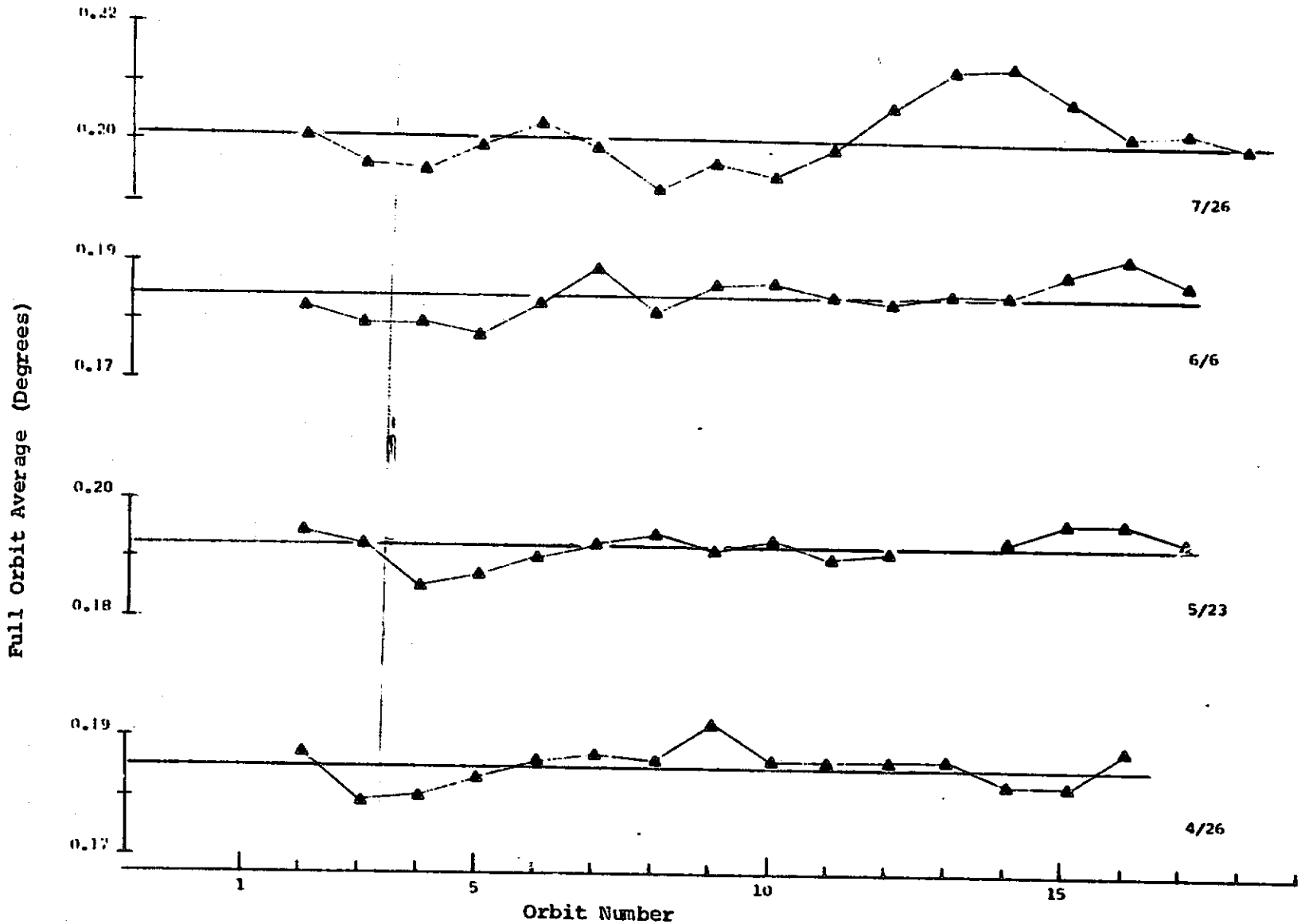

Figure 1. Orbit to Orbit Variation of Full Orbit Averages for Sensor 1 Pitch Residual on Four Sample Days in 1983.

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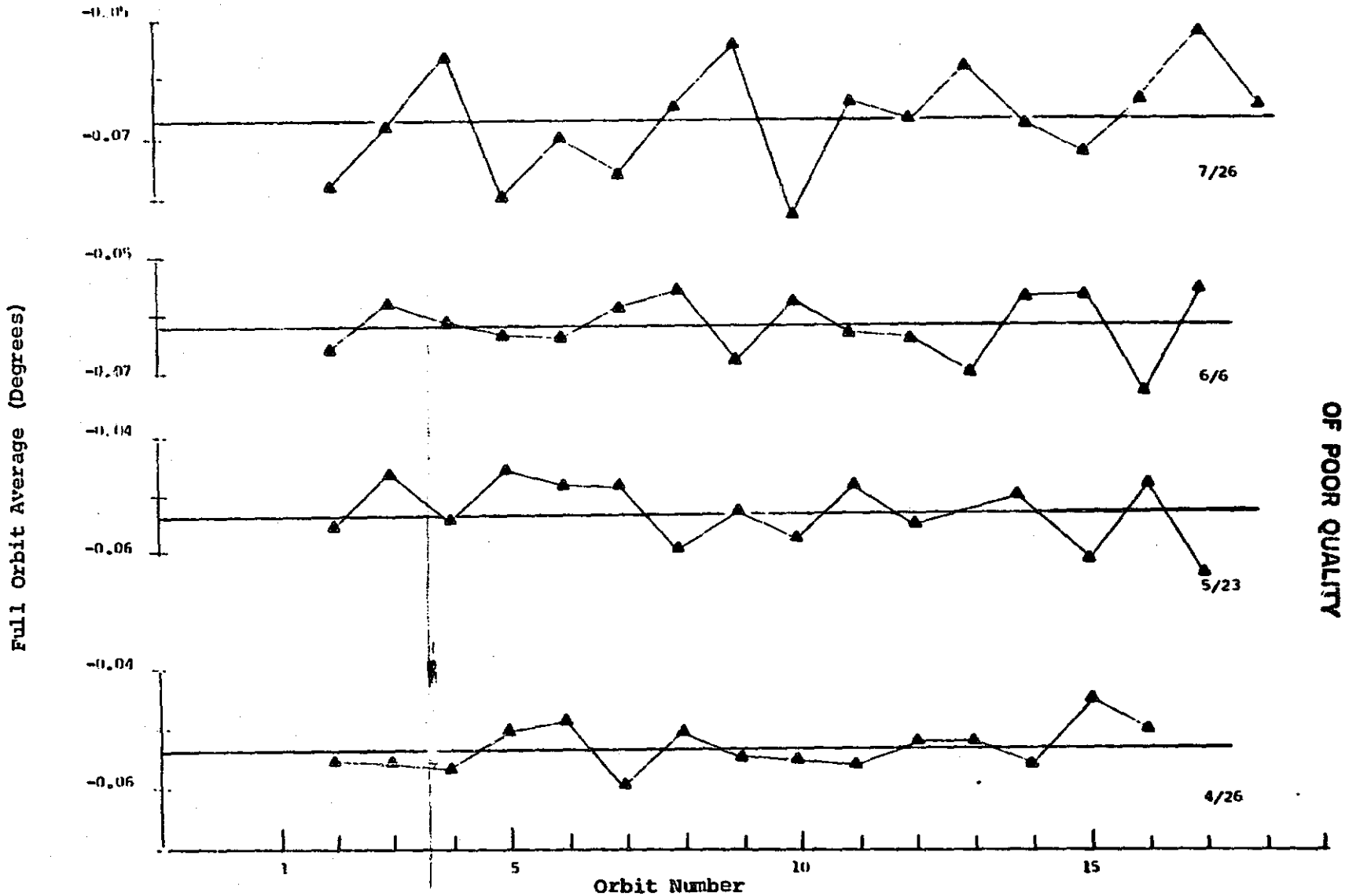

Figure 2. Orbit to Orbit Variation of Full Orbit Averages for Sensor 2 Pitch Residual on Four Sample Days in 1983.

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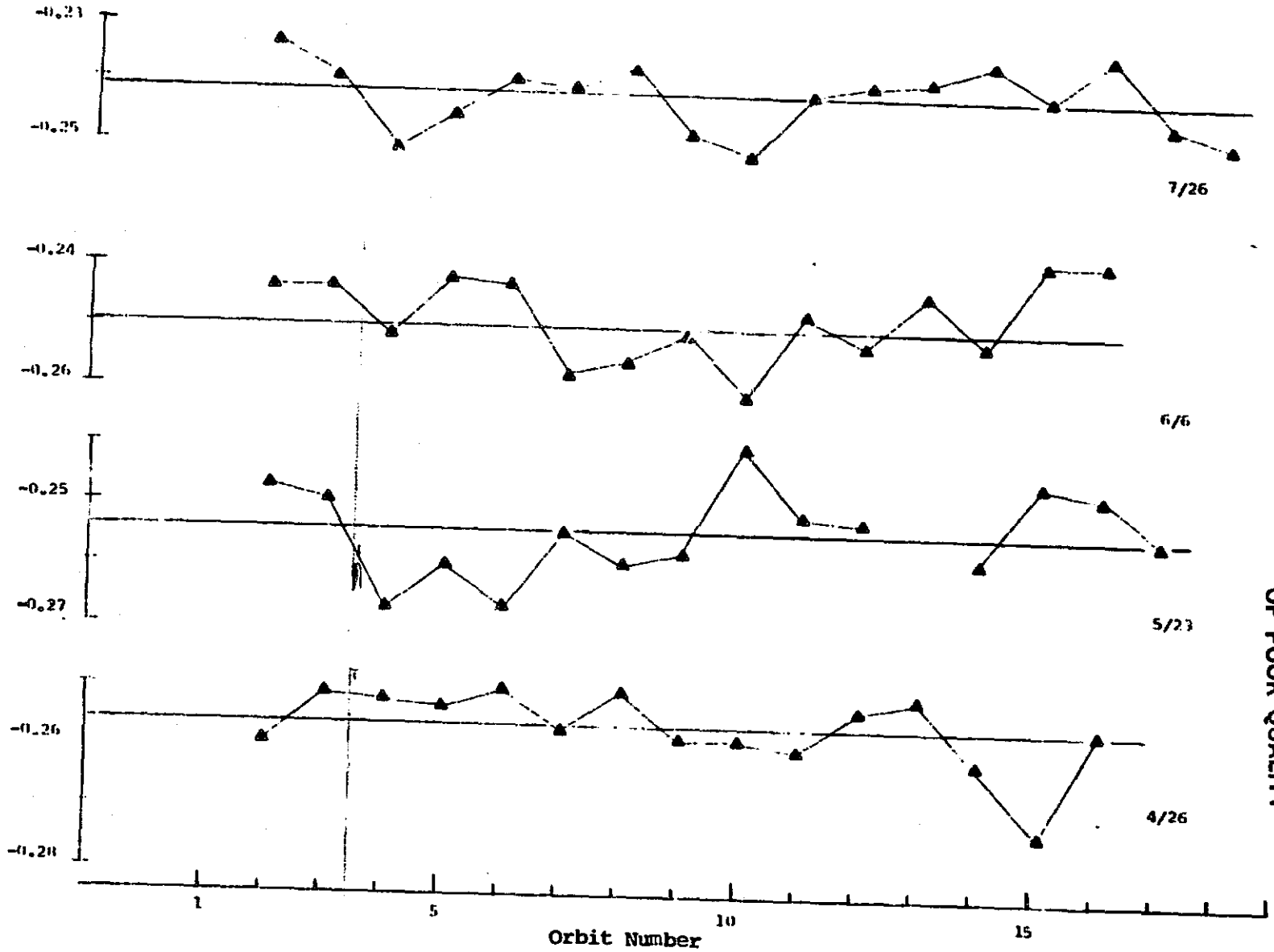

Figure 3. Orbit to Orbit Variation of Full Orbit Averages for Sensor 1 Roll Residual on Four Sample Days in 1983.

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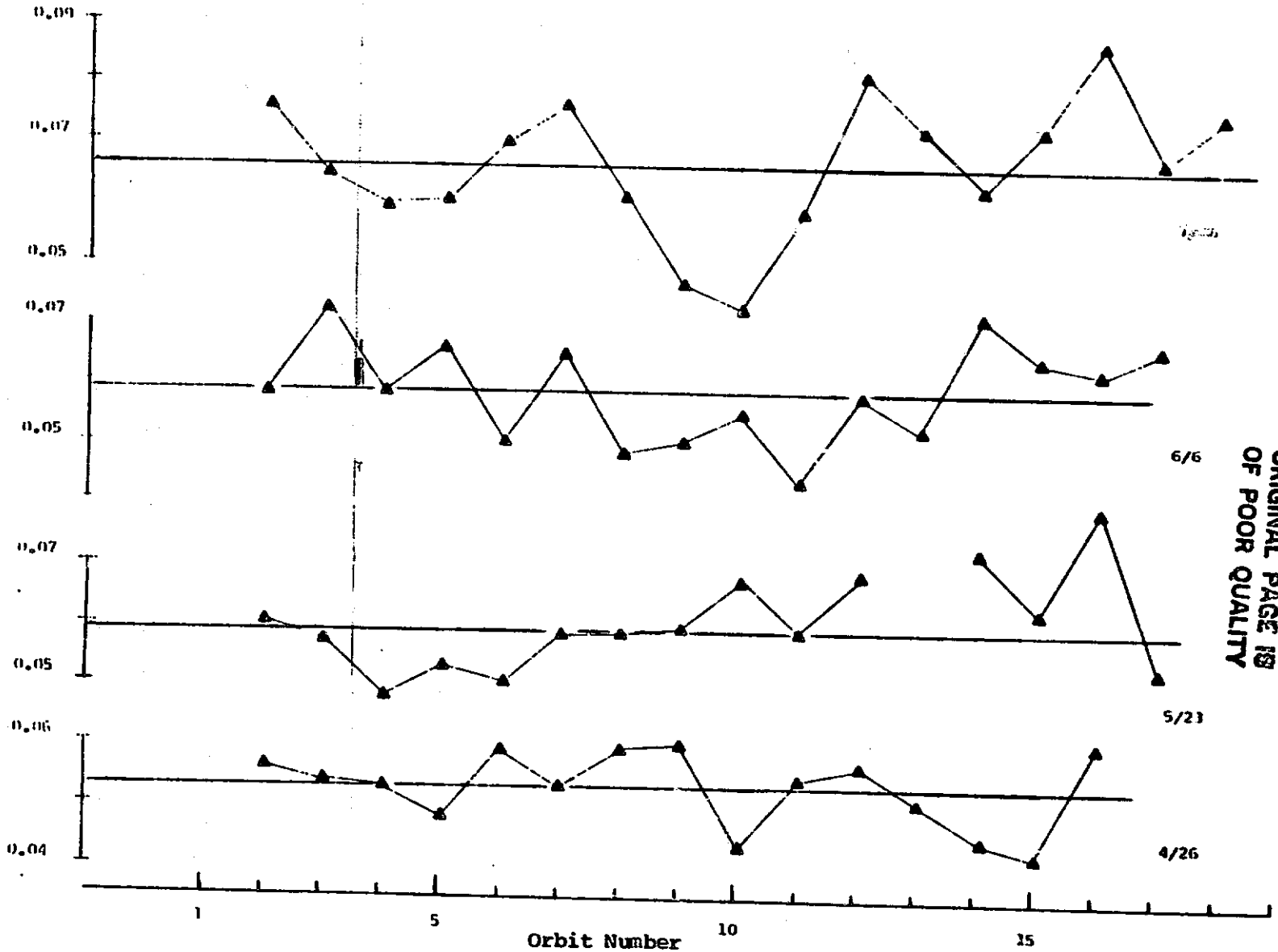

Figure 4. Orbit to Orbit Variation of Full Orbit Averages for Sensor 2 Roll Residual on Four Sample Days in 1983.

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there appears to be no evidence of systematic variation of full orbit average pitch or roll residuals over the course of one day.

The variation of the full orbit averages from orbit to orbit is larger than one would expect if the only error source were simply white noise, i.e., independent random errors from one observation to the next. The expected standard deviations of averaged white noise is given by the standard deviation of the raw observations divided by the square root of the number of observations. Reference 1 provides standard deviations of the 128 point averaged data of about 0.02° and 0.01° in the width and phase channels respectively. This yeilds estimates of about 0.001° to 0.0005° for the standard deviation of the orbit averages if the 128 point averaged observations were corrupted by white noise alone. The actual standard deviations of the averaged orbits is around 0.01 degrees, indicating that lower frequency error sources are contributing to the variation of the orbit averages.

3.2 VARIATION OF FULL ORBIT AVERAGES OVER YEAR

The variation of mean, peak-to-peak and standard deviation of full orbit average pitch and roll residual as a function of day of year is shown graphically in Figures 5 through 7, respectively. The data represented in these figures is contained in the statistical tables found at the end of each of the four appendices. Note that the time axis runs from the date of the earliest segment to the most recent. Horizontal bars indicate overall mean values.

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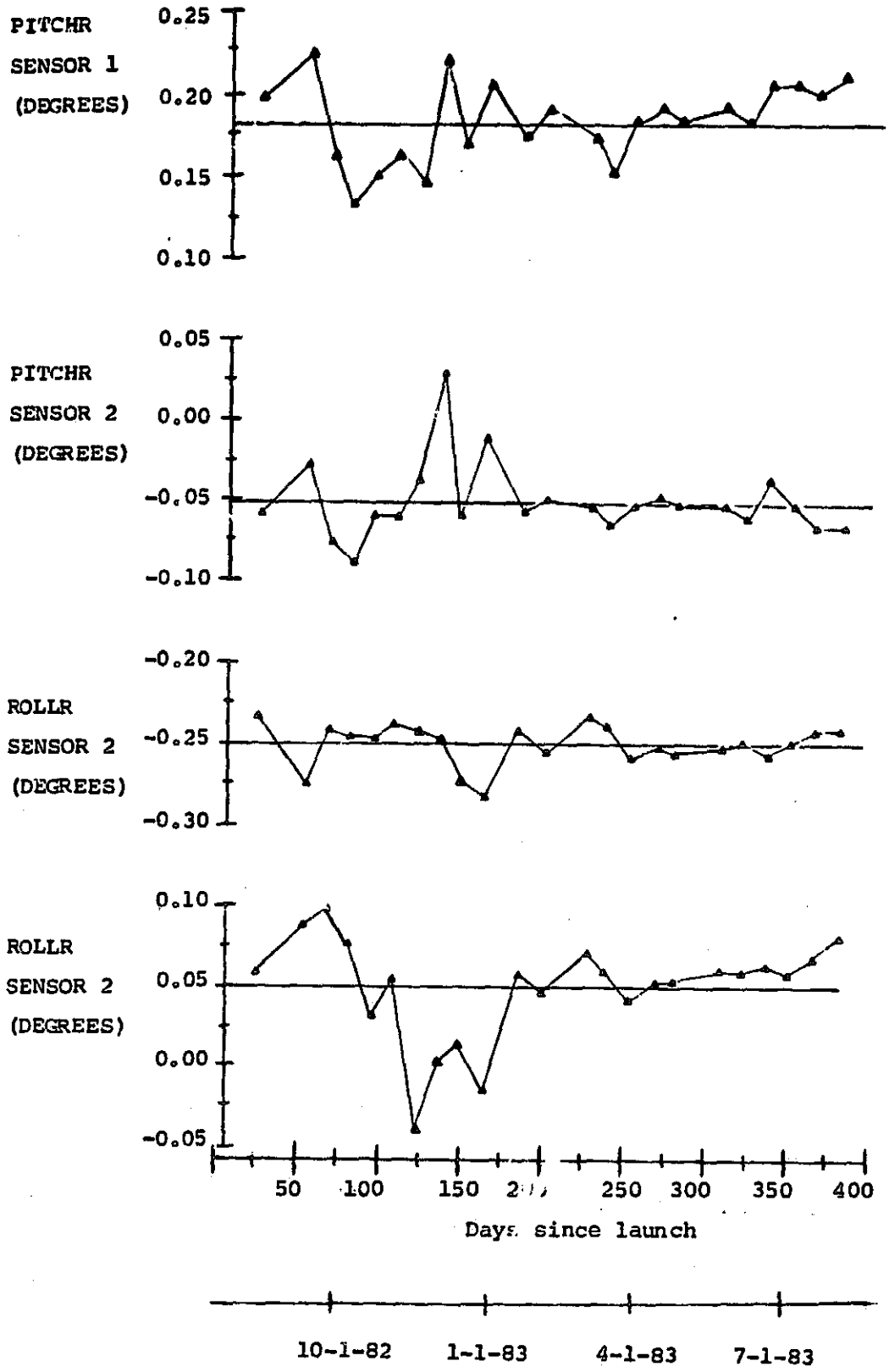

Figure 5. Mean Full Orbit Averages Versus Days Since Launch

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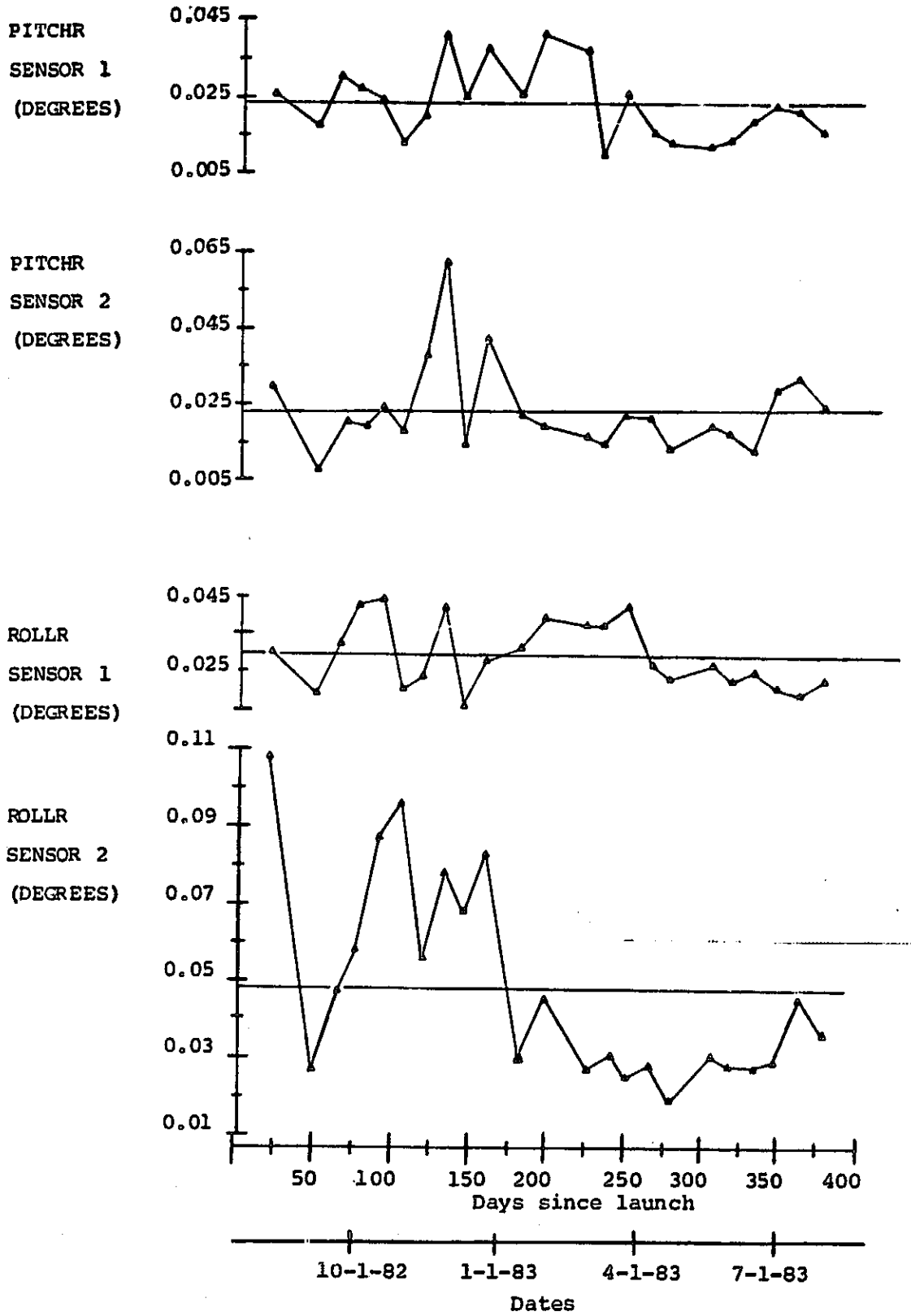

Figure 6. Peak-to-Peak Variation in Orbit Averages Versus Days Since Launch

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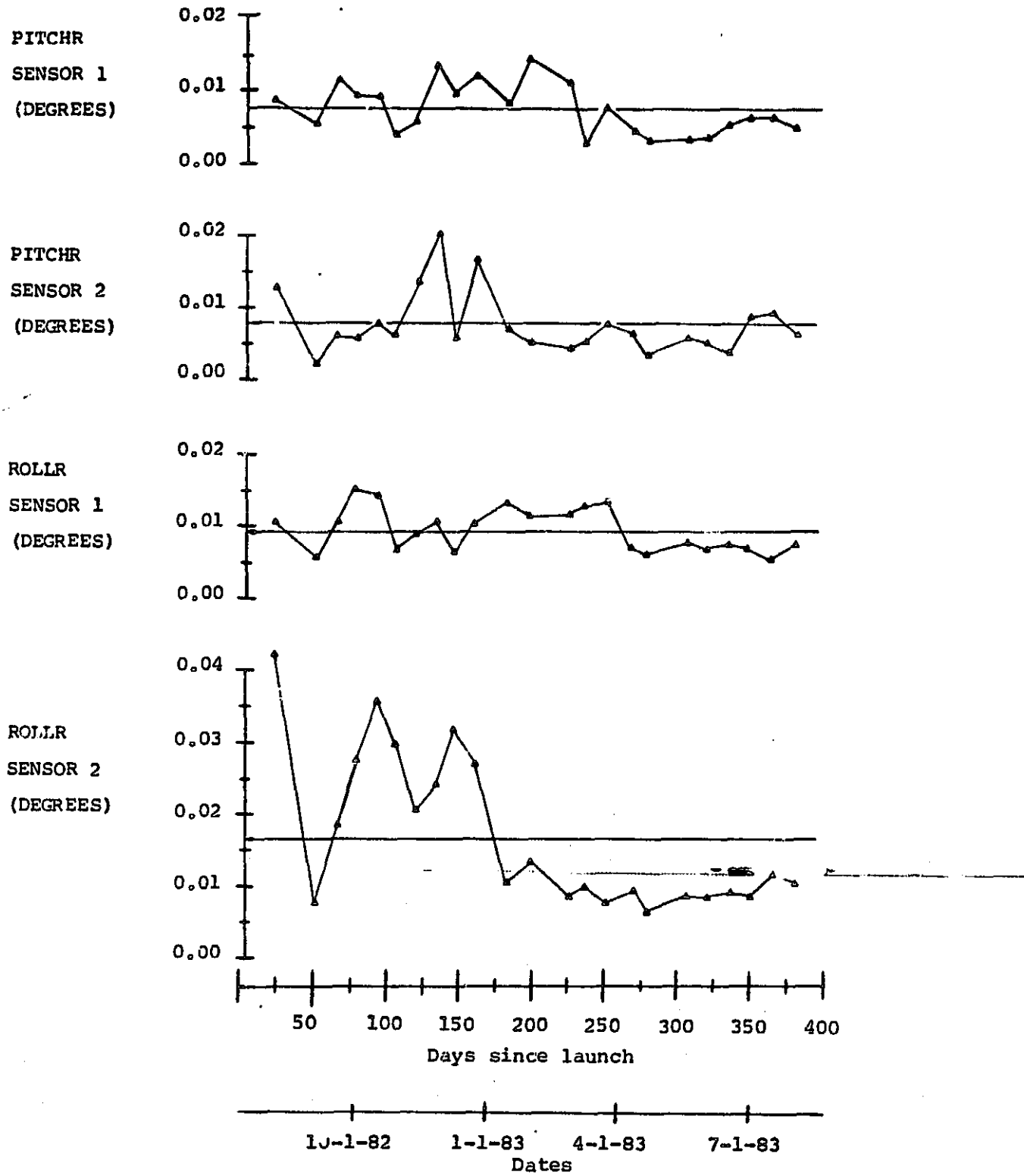

Figure 7. Standard Deviation of Orbit Averages Versus Days Since Launch.

The full orbit averages of both pitch and roll residual show only slight variation over the months January through July 1983 (Figure 5). However, with the exception of sensor 1 roll residual, the full orbit average residuals exhibit significant variation over the months September through December.

There is some evidence of a correlation between the orbit averages in the two pitch channels, particularly in the 1982 data. The correlation also appears in the peak-to-peak and standard deviations of the averages for those days. This could indicate that the orbit average variability is due to instability in the reference attitudes for pitch, because there is little reason to expect this correlation between the sensor 1 Earth width measurement and sensor 2 Earth phase measurement, without additional correlation in the other channels. There is no indication of a similar correlation in roll. The full orbit average pitch variations may result from some of the early mission problems with the reference attitudes (Reference 2).

The most significant feature in the daily variability of the orbit averages is the rather large peak-to-peak and standard deviations of the orbit averages found in the 1982 days in the sensor 2 roll measurement. This cannot be a problem with the reference attitudes because it does not show up in the sensor 1 roll measurement. This orbit to orbit variability shows up clearly in the data plots, and has been noted elsewhere (Reference 3). A reason for this variability, and its disappearance in 1983 days is not known.

In general, the peak-to-peak and standard deviation, like the orbit averages themselves, show more variability in the early part of the mission.

While moon interference in the field of view of the sensors is clearly apparent in the plots of the December 1 segment (Appendices A through D), it may not be of significance for the full orbit averages. Notice in Figure 5 that full orbit average pitch residual for sensor 2 is at a yearly peak for the December 1 segment. However, as can be seen from the plot of this segment (Figure B-8), the effect of moon interference would be to decrease rather than increase full orbit average. Similarly, from the corresponding plot of roll residual for this segment (Figure D-8), the effect of moon interference would be to produce increases in full orbit averages rather than the decreases observed in Figure 5. Moreover, July 26 data also shows moon interference, but does not show a similar effect on the orbit averages. Note that the full orbit roll residual for sensor 2 is at a yearly minimum for the December 16th segment, a data span where no moon interference is present.

Relative large peak-to-peak spreads and standard deviations for sensor 1 during January through March may have been caused by the regular occurrence of sun interference in the scanner field of view. See for example, the plots of the January 19, February 2 and March 3 segments (Figures A-11 to A-13 and C-11 to C-13, respectively).

Since the data for the months of September through December, 1983 is not yet available, it is unclear whether the observed variation of the full

orbit averages during these months reflects actual seasonal effects or is an artefact of early flight data peculiarities. Table 1 provides a comparison of the average values of mean full orbit average, peak-to-peak and standard deviation for all 23 segments, for the 1982 segments only and for the 1983 segments only.

TABLE 1. Average Mean, Average Peak-to-Peak and Average Standard Deviation of Full Orbit Average Pitch and Roll Residual for All Days, 1982 Days Only, and 1983 Days Only

DATA	PITCHR: 1			PITCHR: 2			ROLLR: 1			ROLLR: 2		
	Mean	p-p	σ	Mean	p-p	σ	Mean	p-p	σ	Mean	p-p	σ
ALL	.1836	.0229	.0074	-.0517	.0233	.0098	-.2503	.0292	.0094	.0493	.0484	.0168
1982	.1778	.0261	.0089	-.0458	.0273	.0077	-.2528	.0298	.0100	.0366	.0710	.0264
1983	.1888	.0205	.0063	-.0562	.0203	.0060	-.2484	.0288	.0090	.0590	.0310	.0093

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APPENDIX A

This appendix contains plots and statistics for sensor 1 pitch residual versus orbit phase from the ascending node for all orbits in 23 data segments. The 23 segments are presented in sequence from the earliest segment to the most recent. Figures A-1 through A-23 provide plots and Tables A-1 through A-23 provide tables of statistics computed by orbit for each segment. Tables A-1 through A-23 are organized vertically by orbit number and horizontally into the following six columns:

(1)	ORBIT TIME START/END:	Orbit start and end times in the format YYMMDD.HHMMSSMMM, where: YY... Year MM... Month DD... Day HH... Hours MM... Minutes SS... Seconds MMM... Milliseconds
(2)	(X,Y,REC) AT MIN X/Y:	Provides the coordinates — orbit phase (X), residual value (Y), and record number (REC) — at which the minimum values occur. The upper line gives the minimum orbit phase (X) coordinates and the lower line gives the minimum residual value (Y) coordinates for each orbit.
(3)	(X,Y,REC) AT MAX X/Y:	Same as (2) except maximum rather than minimum values
(4)	MEAN Y:	Full-orbit average of pitch residual.
(5)	Y-RMS/STDV:	For each orbit, the upper value is the root mean square of pitch residual and the lower value, the standard deviation.
(6)	POINTS:	The number of points contained in each orbit.

Table A-24 provides mean, peak-to-peak and standard deviation of full orbit average pitch residual for each segment. Note that only orbits with at least 350 data points were used in compiling these statistics for each segment. The number of orbits used is provided.

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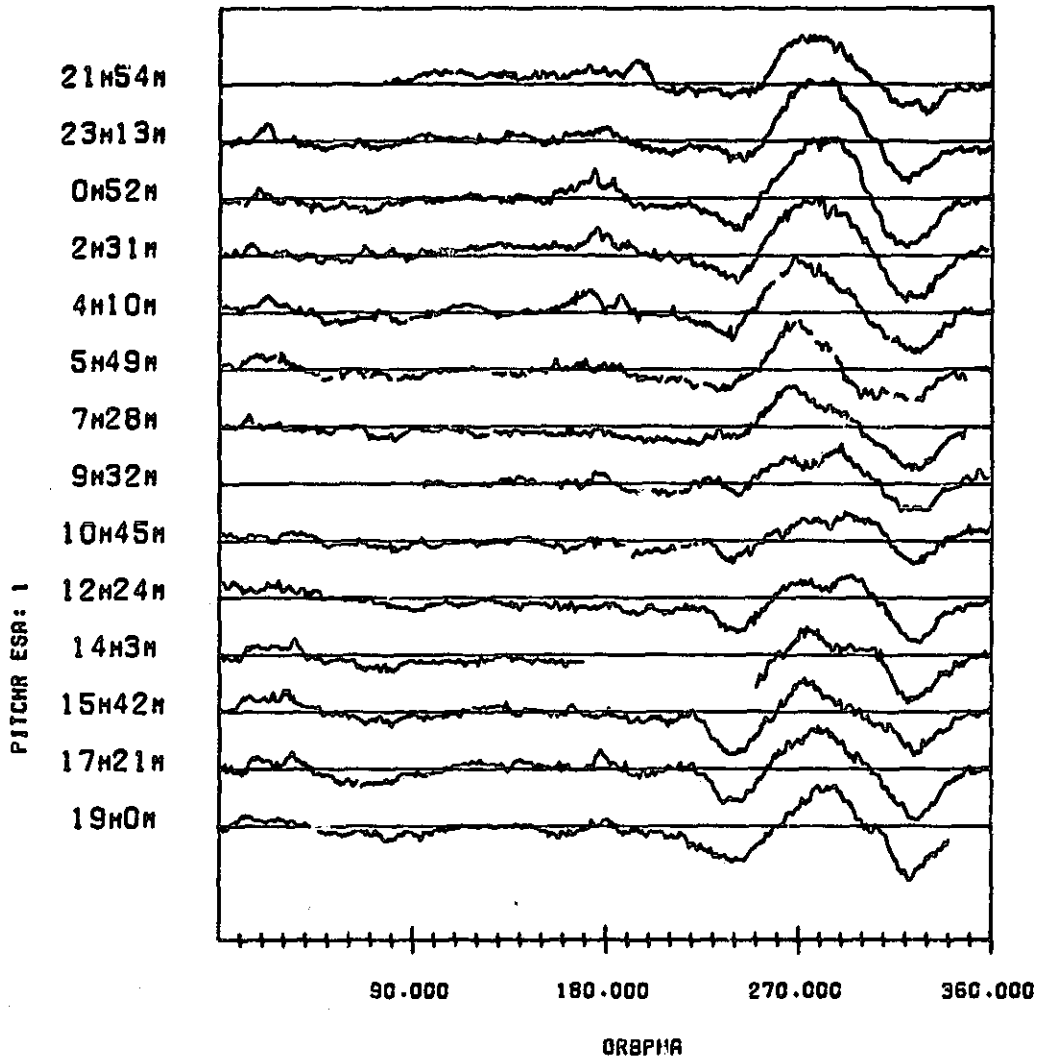

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820810.215426522
END TIME:820811.203328690

FIGURE A-1. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-1. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	820810.215426522	0.72118E+02,	0.20361E+00,	1	0.35933E+03,	0.19691E+00,	289	0.21757D+00	0.22182D+00	289
	820810.231337882	0.32951E+03,	0.12339E+00,	259	0.27692E+03,	0.33098E+00,	206		0.43297D-01	
2	820810.231337882	0.32249E+00,	0.18787E+00,	290	0.35921E+03,	0.17938E+00,	651	0.20578D+00	0.21188D+00	362
	820811.005228890	0.32145E+03,	0.90190E-01,	613	0.28573E+03,	0.36618E+00,	577		0.50540D-01	
3	820811.005228890	0.20319E+00,	0.18832E-00,	652	0.35909E+03,	0.20925E-00,	1011	0.19964D-00	0.20727D+00	360
	820811.023119898	0.32033E+03,	0.70122E-01,	972	0.29263E+03,	0.36127E+00,	934		0.55771D-01	
4	820811.023119898	0.81257E-01,	0.20513E+00,	1012	0.35995E+03,	0.22675E+00,	1372	0.21134D+00	0.21724D+00	361
	820811.041027290	0.32020E+03,	0.77055E-01,	1333	0.28052E+03,	0.35443E+00,	1293		0.50318D-01	
5	820811.041027290	0.94867E+00,	0.21194E+00,	1373	0.35983E+03,	0.20082E+00,	1730	0.20452D+00	0.20940D+00	358
	820811.054918298	0.32405E+03,	0.91497E-01,	1694	0.26849E+03,	0.34947E+00,	1639		0.44971D-01	
6	820811.054918298	0.82069E+00,	0.20980E+00,	1731	0.35970E+03,	0.19598E+00,	2059	0.19536D+00	0.19906D+00	329
	820811.072809306	0.32790E-03,	0.11868E+00,	2030	0.26440E+03,	0.32869E+00,	1974		0.38225D-01	
7	820811.072809306	0.69661E+00,	0.20162E+00,	2060	0.34765E+03,	0.19758E+00,	2404	0.18823D+00	0.19209D+00	345
	820811.093256794	0.32281E+03,	0.85617E-01,	2379	0.26824E+03,	0.30910E+00,	2324		0.38390D-01	
8	820811.093256794	0.95184E+02,	0.19060E+00,	2405	0.35847E+03,	0.21635E+00,	2657	0.20534D+00	0.20816D+00	253
	820811.104551322	0.31772E+03,	0.12712E+00,	2616	0.28994E+03,	0.30680E+00,	2588		0.34231D-01	
9	820811.104551322	0.45643E+00,	0.21143E+00,	2658	0.35934E+03,	0.23753E+00,	3007	0.20076D+00	0.20255D+00	350
	820811.122442330	0.32456E+03,	0.13954E+00,	2972	0.29181E+03,	0.27580E+00,	2939		0.26876D-01	
10	820811.122442330	0.33782E+00,	0.23667E+00,	3008	0.35922E+03,	0.19848E-00,	3369	0.18546D+00	0.18883D+00	362
	820811.140333338	0.32642E+03,	0.82089E-01,	3336	0.29466E+03,	0.25987E+00,	3304		0.35585D-01	
11	820811.140333338	0.21582E+00,	0.19372E+00,	3370	0.35909E+03,	0.20209E+00,	3651	0.18699D+00	0.19017D+00	282
	820811.154224346	0.32133E+03,	0.72120E-01,	3613	0.27371E+03,	0.27411E+00,	3565		0.34681D-01	
12	820811.154224346	0.89517E-01,	0.20284E+00,	3652	0.35996E+03,	0.21170E+00,	4013	0.18997D+00	0.19368D+00	362
	820811.172131738	0.32418E+03,	0.83191E-01,	3977	0.27259E+03,	0.28838E+00,	3925		0.37767D-01	
13	820811.172131738	0.95600E+00,	0.20602E+00,	4014	0.35983E+03,	0.20467E+00,	4374	0.19494D+00	0.19985D+00	361
	820811.190022746	0.32504E+03,	0.64817E-01,	4340	0.27940E+03,	0.31466E+00,	4293		0.44078D-01	
14	820811.190022746	0.82974E+00,	0.19731E+00,	4375	0.33983E+03,	0.16484E+00,	4716	0.18665D+00	0.19171D+00	342
	820811.203329690	0.32195E+03,	0.54578E-01,	4698	0.28722E+03,	0.30945E+00,	4663		0.43807D-01	

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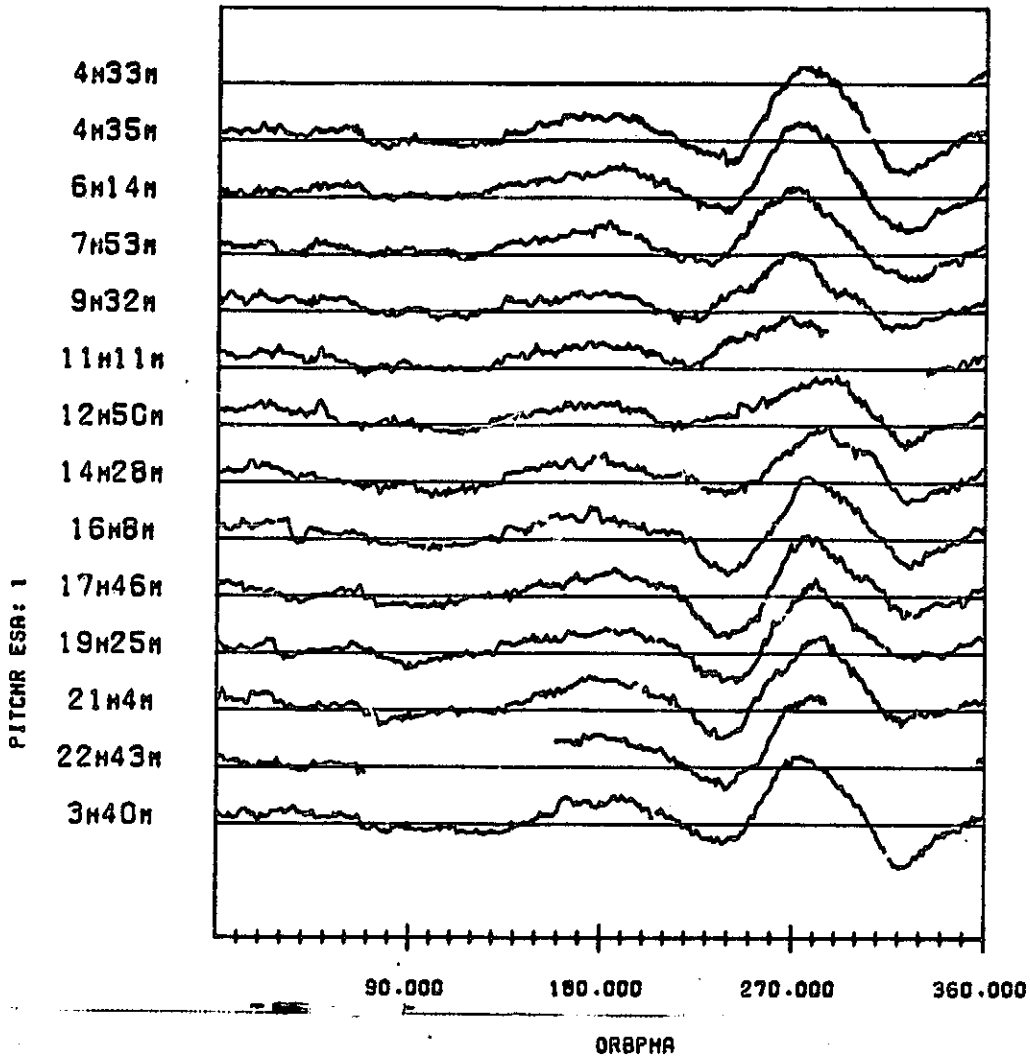

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820908.043319559
END TIME:820909.051848518

FIGURE A-2. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-2. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	820908.043319559	0.35183E+03,	0.20560E+00,	1	0.35979E+03,	0.22861E+00,	9	0.21979D+00	0.21996D+00	9
	820908.043547015	0.35183E+03,	0.20560E+00,	1	0.35879E+03,	0.23182E+00,	8		0.91339D-02	
2	820908.043547015	0.78028E+00,	0.21889E+00,	10	0.35965E+03,	0.21700E+00,	370	0.22522D+00	0.23279D+00	361
	820908.061438023	0.32388E+03,	0.11055E+00,	334	0.27724E+03,	0.39799E+00,	288		0.58957D-01	
3	820908.061438023	0.64770E+00,	0.21334E+00,	371	0.35952E+03,	0.23983E+00,	731	0.22841D+00	0.23555D+00	361
	820908.075329031	0.32276E+03,	0.10936E+00,	694	0.27215E+03,	0.40000E+00,	643		0.57667D-01	
4	820908.075329031	0.51890E+00,	0.22592E+00,	732	0.35940E+03,	0.22391E+00,	1090	0.22741D+00	0.23270D+00	359
	820908.093220039	0.32363E+03,	0.13097E+00,	1055	0.26905E+03,	0.37954E+00,	1000		0.49443D-01	
5	820908.093220039	0.39327E+00,	0.23727E+00,	1091	0.35927E+03,	0.23285E+00,	1452	0.22621D+00	0.22981D+00	362
	820908.111111047	0.31655E+03,	0.15206E+00,	1409	0.27091E+03,	0.35956E+00,	1363		0.40569D-01	
6	820908.111111047	0.26878E+00,	0.24081E+00,	1453	0.35915E+03,	0.23248E+00,	1767	0.23776D+00	0.24052D+00	315
	820908.125002055	0.67950E+02,	0.17911E+00,	1521	0.26881E+03,	0.34365E+00,	1723		0.36390D-01	
7	820908.125002055	0.14426E+00,	0.23997E+00,	1768	0.35902E+03,	0.23033E+00,	2129	0.22966D+00	0.23256D+00	362
	820908.142853063	0.32325E+03,	0.14025E+00,	2093	0.29050E+03,	0.33356E+00,	2060		0.36699D-01	
8	820908.142853063	0.15521E+01,	0.22821E+00,	2130	0.35988E+03,	0.23601E+00,	2488	0.22189D+00	0.22577D+00	359
	820908.160800455	0.32411E+03,	0.14557E+00,	2452	0.28640E+03,	0.35205E+00,	2415		0.41724D-01	
9	820908.160800455	0.87682E+00,	0.2[illegible]741E+00,	2489	0.35975E+03,	0.23565E+00,	2845	0.21896D+00	0.22479D+00	357
	820908.174651463	0.24054E+03,	0.1[illegible]801E+00,	2725	0.27734E+03,	0.36906E+00,	2762		0.50928D-01	
10	820908.174651463	0.74347E+00,	0.23037E+00,	2846	0.35962E+03,	0.21989E+00,	3206	0.21212D+00	0.21809D+00	361
	820908.192542471	0.24051E+03,	0.92419E-01,	3087	0.27721E+03,	0.36230E+00,	3124		0.50746D-01	
11	820908.192542471	0.61234E+00,	0.22825E+00,	3207	0.35949E+03,	0.23663E+00,	3564	0.22349D+00	0.22895D+00	358
	820908.210433479	0.24435E+03,	0.12341E+00,	3450	0.28105E+03,	0.39880E+00,	3487		0.49747D-01	
12	820908.210433479	0.48423E+00,	0.22715E+00,	3565	0.35937E+03,	0.22783E+00,	3924	0.22900D+00	0.23530D+00	360
	820908.224324487	0.23827E+03,	0.12773E+00,	3802	0.28489E+03,	0.39696E+00,	3849		0.54163D-01	
13	820908.224324487	0.35983E+00,	0.23277E+00,	3925	0.35998E+03,	0.22814E+00,	4126	0.23868D+00	0.24561D+00	202
	820909.034013895	0.23902E+03,	0.14164E+00,	4075	0.28266E+03,	0.39268E+00,	4119		0.58057D-01	
14	820909.034013895	0.97464E+00,	0.22816E+00,	4127	0.35985E+03,	0.22225E+00,	4486	0.21877D+00	0.22614D+00	360
	820909.051848519	0.32110E+03,	0.86012E-01,	4447	0.27446E+03,	0.38320E+00,	4401		0.57335D-01	

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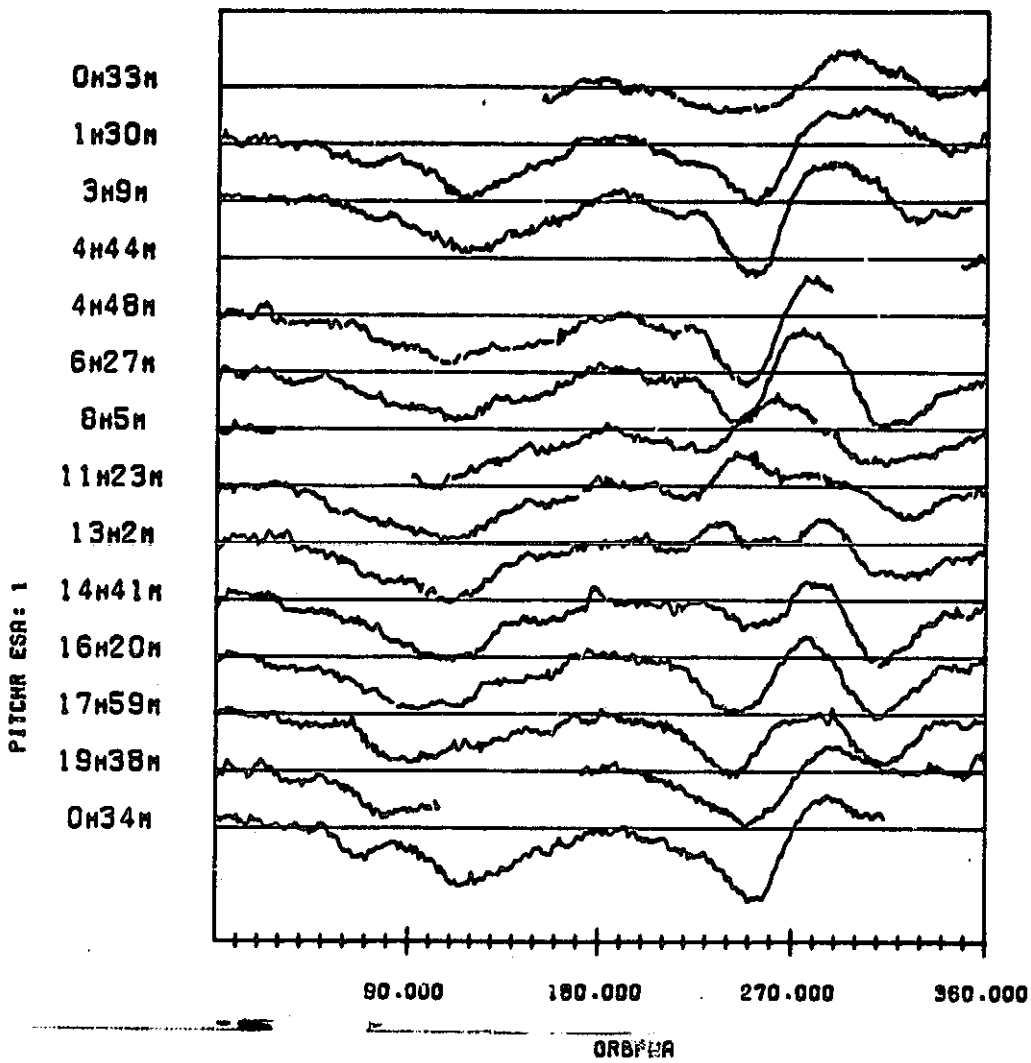

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820922.003327683
END TIME:820923.020043396

FIGURE A-3. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-3. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN X/V			(R,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	820922.003327683	0.15319E+03,	0.16494E+00,	1	0.35975E+03,	0.21085E+00,	206	0.20062D+00	0.20509D+00	206
	820922.013031939	0.24462E+03,	0.13328E+00,	92	0.29917E+03,	0.29968E+00,	145		0.42662D-01	
2	820922.013031939	0.74076E+00,	0.21486E+00,	207	0.35962E+03,	0.20669E+00,	568	0.17580D+00	0.18604D+00	362
	820922.030922947	0.25342E+03,	0.40991E-01,	461	0.30302E+03,	0.30229E+00,	511		0.60976D-01	
3	820922.030922947	0.61617E+00,	0.21277E+00,	569	0.35253E+03,	0.18738E+00,	921	0.16753D+00	0.17944D+00	353
	820922.044457347	0.25230E+03,	0.23683E-02,	820	0.28900E+03,	0.30566E+00,	857		0.64393D-01	
4	820922.044457347	0.34856E+03,	0.18174E+00,	922	0.35949E+03,	0.19952E+00,	933	0.19139D+00	0.19168D+00	12
	820922.044813955	0.34955E+03,	0.17738E+00,	923	0.35651E+03,	0.21162E+00,	930		0.10991D-01	
5	820922.044813955	0.48643E+00,	0.20253E+00,	934	0.35936E+03,	0.18789E+00,	1214	0.15572D+00	0.16627D+00	281
	820922.062704963	0.24820E+03,	0.12797E+01,	1172	0.28093E+03,	0.30630E+00,	1205		0.58403D-01	
6	820922.062704963	0.35881E+00,	0.18011E+00,	1215	0.35924E+03,	0.18098E+00,	1576	0.15820D+00	0.16860D+00	362
	820922.080555971	0.31057E+03,	0.49462E-01,	1527	0.27486E+03,	0.31782E+00,	1491		0.58382D-01	
7	820922.080555971	0.23474E+00,	0.19016E+00,	1577	0.35999E+03,	0.18207E+00,	1870	0.18235D+00	0.17062D+00	294
	820922.112354371	0.10464E+03,	0.41402E-01,	1618	0.26272E+03,	0.29641E+00,	1776		0.52563D-01	
8	820922.112354371	0.98759E+00,	0.18813E+00,	1871	0.35987E+03,	0.19217E+00,	2228	0.16938D+00	0.17744D+00	358
	820922.130245379	0.10552E+03,	0.52809E-01,	1975	0.25268E+03,	0.29311E+00,	2121		0.52967D-01	
9	820922.130245379	0.86686E+00,	0.18554E+00,	2229	0.35975E+03,	0.19215E+00,	2589	0.16931D+00	0.17710D+00	361
	820922.144136387	0.10938E+03,	0.41772E-01,	2337	0.28727E+03,	0.26668E+00,	2516		0.52019D-01	
10	820922.144136387	0.74189E+00,	0.18611E+00,	2590	0.35962E+03,	0.19624E+00,	2948	0.15106D+00	0.16041D+00	359
	820922.162027395	0.31095E+03,	0.31319E-01,	2900	0.27623E+03,	0.25164E+00,	2866		0.54041D-01	
11	820922.162027395	0.61275E+00,	0.19448E+00,	2949	0.35949E+03,	0.18645E+00,	3309	0.14504D+00	0.15425D+00	361
	820922.175918403	0.30983E+03,	0.38088E-01,	3259	0.27610E+03,	0.25610E+00,	3225		0.52576D-01	
12	820922.175918403	0.48375E+00,	0.19653E+00,	3310	0.35936E+03,	0.18353E+00,	3671	0.14685D+00	0.15348D+00	362
	820922.193809411	0.24126E+03,	0.33112E-01,	3552	0.28887E+03,	0.21941E+00,	3600		0.44697D-01	
13	820922.193809411	0.35724E+00,	0.18530E+00,	3672	0.35999E+03,	0.21948E+00,	3967	0.17146D+00	0.17937D+00	296
	820923.003458819	0.24784E+03,	0.48319E-01,	3854	0.28752E+03,	0.26933E+00,	3894		0.52762D-01	
14	820923.003458819	0.98536E+00,	0.22454E+00,	3968	0.31319E+03,	0.22376E+00,	4281	0.15643D+00	0.16938D+00	314
	820923.020043395	0.24970E+03,	0.47126E-02,	4217	0.28640E+03,	0.28958E+00,	4254		0.65061D-01	

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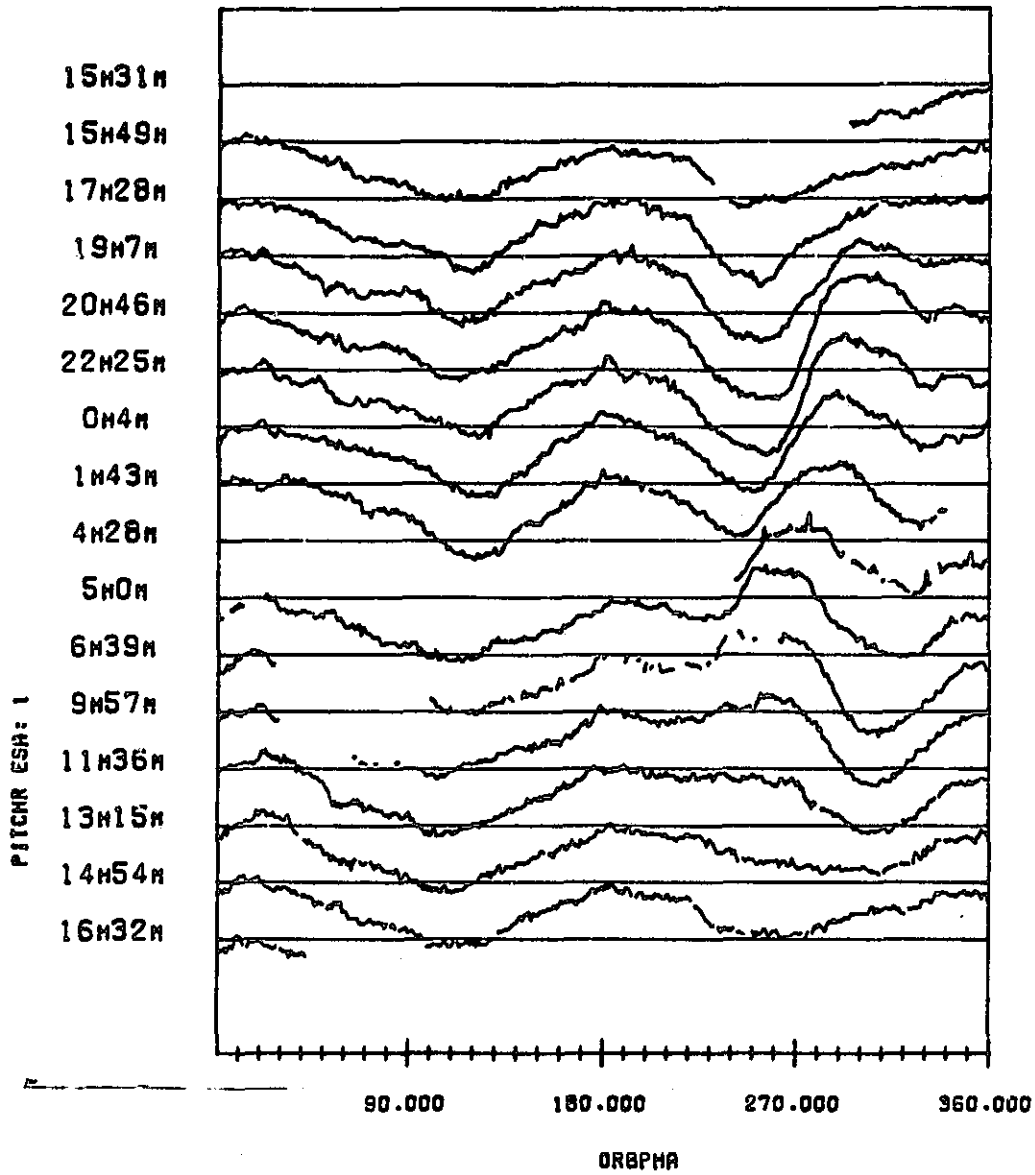

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821005.153129435
END TIME:821006.164427194

FIGURE A-4. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-4. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821005.153123435	0.29399E+03,	0.99771E-01,	1	0.35952E+03,	0.19096E+00,	67	0.14155D+00	0.14484D+00	67
	821005.154941163	0.29598E+03,	0.87714E-01,	3	0.35952E+03,	0.19096E+00,	67		0.30930D-01	
2	821005.154941163	0.50978E+00,	0.18647E+00,	68	0.35938E+03,	0.18128E+00,	421	0.12476D+00	0.13452D+00	354
	821005.172832171	0.24328E+03,	0.24517E-01,	304	0.12441E+02,	0.22221E+00,	80		0.50373D-01	
3	821005.172832171	0.37226E+00,	0.17693E+00,	422	0.35924E+03,	0.20778E+00,	782	0.12326D+00	0.13886D+00	361
	821005.190723179	0.25306E+03,	-0.32569E-01,	676	0.33440E+03,	0.21013E+00,	757		0.64022D-01	
4	821005.190723179	0.23648E+00,	0.20322E+00,	783	0.35911E+03,	0.17910E+00,	1142	0.13199D+00	0.14934D+00	360
	821005.204614202	0.25392E+03,	-0.27914E-01,	1036	0.29954E+03,	0.24601E+00,	1082		0.69953D-01	
5	821005.204614202	0.10634E+00,	0.18879E+00,	1143	0.35997E+03,	0.17368E+00,	1504	0.14073D+00	0.16373D+00	362
	821005.222521594	0.25975E+03,	-0.29896E-01,	1404	0.30734E+03,	0.30731E+00,	1452		0.83793D-01	
6	821005.222521594	0.96360E+00,	0.18813E+00,	1505	0.35984E+03,	0.16028E+00,	1866	0.14086D+00	0.15984D+00	362
	821006.000412602	0.25664E+03,	-0.26244E-01,	1762	0.29333E+03,	0.29695E+00,	1799		0.75657D-01	
7	821006.000412602	0.83518E+00,	0.15888E+00,	1867	0.35971E+03,	0.21657E+00,	2227	0.15012D+00	0.16448D+00	361
	821006.014303610	0.11733E+03,	0.13603E-01,	1984	0.28923E+03,	0.29889E-00,	2157		0.67325D-01	
8	821006.014303610	0.70559E+00,	0.20109E+00,	2228	0.33971E+03,	0.13205E+00,	2564	0.14505D+00	0.15870D+00	337
	821006.042815930	0.12118E+03,	-0.75665E-03,	2348	0.29009E+03,	0.26076E+00,	2515		0.64505D-01	
9	821006.042815930	0.24235E+03,	0.96366E-01,	2565	0.35944E+03,	0.14909E+00,	2673	0.15219D+00	0.16162D+00	108
	821006.050045626	0.32467E+03,	0.57292E-01,	2640	0.27607E+03,	0.27500E+00,	2597		0.54636D-01	
10	821006.050045626	0.43342E+00,	0.15467E+00,	2674	0.36930E+03,	0.14455E+00,	3022	0.13537D+00	0.14872D+00	349
	821006.063936634	0.11493E+03,	0.30077E-01,	2777	0.25610E+03,	0.28546E+00,	2919		0.61671D-01	
11	821006.063936634	0.29822E+00,	0.15704E+00,	3023	0.35904E+03,	0.15844E+00,	3262	0.13052D+00	0.14886D+00	240
	821006.095718650	0.30840E+03,	-0.16235E-01,	3211	0.24393E+03,	0.25984E+00,	3128		0.71735D-01	
12	821006.095718650	0.36834E-01,	0.18254E+00,	3263	0.35991E+03,	0.21226E+00,	3576	0.13910D+00	0.15443D+00	314
	821006.113626042	0.30628E+03,	0.43836E-02,	3522	0.25372E+03,	0.24834E+00,	3469		0.67199D-01	
13	821006.113626042	0.90263E+00,	0.19754E+00,	3577	0.35978E+03,	0.17168E+00,	3934	0.13399D+00	0.14702D+00	358
	821006.131517050	0.10345E+03,	0.22313E-01,	3680	0.22783E+02,	0.25283E+00,	3599		0.60602D-01	
14	821006.131517050	0.77314E+00,	0.17428E+00,	3935	0.35965E+03,	0.17379E+00,	4285	0.12751D+00	0.13772D+00	351
	821006.145408058	0.10531E+03,	0.21145E-01,	4036	0.18673E+02,	0.24236E+00,	3953		0.52098D-01	
15	821006.145408058	0.63970E+00,	0.17697E+00,	4286	0.35951E+03,	0.15259E+00,	4632	0.12300D+00	0.13269D+00	347
	821006.163259066	0.11015E+03,	0.26146E-01,	4391	0.12571E+02,	0.22200E+00,	4298		0.49852D-01	
16	821006.163259066	0.50209E+00,	0.16913E+00,	4633	0.42284E+02,	0.15354E+00,	4673	0.17878D+00	0.17944D+00	41
	821006.164427194	0.34321E+02,	0.15078E+00,	4665	0.94501E+01,	0.21160E+00,	4642		0.15525D-01	

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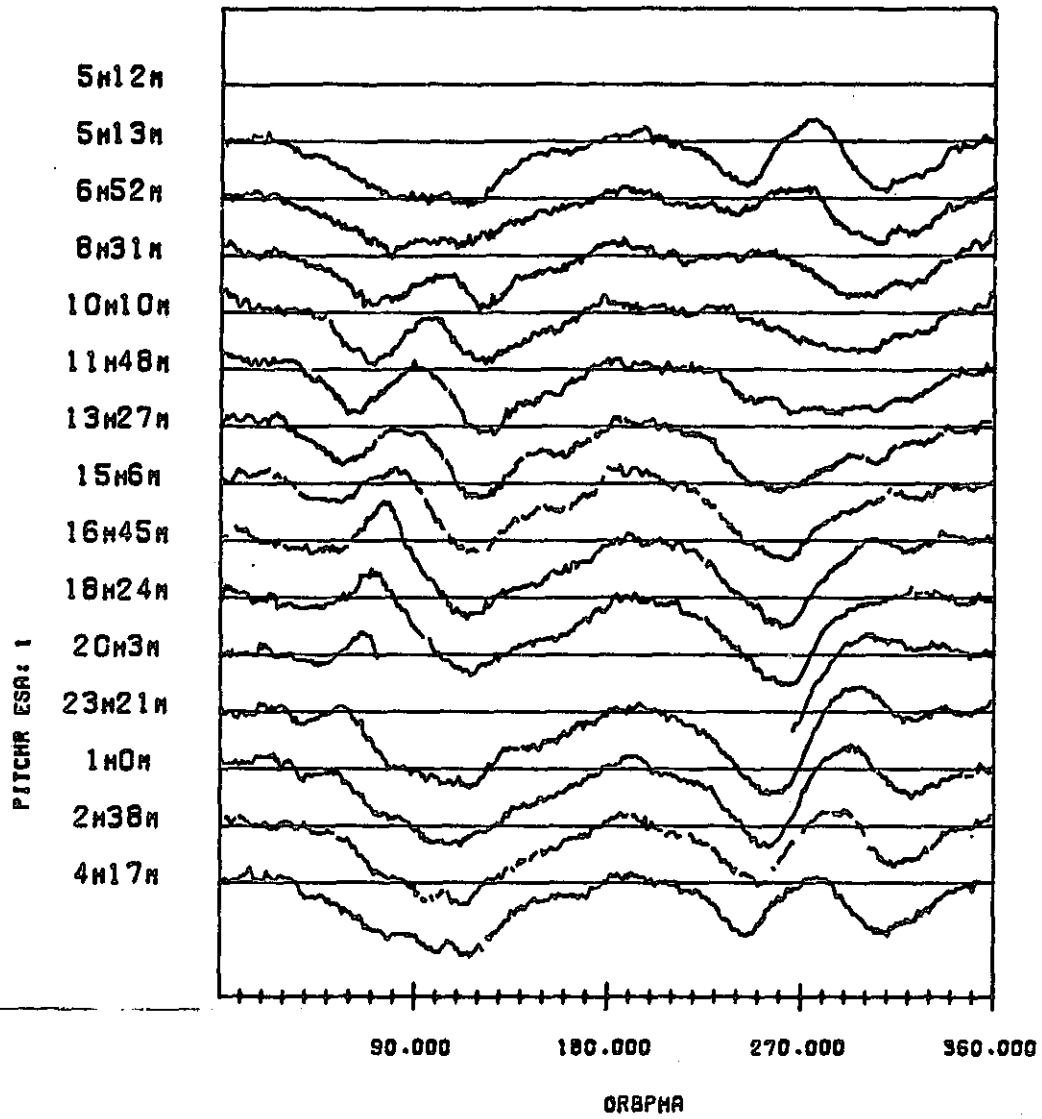

FIGURE A-5. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-5. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821020.051211751	0.35601E+03,	0.19499E+00,	1	0.35998E+03,	0.19878E+00,	5	0.19682D+00	0.19687D+00	5
	821020.051333671	0.35700E+03,	0.18987E+00,	2	0.35800E+03,	0.20200E+00,	3		0.46125D-02	
2	821020.051333671	0.97820E+00,	0.20099E+00,	6	0.35986E+03,	0.19758E+00,	367	0.14852D+00	0.15992D+00	362
	821020.065224679	0.11450E+03,	0.29016E-01,	120	0.27648E+03,	0.25887E+00,	283		0.59372D-01	
3	821020.065224679	0.84988E+00,	0.21034E+00,	368	0.35973E+03,	0.22273E-00,	729	0.15843D+00	0.16580D+00	362
	821020.083115687	0.78501E+02,	0.42866E-01,	446	0.18704E+03,	0.23738E+00,	555		0.48947D-01	
4	821020.083115687	0.72543E+00,	0.22848E+00,	730	0.35961E+03,	0.26225E+00,	1090	0.16409D+00	0.17104D+00	361
	821020.101005695	0.12022E+03,	0.53245E-01,	850	0.35961E+03,	0.26225E+00,	1090		0.48332D-01	
5	821020.101006695	0.60228E+00,	0.25663E+00,	1091	0.35949E+03,	0.24043E+00,	1450	0.16468D+00	0.17174D+00	360
	821020.114857703	0.70281E+02,	0.61577E-01,	1159	0.25908E+01,	0.26391E+00,	1093		0.48793D-01	
6	821020.114857703	0.48044E+00,	0.24627E+00,	1451	0.35936E+03,	0.20522E+00,	1812	0.15407D+00	0.16282D+00	362
	821020.132748711	0.12695E+03,	0.27914E-01,	1578	0.48044E+00,	0.24627E+00,	1451		0.52746D-01	
7	821020.132748711	0.35697E+00,	0.21102E+00,	1813	0.35824E+03,	0.21471E+00,	2166	0.14212D+00	0.15399D+00	354
	821020.150639719	0.12085E+03,	0.11958E-01,	1932	0.26218E+02,	0.23669E+00,	1839		0.59379D-01	
8	821020.150639719	0.22905E+00,	0.20830E+00,	2167	0.35910E+03,	0.20596E+00,	2504	0.15065D+00	0.16475D+00	338
	821020.164530727	0.26284E+03,	-0.76488E-03,	2412	0.18542E+03,	0.25044E+00,	2336		0.66764D-01	
9	821020.164530727	0.97600E-01,	0.21207E+00,	2505	0.35997E+03,	0.21268E+00,	2860	0.14496D+00	0.16358D+00	356
	821020.182439119	0.26073E+03,	-0.28037E-01,	2761	0.74751E+02,	0.30543E+00,	2575		0.75913D-01	
10	821020.182438119	0.96106E+00,	0.21106E+00,	2861	0.35984E+03,	0.19442E+00,	3216	0.14029D+00	0.15905D+00	356
	821020.200329127	0.26160E+03,	-0.30274E-01,	3119	0.69641E+02,	0.27865E+00,	2930		0.75048D-01	
11	821020.200329127	0.83428E+00,	0.20234E+00,	3217	0.35960E+03,	0.19427E+00,	3383	0.20162D+00	0.20682D+00	167
	821020.232111143	0.26632E+03,	0.33474E-02,	3289	0.65530E+02,	0.26333E-00,	3281		0.46204D-01	
12	821020.232111143	0.59568E+00,	0.20769E+00,	3384	0.35948E+03,	0.22889E+00,	3744	0.14385D+00	0.16296D+00	361
	821021.010002151	0.25529E+03,	-0.19393E-01,	3639	0.29892E+03,	0.26866E+00,	3683		0.76676D-01	
13	821021.010002151	0.47406E+00,	0.22352E+00,	3745	0.35936E+03,	0.20394E+00,	4105	0.14239D+00	0.16012D+00	361
	821021.023853159	0.25516E+03,	-0.60121E-02,	4001	0.29384E+03,	0.26647E+00,	4040		0.73337D-01	
14	821021.023853159	0.35028E+00,	0.22068E+00,	4106	0.35923E+03,	0.22380E+00,	4440	0.14409D+00	0.15899D+00	335
	821021.041744167	0.11187E+03,	-0.89976E-02,	4209	0.28974E+03,	0.24514E+00,	4373		0.67310D-01	
15	821021.041744167	0.22048E+00,	0.20241E+00,	4441	0.35413E+03,	0.20014E-00,	4796	0.14025D+00	0.15299D-00	356
	821021.055456871	0.11673E+03,	0.43261E-02,	4558	0.14143E+02,	0.24321E+00,	4455		0.61196D-01	

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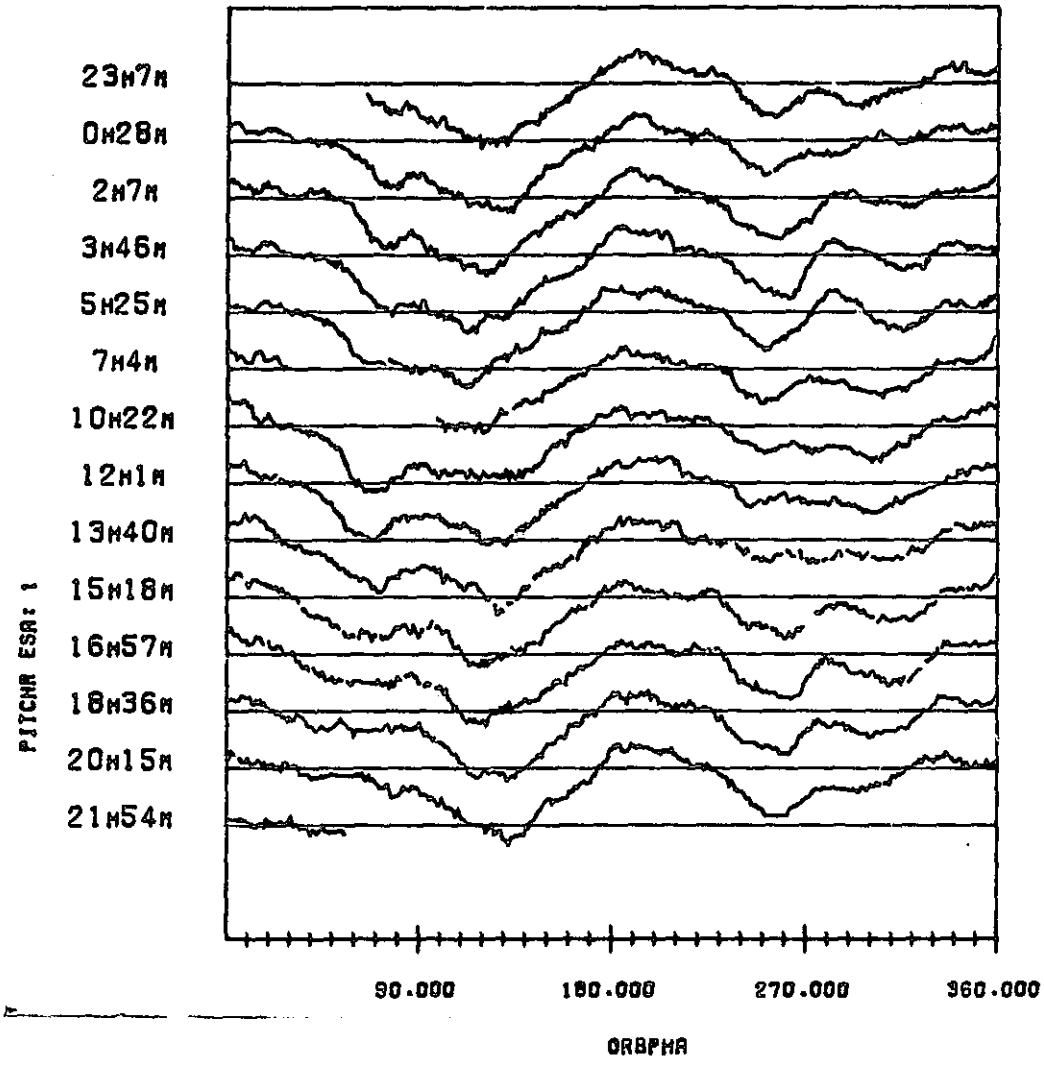

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821102.230796844
END TIME:821103.220936128

FIGURE A-6. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-6. Data Statistics by Orbit

ORBIT	TIME START/END	(P,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821102.230736644	0.64203E+02,	0.17330E+00,	1	0.35939E+03,	0.24061E+00,	298	0.16833D+00	0.17965D+00	298
	821103.002859076	0.11901E+03,	0.26590E-01,	56	0.19068E+03,	0.28878E+00,	128		0.62857D-01	
2	821103.002859076	0.38859E+00,	0.24121E+00,	299	0.35928E+03,	0.23304E-00,	658	0.16837D+00	0.18040D+00	360
	821103.020750084	0.13384E+03,	0.10124E-01,	432	0.18957E+03,	0.27156E+00,	488		0.64843D-01	
3	821103.020750084	0.27494E+00,	0.24240E+00,	659	0.35916E+03,	0.25317E+00,	1020	0.16380D+00	0.17765D+00	362
	821103.034641092	0.12177E+03,	-0.58394E-02,	781	0.18846E+03,	0.27943E+00,	848		0.68868D-01	
4	821103.034641092	0.15641E+00,	0.24230E+00,	1021	0.35904E+03,	0.21829E+00,	1380	0.16236D+00	0.17745D+00	360
	821103.052532115	0.11269E+03,	-0.71142E-02,	1132	0.18437E+03,	0.27818E+00,	1204		0.71699D-01	
5	821103.052532115	0.35927E-01,	0.22530E+00,	1381	0.35992E+03,	0.23112E+00,	1742	0.16512D+00	0.17950D+00	362
	821103.070439522	0.11257E+03,	-0.84712E-03,	1493	0.18425E+03,	0.26807E+00,	1565		0.70483D-01	
6	821103.070439522	0.91320E+00,	0.25163E+00,	1743	0.35969E+03,	0.28373E+00,	2032	0.17089D+00	0.18060D+00	290
	821103.102221538	0.12031E+03,	0.30529E-01,	1793	0.35969E+03,	0.28373E+00,	2032		0.58512D-01	
7	821103.102221538	0.68613E+00,	0.28015E+00,	2033	0.35958E+03,	0.24357E+00,	2394	0.15759D+00	0.16097D+00	362
	821103.120112546	0.68385E+02,	0.27141E-01,	2101	0.68613E+00,	0.28015E+00,	2033		0.63773D-01	
8	821103.120112546	0.57445E+00,	0.23770E+00,	2395	0.35947E+03,	0.24060E+00,	2753	0.16343D+00	0.17464D+00	359
	821103.134003569	0.13105E+03,	0.34707E-01,	2525	0.20069E+03,	0.27019E+00,	2593		0.61642D-01	
9	821103.134003569	0.46172E+00,	0.23719E+00,	2754	0.35935E+03,	0.24094E+00,	3097	0.16579D+00	0.17608D+00	344
	821103.151854577	0.12694E+03,	0.31335E-02,	2880	0.84175E+01,	0.27133E+00,	2762		0.59393D-01	
10	821103.151854577	0.34327E+00,	0.24788E+00,	3098	0.35923E+03,	0.25989E+00,	3439	0.15592D+00	0.16693D+00	342
	821103.165745585	0.11885E+03,	0.15618E-01,	3210	0.63098E+01,	0.26614E+00,	3104		0.59687D-01	
11	821103.165745585	0.22206E-00,	0.27183E+00,	3440	0.35911E+03,	0.23334E+00,	3789	0.15523D+00	0.16613D+00	350
	821103.183636608	0.12172E+03,	0.10832E-01,	3556	0.22206E+00,	0.27183E+00,	3440		0.59287D-01	
12	821103.183636608	0.10293E+00,	0.22950E+00,	3790	0.35999E+03,	0.24510E+00,	4152	0.16057D+00	0.17064D+00	363
	821103.201544000	0.13157E+03,	0.14804E-01,	3922	0.19723E+03,	0.25568E+00,	3988		0.57837D-01	
13	821103.201544000	0.98156E+00,	0.22714E+00,	4153	0.35988E+03,	0.21056E+00,	4513	0.16095D+00	0.17235D+00	361
	821103.215435008	0.13245E+03,	-0.35694E-02,	4284	0.18321E+03,	0.26708E+00,	4335		0.61750D-01	
14	821103.215435008	0.87050E+00,	0.21455E+00,	4514	0.55615E+02,	0.17556E-00,	4569	0.19905D+00	0.19948D+00	56
	821103.220936128	0.39680E+02,	0.17292E+00,	4553	0.30719E+02,	0.22680E-00,	4544		0.13153D-01	

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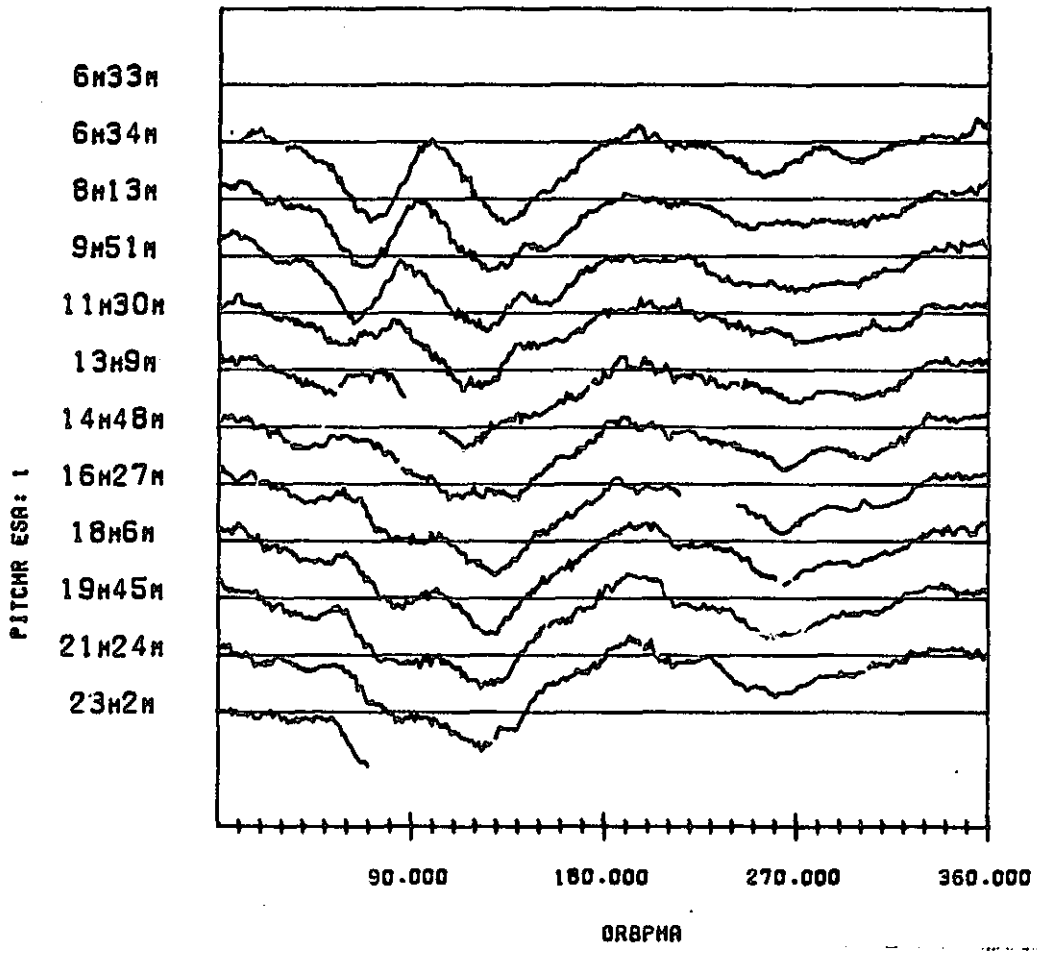

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821116.063354045
END TIME:821116.232203818

FIGURE A-7. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-7. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821116.063354045	0.35944E+03.	0.26433E+00.	1	0.35944E+03.	0.26433E+00.	1	0.26433D+00	0.26433D+00	1
	821116.063410429	0.35944E+03.	0.26433E+00.	1	0.35944E+03.	0.26433E+00.	1		0.0	
2	821116.063410429	0.43162E+00.	0.25169E+00.	2	0.35930E+03.	0.23855E+00.	362	0.15100D+00	0.16550D+00	361
	821116.081301452	0.13290E+03.	-0.15923E-01.	134	0.35433E+03.	0.26502E+00.	357		0.67819D-01	
3	821116.081301452	0.29894E+00.	0.23509E+00.	363	0.35917E+03.	0.24846E+00.	722	0.14758D+00	0.15907D+00	360
	821116.095152460	0.12579E+03.	0.95157E-02.	489	0.35917E+03.	0.24846E+00.	722		0.59433D-01	
4	821116.095152460	0.16715E+00.	0.24084E+00.	723	0.35904E+03.	0.22253E+00.	1084	0.14720D+00	0.15885D+00	362
	821116.113043468	0.12566E+03.	0.29937E-02.	849	0.61351E+01.	0.26693E+00.	729		0.59781D-01	
5	821116.113043468	0.37086E-01.	0.22099E+00.	1085	0.35991E+03.	0.23379E+00.	1446	0.15815D+00	0.16727D+00	362
	821116.130950875	0.11457E+03.	-0.34378E-02.	1200	0.99843E+01.	0.25122E+00.	1095		0.54541D-01	
6	821116.130950875	0.90151E+00.	0.23864E+00.	1447	0.35977E+03.	0.22017E+00.	1789	0.15639D+00	0.16692D+00	343
	821116.144841883	0.11444E+03.	-0.46962E-02.	1544	0.90151E+00.	0.23864E+00.	1447		0.57082D-01	
7	821116.144841883	0.76658E+00.	0.21483E+00.	1790	0.35963E+03.	0.23944E+00.	2150	0.14445D+00	0.15678D+00	361
	821116.162732891	0.14019E+03.	0.82738E-02.	1929	0.33181E+03.	0.23950E+00.	2122		0.61024D-01	
8	821116.162732891	0.62713E+00.	0.23414E+00.	2151	0.35949E+03.	0.22837E+00.	2485	0.13305D+00	0.15040D+00	335
	821116.180623899	0.12910E+03.	-0.39593E-01.	2280	0.16216E+01.	0.24564E+00.	2152		0.70218D-01	
9	821116.180623899	0.48812E+00.	0.23014E+00.	2486	0.35936E+03.	0.25119E+00.	2844	0.14334D+00	0.16133D+00	359
	821116.194514907	0.12597E+03.	-0.46057E-01.	2612	0.35737E+03.	0.25266E+00.	2842		0.74130D-01	
10	821116.194514907	0.35214E+00.	0.23988E+00.	2845	0.35923E+03.	0.21815E+00.	3205	0.14386D+00	0.16251D+00	361
	821116.212405915	0.12285E+03.	-0.38384E-01.	2968	0.19051E+03.	0.26643E+00.	3035		0.75699D-01	
11	821116.212405915	0.22100E+00.	0.22084E+00.	3206	0.35910E+03.	0.20586E+00.	3564	0.13833D+00	0.15624D+00	359
	821116.230256938	0.12272E+03.	-0.51659E-01.	3329	0.19138E+03.	0.25405E+00.	3397		0.72747D-01	
12	821116.230256938	0.93636E-01.	0.20692E+00.	3565	0.69787E+02.	0.56371E-01.	3635	0.17154D+00	0.17601D+00	71
	821116.232203818	0.69787E+02.	0.56371E-01.	3635	0.60611E+01.	0.21032E+00.	3571		0.39704D-01	

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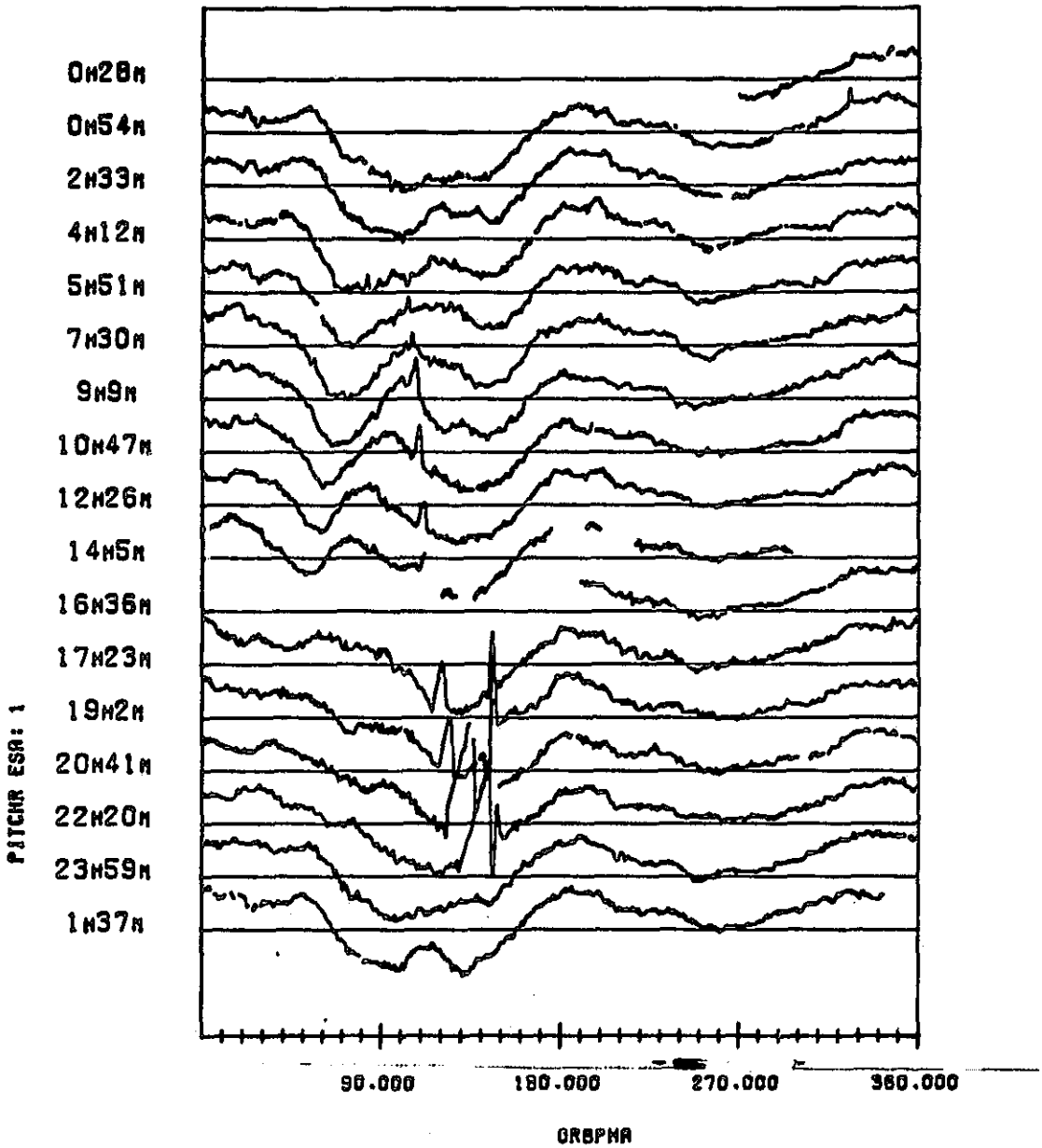

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821201.002856720
END TIME:821202.031150860

FIGURE A-8. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-8. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821201.002856720	0.26704E+03,	0.14716E+00,	1	0.35936E+03,	0.27584E+00,	89	0.21798D+00	0.22292D+00	89
	821201.005436816	0.27398E+03,	0.14045E+00,	6	0.34644E+03,	0.29215E+00,	77		0.46962D-01	
2	821201.005436816	0.35852E+00,	0.27190E+00,	90	0.35924E+03,	0.27081E+00,	442	0.19452D+00	0.20829D+00	353
	821201.023327824	0.10193E+03,	0.31228E-01,	189	0.32545E+03,	0.32438E+00,	408		0.74560D-01	
3	821201.023327824	0.23480E+00,	0.26236E+00,	443	0.35911E+03,	0.26730E+00,	799	0.20480D+00	0.21570D+00	357
	821201.041218832	0.10081E+03,	0.38277E-01,	544	0.18441E+03,	0.30593E+00,	628		0.67791D-01	
4	821201.041218832	0.10528E+00,	0.26340E+00,	800	0.35998E+03,	0.26862E+00,	1149	0.20266D+00	0.21494D+00	350
	821201.055126239	0.73782E+02,	0.46493E-01,	871	0.19720E+03,	0.31403E+00,	993		0.71735D-01	
5	821201.055126239	0.97076E-00,	0.26707E+00,	1150	0.35985E+03,	0.27625E+00,	1509	0.20484D+00	0.21465D+00	360
	821201.073017262	0.74652E+02,	0.43664E-01,	1222	0.35190E+03,	0.30297E+00,	1501		0.64240D-01	
6	821201.073017262	0.84504E+00,	0.29404E+00,	1510	0.35973E+03,	0.28680E+00,	1870	0.20689D+00	0.21765D+00	361
	821201.090908270	0.73530E+02,	0.46542E-01,	1583	0.17759E+02,	0.32193E+00,	1527		0.67707D-01	
7	821201.090908270	0.72163E+00,	0.27[illegible]17E+00,	1871	0.35961E+03,	0.29866E+00,	2232	0.21603D+00	0.22583D+00	362
	821201.104759278	0.64440E+02,	0.67[illegible]51E-01,	1935	0.34469E+03,	0.33605E+00,	2217		0.65881D-01	
8	821201.104759278	0.60016E+00,	0.29471E+00,	2233	0.35949E+03,	0.29067E+00,	2592	0.22190D+00	0.22965D+00	360
	821201.122650301	0.13205E+03,	0.87[illegible]14E-01,	2365	0.33265E+03,	0.31906E+00,	2565		0.59246D-01	
9	821201.122650301	0.47979E+00,	0.29[illegible]11E+00,	2593	0.35936E+03,	0.29107E+00,	2954	0.22481D+00	0.23217D+00	362
	821201.140541309	0.12695E+03,	0.91[illegible]25E-01,	2720	0.34743E+03,	0.32084E+00,	2942		0.58067D-01	
10	821201.140541309	0.35569E+00,	0.28263E+00,	2955	0.29666E+03,	0.21404E+00,	3203	0.21724D+00	0.22306D+00	249
	821201.163641661	0.13678E+03,	0.84515E-01,	3076	0.13288E+02,	0.32802E+00,	2968		0.50701D-01	
11	821201.163641661	0.19036E+03,	0.28[illegible]47E+00,	3204	0.35910E+03,	0.32812E+00,	3373	0.24867D+00	0.25240D+00	170
	821201.172323325	0.24892E+03,	0.17653E+00,	3263	0.35910E+03,	0.32812E+00,	3373		0.43351D-01	
12	821201.172323325	0.96549E-01,	0.33[illegible]26E+00,	3374	0.35997E+03,	0.31937E+00,	3734	0.23504D+00	0.24284D+00	361
	821201.190230717	0.13055E+03,	0.54811E-01,	3505	0.10911E+01,	0.33453E+00,	3375		0.61126D-01	
13	821201.190230717	0.96248E+00,	0.31036E+00,	3735	0.35984E+03,	0.29306E+00,	4093	0.22834D+00	0.23772D+00	359
	821201.204121740	0.14337E+03,	0.23695E-01,	3876	0.14536E+03,	0.40000E+00,	3878		0.66229D-01	
14	821201.204121740	0.83949E+00,	0.29467E+00,	4094	0.35972E+03,	0.28064E+00,	4443	0.22939D+00	0.23793D+00	350
	821201.222012748	0.12233E+03,	0.10980E-01,	4216	0.14623E+03,	0.40000E+00,	4239		0.63257D-01	
15	821201.222012748	0.71926E+00,	0.28036E+00,	4444	0.35960E+03,	0.30356E+00,	4805	0.231[illegible]D+00	0.2[illegible]D+00	362
	821201.235903756	0.12122E+03,	0.47266E-01,	4565	0.14412E+03,	0.38670E+00,	4588		0.6804[illegible]D-01	
16	821201.235903756	0.59067E+00,	0.29266E+00,	4806	0.35947E+03,	0.30834E+00,	5166	0.23067D+00	0.24132D+00	361
	821202.013754764	0.98179E+02,	0.76183E-01,	4904	0.34059E+03,	0.33136E+00,	5148		0.71001D-01	
17	821202.013754764	0.46864E+00,	0.31562E+00,	5167	0.34245E+03,	0.29778E+00,	5504	0.22751D+[illegible]	0.23784D+00	338
	821202.031150860	0.13092E+03,	0.68551E-01,	5291	0.34524E+01,	0.32689E+00,	5170		0.69438D-01	

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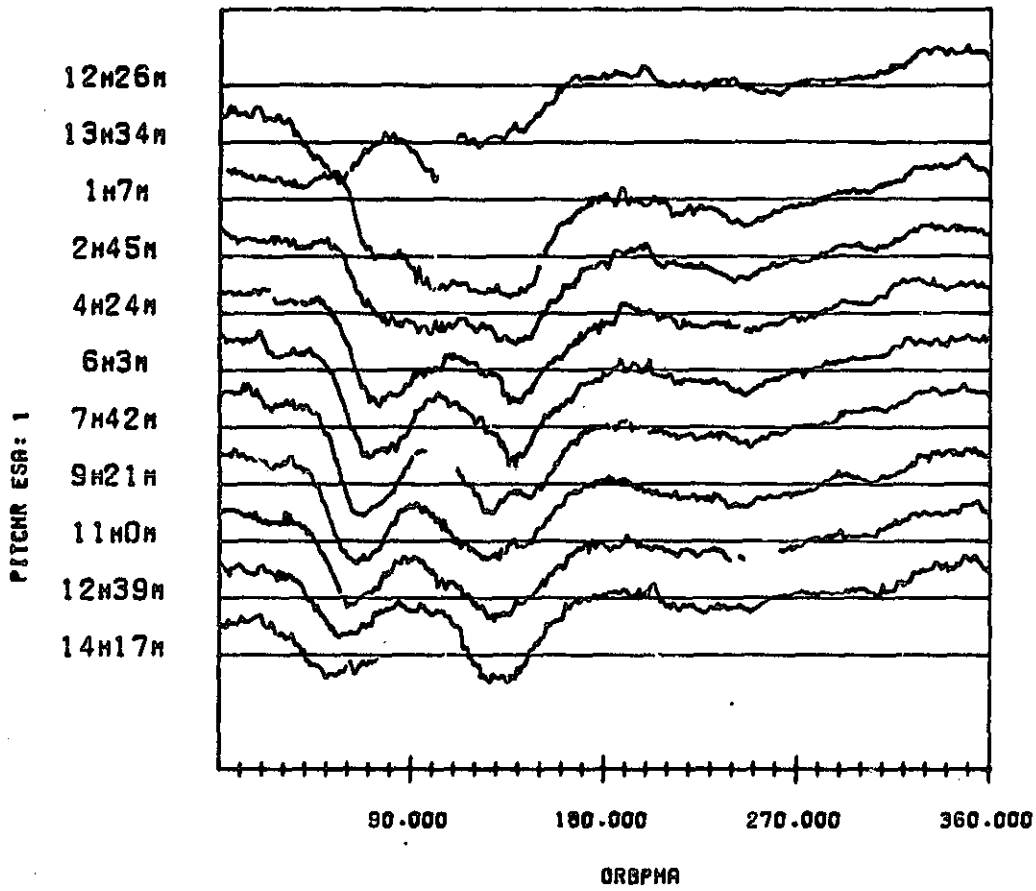

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL-BARS MARK 0.2-DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821214.122607064
END TIME:821215.143809812

FIGURE A-9. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-9. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821214.122607064	0.11096E+03.	0.58270E-01.	1	0.35932E+03.	0.26841E+00.	251	0.20088D+00	0.21111D+00	251
	821214.133439448	0.12092E+03.	0.35357E-01.	11	0.34938E+03.	0.30825E+00.	241		0.65063D-01	
2	821214.133439448	0.31669E+00.	0.27013E+00.	252	0.10187E+03.	0.10967E+00.	353	0.20014D+00	0.20857D+00	102
	821215.010742070	0.56055E+02.	0.95091E-01.	308	0.42950E+01.	0.29672E+00.	256		0.59007D-01	
3	821215.010742070	0.34892E+01.	0.27893E+00.	354	0.35940E+03.	0.26172E+00.	710	0.16102D+00	0.19196D+00	357
	821215.024543926	0.13592E+03.	-0.57884E-01.	486	0.34846E+03.	0.31945E+00.	699		0.10466D+00	
4	821215.024543926	0.39166E+00.	0.26935E+00.	711	0.35928E+03.	0.25811E+00.	1071	0.16081D+00	0.18516D+00	361
	821215.042434934	0.13879E+03.	-0.31903E-01.	850	0.33244E+03.	0.28751E+00.	1044		0.91903D-01	
5	821215.042434934	0.27155E+00.	0.25607E+00.	1072	0.35916E+03.	0.26688E+00.	1429	0.16120D+00	0.18643D+00	358
	821215.060325957	0.74937E+02.	-0.47357E-01.	1145	0.32636E+03.	0.29329E+00.	1396		0.93792D-01	
6	821215.060325957	0.15280E+00.	0.28524E+00.	1430	0.35904E+03.	0.28518E+00.	1790	0.16851D+00	0.19157D+00	361
	821215.074216965	0.13856E+03.	-0.56165E-01.	1569	0.18060E+02.	0.30492E+00.	1448		0.91249D-01	
7	821215.074216965	0.36613E-01.	0.28108E+00.	1791	0.35992E+03.	0.28096E+00.	2130	0.17518D+00	0.20033D+00	340
	821215.092124357	0.67731E+02.	-0.33959E-01.	1859	0.12969E+02.	0.31585E+00.	1804		0.97336D-01	
8	821215.092124357	0.91805E+00.	0.27698E+00.	2131	0.35981E+03.	0.27837E+00.	2491	0.16761D+00	0.18675D+00	361
	821215.110015380	0.64629E+02.	-0.11638E-01.	2195	0.35285E+03.	0.29699E+00.	2484		0.82479D-01	
9	821215.110015380	0.80796E+00.	0.27724E+00.	2492	0.35970E+03.	0.27584E+00.	2833	0.17360D+00	0.19073D+00	342
	821215.123906388	0.12926E+03.	-0.11851E-01.	2620	0.35473E+03.	0.30797E+00.	2828		0.79110D-01	
10	821215.123906388	0.69683E+00.	0.29098E+00.	2834	0.35959E+03.	0.26638E+00.	3195	0.18585D+00	0.20007D+00	362
	821215.141757396	0.13512E+03.	-0.23612E-01.	2969	0.34865E+03.	0.31480E+00.	3184		0.74163D-01	
11	821215.141757396	0.58257E+00.	0.27359E+00	3196	0.74249E+02.	0.19024E+00.	3269	0.22248D+00	0.22928D+00	74
	821215.143809812	0.50345E+02.	0.13925E+00.	3246	0.19484E+02.	0.30626E+00.	3215		0.55815D-01	

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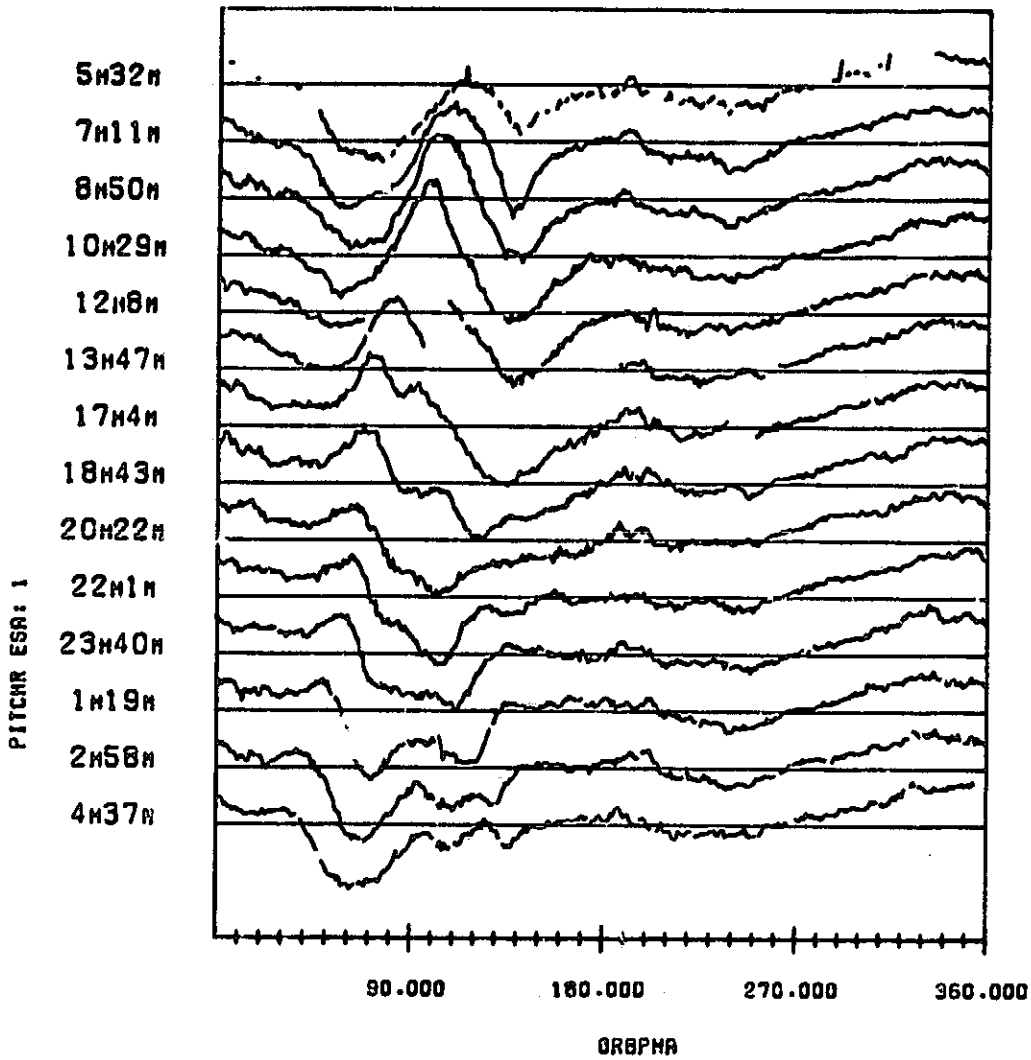

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821228.059240480
END TIME:821229.061420139

FIGURE A-10. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-10. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821228.053240480	0.54884E+00,	0.27112E+00,	1	0.35942E+03,	0.25582E+00,	261	0.16548D+00	0.18047D+00	261
	821228.071131503	0.75205E+02,	-0.49594E-02,	48	0.33656E+03,	0.29125E+00,	238		0.72143D-01	
2	821228.071131503	0.41262E+00,	0.26010E+00,	262	0.35928E+03,	0.27563E+00,	623	0.18636D+00	0.20015D+00	362
	821228.085022511	0.13682E+03,	-0.88824E-03,	399	0.10993E+03,	0.30483E+00,	372		0.73119D-01	
3	821228.085022511	0.27913E+00,	0.27377E+00,	624	0.35915E+03,	0.27096E+00,	985	0.19970D+00	0.21302D+00	362
	821228.102913519	0.14166E+03,	0.32377E-01,	766	0.10083E+03,	0.36896E+00,	725		0.74237D-01	
4	821228.102913519	0.14712E+00,	0.26605E+00,	986	0.35902E+03,	0.30596E+00,	1343	0.20014D+00	0.21343D+00	358
	821228.120804527	0.13556E+03,	0.23037E-01,	1118	0.10070E+03,	0.39965E+00,	1087		0.74238D-01	
5	821228.120804527	0.15908E-01,	0.29813E+00,	1344	0.35988E+03,	0.29120E+00,	1662	0.19813D+00	0.21037D+00	319
	821228.134711934	0.13742E+03,	0.62588E-02,	1441	0.35491E+03,	0.32017E+00,	1657		0.70817D-01	
6	821228.134711934	0.87757E+00,	0.28448E+00,	1663	0.35960E+03,	0.32056E+00,	1926	0.25585D+00	0.26224D+00	264
	821228.170453950	0.22463E+03,	0.15815E+00,	1794	0.82502E+02,	0.39108E+00,	1743		0.57646D-01	
7	821228.170453950	0.59855E+00,	0.31970E+00,	1927	0.35946E+03,	0.30585E+00,	2275	0.23199D+00	0.24399D+00	349
	821228.184344958	0.13501E+03,	0.43368E-01,	2062	0.69273E+02,	0.39569E+00,	1996		0.75684D-01	
8	821228.184344958	0.45906E+00,	0.30130E+00,	2276	0.35933E+03,	0.31454E+00,	2634	0.22322D+00	0.23383D+00	359
	821228.202235981	0.12392E+03,	0.51148E-01,	2400	0.67143E+02,	0.35511E+00,	2343		0.69740D-01	
9	821228.202235981	0.32495E+00,	0.30289E+00,	2635	0.35920E+03,	0.29643E+00,	2996	0.21791D+00	0.22832D+00	362
	821228.220126989	0.10088E+03,	0.49840E-01,	2736	0.34429E+03,	0.33759E+00,	2981		0.68248D-01	
10	821228.220126989	0.19368E+00,	0.28982E+00,	2997	0.35907E+03,	0.30533E+00,	3359	0.21491D+00	0.22552D+00	363
	821228.234017997	0.10274E+03,	0.21063E-01,	3101	0.35012E+03,	0.33664E+00,	3350		0.68463D-01	
11	821228.234017997	0.62472E-01,	0.29946E+00,	3360	0.35993E+03,	0.28647E+00,	3713	0.21284D+00	0.22267D+00	354
	821229.011925389	0.11057E+03,	0.46880E-01,	3470	0.33310E+03,	0.33712E+00,	3686		0.65529D-01	
12	821229.011925389	0.92527E+00,	0.27953E+00,	3714	0.35980E+03,	0.27101E+00,	4065	0.20237D+00	0.21357D+00	352
	821229.025816412	0.71592E+02,	0.17683E-01,	3782	0.33495E+03,	0.31125E+00,	4040		0.68345D-01	
13	821229.025816412	0.79197E+00,	0.26651E+00,	4066	0.35966E+03,	0.26743E+00,	4416	0.19162D+00	0.20291D+00	349
	821229.043707420	0.68471E+02,	0.71718E-02,	4132	0.33581E+03,	0.30752E+00,	4391		0.66838D-01	
14	821229.043707420	0.65157E+00,	0.27129E+00,	4415	0.35455E+03,	0.31157E+00,	4751	0.19842D+00	0.20832D+00	337
	821229.061420139	0.61362E+02,	0.29403E-01,	4474	0.32574E+03,	0.31855E+00,	4723		0.63544D-01	

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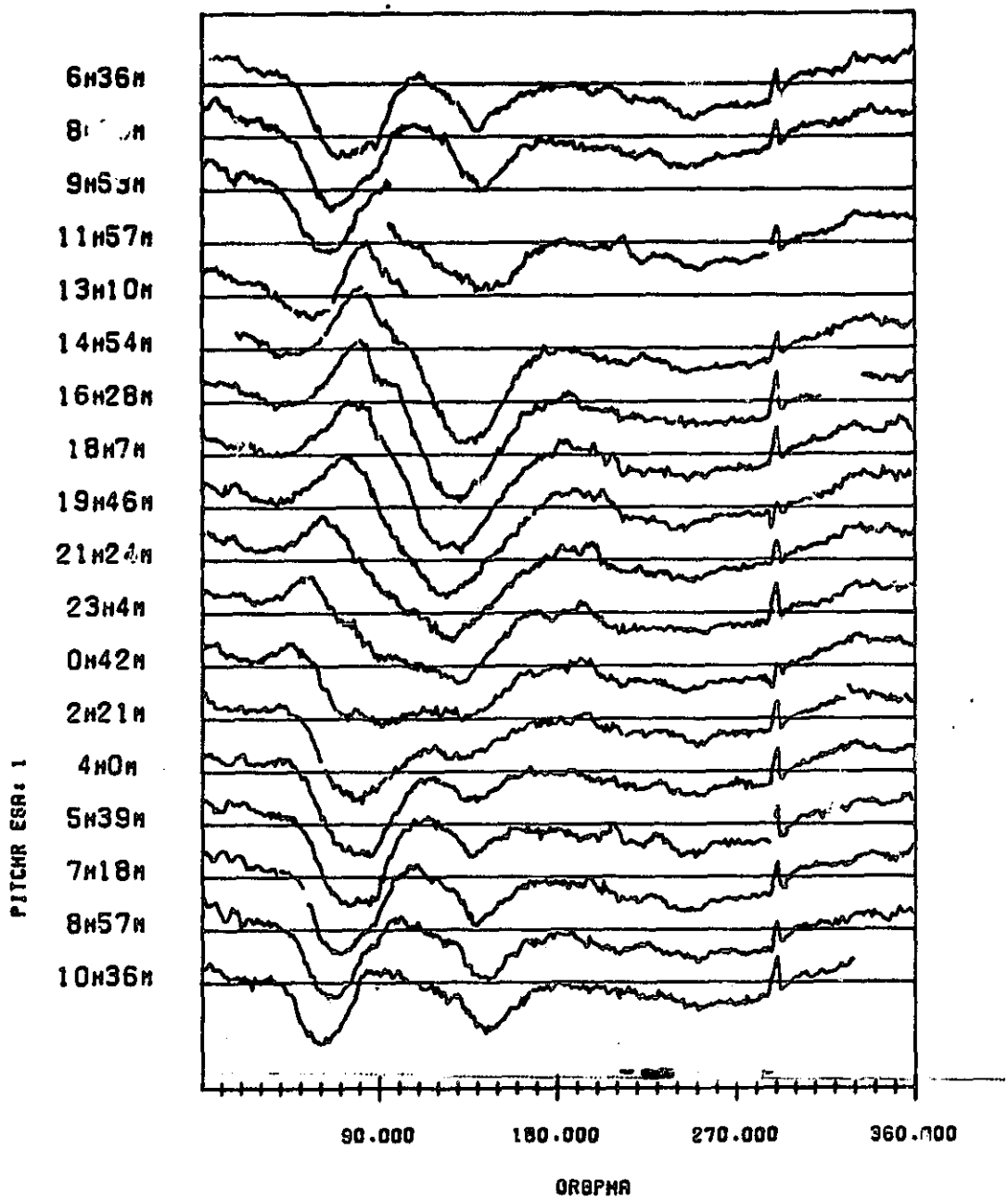

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830119.063608627
END TIME:830120.120626114

FIGURE A-11. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-11. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830119.063608627	0.41493E+01,	0.27540E+00,	1	0.35905E+03,	0.30145E+00,	356	0.17136D+00	0.18589D+00	356
	830119.081354114	0.68849E+02,	-0.12057E-01,	66	0.35905E+03,	0.30145E+00,	356		0.72147D-01	
2	830119.081354114	0.45614E-01,	0.29[illegible]91E+00,	357	0.35992E+03,	0.26703E+00,	719	0.17532D+00	0.18871D+00	363
	830119.095301506	0.65734E+02,	-0.11[illegible]35E-01,	424	0.80007E+01,	0.31618E+00,	365		0.69905D-01	
3	830119.095301506	0.91422E+00,	0.27104E+00,	720	0.95492E+02,	0.21621E+00,	815	0.16737D+00	0.18682D+00	98
	830119.115732610	0.64611E+02,	0.21171E-01,	784	0.29028E+01,	0.28904E+00,	722		0.83435D-01	
4	830119.115732610	0.94371E+02,	0.25[illegible]83E+00,	816	0.35967E+03,	0.26473E+00,	1080	0.17969D+00	0.18800D+00	265
	830119.131043522	0.13919E+03,	0.59899E-01,	861	0.32987E+03,	0.28790E+00,	1051		0.55363D-01	
5	830119.131043522	0.66545E+00,	0.27787E+00,	1081	0.10421E+03,	0.20896E+00,	1183	0.23543D+00	0.24207D+00	103
	830119.145413058	0.56392E+02,	0.13539E+00,	1136	0.83285E+02,	0.35789E+00,	1162		0.[illegible]573D-01	
6	830119.145413058	0.17442E+02,	0.24720E+00,	1184	0.35941E+03,	0.27415E+00,	1525	0.18123D+00	0.20294D+00	342
	830119.162825538	0.13893E+03,	-0.68814E-01,	1304	0.80165E+02,	0.37671E+00,	1246		0.91467D-01	
7	830119.162825538	0.40334E+00,	0.26792E+00,	1526	0.35928E+03,	0.28189E+00,	1862	0.17615D+00	0.19967D+00	337
	830119.180716546	0.13083E+03,	-0.85395E-01,	1656	0.80030E+02,	0.37490E+00,	1605		0.94148D-01	
8	830119.180716546	0.27042E+00,	0.27534E+00,	1863	0.35915E+03,	0.26137E+00,	2222	0.18362D+00	0.20680D+00	360
	830119.194607554	0.13170E+03,	-0.79235E-01,	1994	0.73922E+02,	0.35589E+00,	1937		0.95257D-01	
9	830119.194607554	0.14053E+00,	0.25259E+00,	2223	0.35803E+03,	0.28697E+00,	2580	0.19011D+00	0.21143D+00	358
	830119.212458562	0.12460E+03,	-0.58122E-01,	2347	0.74790E+02,	0.35127E+00,	2297		0.92650D-01	
10	830119.212458562	0.15487E-01,	0.28036E+00,	2581	0.35989E+03,	0.26847E+00,	2939	0.18858D+00	0.20594D+00	359
	830119.230405954	0.12746E+03,	-0.29600E-01,	2708	0.60720E+02,	0.32825E+00,	2641		0.82892D-01	
11	830119.230405954	0.88570E+00,	0.25979E+00,	2940	0.35977E+03,	0.27133E+00,	3301	0.18036D+00	0.19565D+00	362
	830120.004256962	0.13033E+03,	0.41122E-03,	3070	0.55616E+02,	0.30573E+00,	2995		0.75916D-01	
12	830120.004256962	0.76622E+00,	0.26339E+00,	3302	0.35965E+03,	0.26077E+00,	3663	0.16773D+00	0.18232D+00	362
	830120.022147970	0.91354E+02,	0.26113E-01,	3393	0.33183E+03,	0.29381E+00,	3635		0.71568D-01	
13	830120.022147970	0.64051E+00,	0.26772E+00,	3664	0.35952E+03,	0.24646E+00,	4019	0.16448D+00	0.18039D+00	356
	830120.040038978	0.81265E+02,	-0.40448E-01,	3744	0.32673E+03,	0.29253E+00,	3987		0.74184D-01	
14	830120.040038978	0.50941E+00,	0.24502E+00,	4020	0.35938E+03,	0.26717E+00,	4389	0.17187D+00	0.18695D+00	361
	830120.053929986	0.85121E+02,	-0.40464E-01,	4105	0.33057E+03,	0.28746E+00,	4351		0.73665D-01	
15	830120.053929986	0.37675E+00,	0.27071E+00,	4381	0.35925E+03,	0.26968E+00,	4740	0.17185D+00	0.18648D+00	360
	830120.071820994	0.74033E+02,	-0.32092E-01,	4455	0.35726E+03,	0.28618E+00,	4738		0.72505D-01	
16	830120.071820994	0.24739E+00,	0.27700E-00,	4741	0.35913E+03,	0.29105E+00,	5099	0.13868D+00	0.18254D+00	359
	830120.085712002	0.69920E+02,	-0.17033E-01,	4808	0.35913E+03,	0.29105E+00,	5099		0.69980D-01	
17	830120.085712002	0.12135E+00,	0.29393E+00,	5100	0.36000E+03,	0.24969E+00,	5462	0.16764D+00	0.17811D+00	363
	830120.103619394	0.63817E+02,	0.45235E-02,	5164	0.12135E+00,	0.29393E+00,	5100		0.60252D-01	
18	830120.103619394	0.99127E+00,	0.24122E+00,	5463	0.32907E+03,	0.26504E+00,	5792	0.16922D+00	0.17716D+00	330
	830120.120626114	0.60704E+02,	0.25924E-01,	5523	0.29037E+03,	0.27134E+00,	5753		0.52500D-01	

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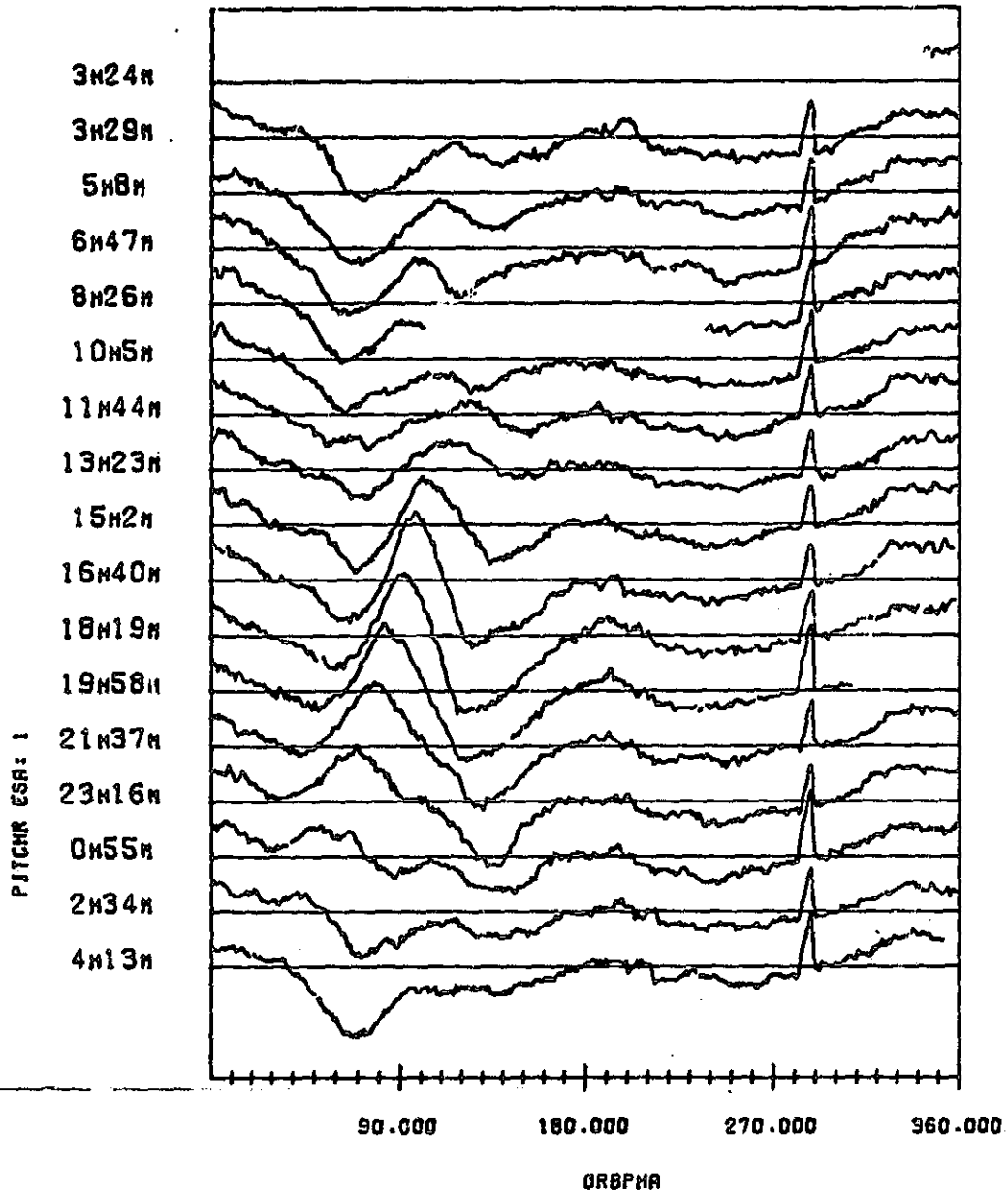

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830202.032425071
END TIME:830203.054950590

FIGURE A-12. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-12. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830202.032425071	0.34053E+03,	0.28024E+00,	1	0.35941E+03,	0.29623E+00,	20	0.28202D+00	0.28216D+00	20
	830202.032952751	0.34649E+03,	0.26157E+00,	7	0.35941E+03,	0.29623E+00,	20		0.89848D-02	
2	830202.032952751	0.40758E+00,	0.29583E+00,	21	0.35928E+03,	0.24685E+00,	380	0.17878D+00	0.18944D+00	360
	830202.050843759	0.72073E+02,	0.28259E-01,	92	0.14018E+01,	0.30257E+00,	22		0.59653D-01	
3	830202.050843759	0.27601E+00,	0.23545E+00,	381	0.35915E+03,	0.28694E+00,	742	0.17126D+00	0.18359D+00	362
	830202.064734767	0.70948E+02,	0.55186E-02,	452	0.33034E+03,	0.29689E+00,	713		0.66261D-01	
4	830202.064734767	0.14781E+00,	0.28435E+00,	743	0.35503E+03,	0.29423E+00,	1102	0.16853D+00	0.18183D+00	360
	830202.082625775	0.64844E+02,	0.21968E-01,	808	0.28854E+03,	0.31012E+00,	1031		0.68367D-01	
5	830202.082625775	0.23231E-01,	0.30174E+00,	1103	0.35990E+03,	0.26855E-00,	1329	0.18968D+00	0.20302D+00	227
	830202.100533167	0.81731E+02,	0.37709E-01,	1165	0.28842E+03,	0.31958E+00,	1257		0.72559D-01	
6	830202.100533167	0.89430E+00,	0.27345E+00,	1330	0.35978E+03,	0.28735E+00,	1690	0.17603D+00	0.18501D+00	361
	830202.114424175	0.63599E+02,	0.51082E-01,	1393	0.28830E+03,	0.33040E+00,	1618		0.57013D-01	
7	830202.114424175	0.77258E+00,	0.29010E+00,	1691	0.35966E+03,	0.28875E+00,	2051	0.19764D+00	0.20394D+00	361
	830202.132315183	0.74434E+02,	0.10308E+00,	1765	0.28818E+03,	0.33096E+00,	1979		0.50371D-01	
8	830202.132315183	0.64957E+00,	0.27827E+00,	2052	0.35953E+03,	0.29206E+00,	2413	0.20906D+00	0.21404D+00	362
	830202.150206191	0.73312E+02,	0.11678E+00,	2125	0.36323E+01,	0.31273E+00,	2055		0.45955D-01	
9	830202.150206191	0.52232E+00,	0.29310E+00,	2414	0.35940E+03,	0.30403E+00,	2774	0.20181D+00	0.21066D+00	361
	830202.164057199	0.68202E+02,	0.69645E-01,	2481	0.10108E+03,	0.33435E+00,	2514		0.60522D-01	
10	830202.164057199	0.39104E+00,	0.30102E+00,	2775	0.35927E+03,	0.28541E+00,	3132	0.18973D+00	0.20430D+00	358
	830202.181948207	0.12485E+03,	0.16235E-01,	2899	0.96960E+02,	0.38542E+00,	2871		0.75877D-01	
11	830202.181948207	0.26029E+00,	0.29223E+00,	3133	0.35815E+03,	0.29483E+00,	3483	0.19101D+00	0.20641D+00	351
	830202.195839215	0.11775E+03,	-0.13258E-01,	3248	0.91850E+02,	0.37182E+00,	3222		0.78359D-01	
12	830202.195839215	0.13326E+00,	0.28975E+00,	3484	0.35902E+03,	0.27442E+00,	3787	0.19071D+00	0.20526D+00	304
	830202.213730223	0.12261E+03,	0.11177E-01,	3607	0.81762E+02,	0.38677E+00,	3566		0.76020D-01	
13	830202.213730223	0.11103E-01,	0.27525E+00,	3788	0.35989E+03,	0.29301E+00,	4149	0.20970D+00	0.22082D+00	362
	830202.231637615	0.13046E+03,	0.24953E-01,	3919	0.77654E+02,	0.37518E+00,	3866		0.69277D-01	
14	830202.231637615	0.88346E+00,	0.28622E+00,	4150	0.35977E+03,	0.28689E+00,	4511	0.20597D+00	0.21685D+00	362
	830203.005528623	0.13234E+03,	0.20356E-01,	4282	0.69562E+02,	0.35621E+00,	4219		0.68218D-01	
15	830203.005528623	0.76823E+00,	0.28119E+00,	4512	0.35965E+03,	0.28240E+00,	4872	0.20344D+00	0.21078D+00	361
	830203.023419631	0.14615E+03,	0.99270E-01,	4657	0.28818E+03,	0.37901E+00,	4800		0.55225D-01	
16	830203.023419631	0.64456E+00,	0.28715E+00,	4873	0.35952E+03,	0.25211E+00,	5233	0.19053D+00	0.19667D+00	361
	830203.041310639	0.71313E+02,	0.73691E-01,	4944	0.28804E+03,	0.31710E+00,	5162		0.48854D-01	
17	830203.041310639	0.51504E+00,	0.25552E+00,	5234	0.35243E+03,	0.27011E+00,	5584	0.17861D+00	0.18957D+00	351
	830203.054950590	0.70191E+02,	0.72787E-02,	5302	0.28791E+03,	0.34676E+00,	5519		0.63609D-01	

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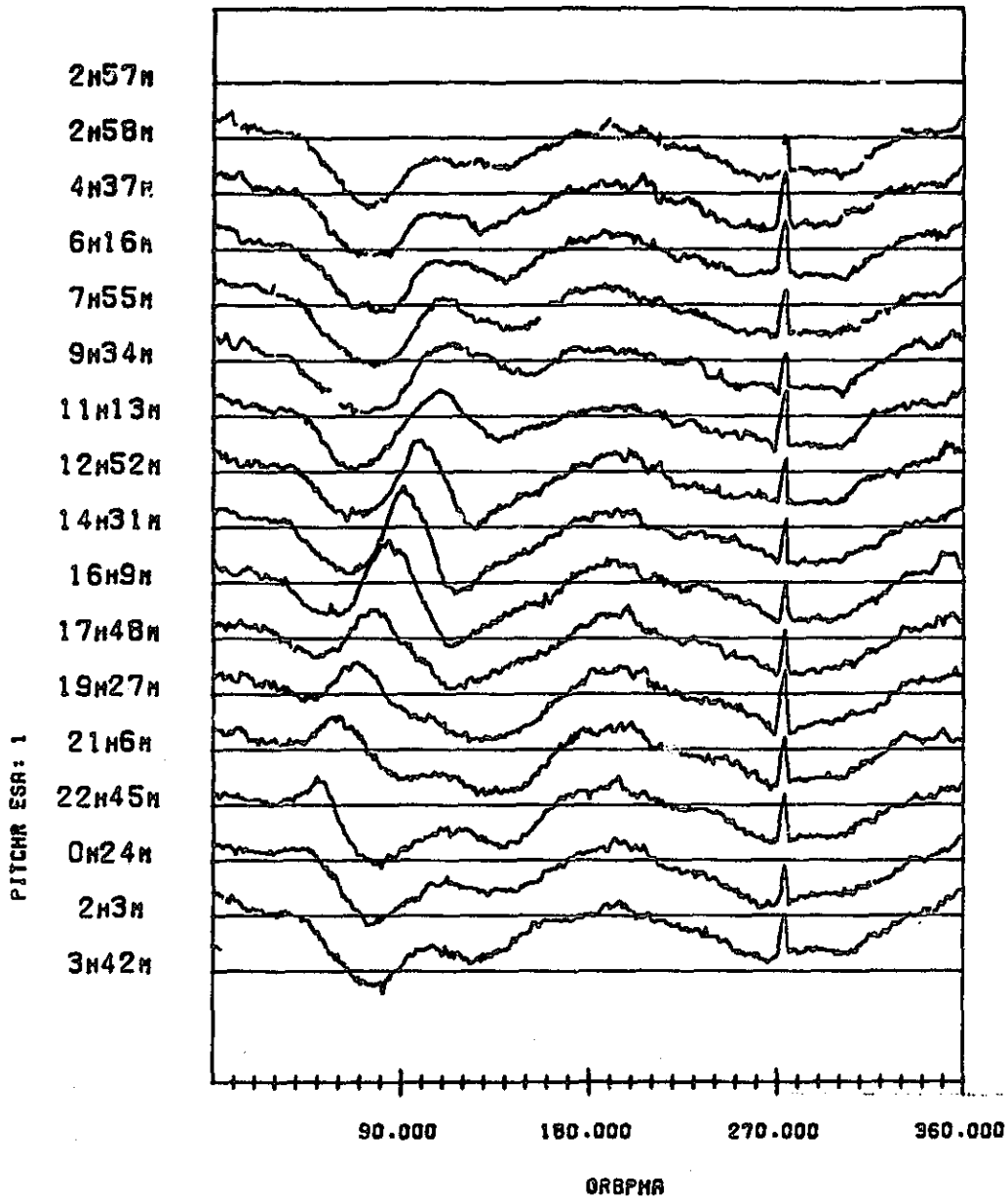

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830303.025744694
END TIME:830304.034257270

FIGURE A-13. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-13. Data Statistics by Orbit

ORBIT	TIME START/END	(R,Y,REC) AT MIN X/Y			(R,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830303.025744694	0.35661E+03,	0.24881E+00,	1	0.35959E+03,	0.24620E+00,	4	0.24411D+00	0.24414D+00	4
	830303.025850230	0.35860E+03,	0.23735E+00,	3	0.35661E+03,	0.24881E+00,	1		0.49032D-02	
2	830303.025850230	0.58539E+00,	0.25130E+00,	5	0.35947E+03,	0.25188E+00,	348	0.15641D+00	0.16666D+00	344
	830303.043741238	0.73262E+02,	0.88742E-02,	74	0.85416E+01,	0.27365E+00,	13		0.57635D-01	
3	830303.043741238	0.46040E+00,	0.24649E+00,	349	0.35934E+03,	0.26844E+00,	704	0.16216D+00	0.17192D+00	356
	830303.061632246	0.85097E+02,	0.31689E-01,	432	0.35934E+03,	0.26844E-00,	704		0.57163D-01	
4	830303.061632246	0.33694E+00,	0.26521E+00,	705	0.35922E+03,	0.26852E+00,	1066	0.17124D+00	0.18045D+00	362
	830303.075523254	0.78000E+02,	0.30439E-01,	783	0.27386E+03,	0.27641E+00,	980		0.56984D-01	
5	830303.075523254	0.21692E+00,	0.27867E+00,	1067	0.35910E+03,	0.27006E+00,	1415	0.17617D+00	0.18536D+00	349
	830303.093430646	0.76884E+02,	0.34033E-01,	1139	0.21692E+00,	0.27867E+00,	1067		0.57730D-01	
6	830303.093430646	0.10939E+01,	0.26255E+00,	1416	0.35998E+03,	0.25729E+00,	1770	0.18383D+00	0.19142D+00	355
	830303.111321654	0.66802E+02,	0.55071E-01,	1477	0.35501E+03,	0.27985E-00,	1765		0.53471D-01	
7	830303.111321654	0.97844E+00,	0.25905E+00,	1771	0.35987E+03,	0.27542E+00,	2132	0.18250D+00	0.18952D+00	362
	830303.125212662	0.67682E+02,	0.52916E-01,	1838	0.35987E+03,	0.27542E-00,	2132		0.51162D-01	
8	830303.125212662	0.86256E+00,	0.25984E+00,	2133	0.35975E+03,	0.25691E+00,	2494	0.17286D+00	0.18199D+00	362
	830303.143103670	0.12635E+03,	0.43409E-01,	2259	0.99449E+02,	0.28720E+00,	2232		0.56973D-01	
9	830303.143103670	0.74333E+00,	0.24187E+00,	2495	0.35962E+03,	0.25552E+00,	2856	0.16783D+00	0.17847D+00	362
	830303.160954678	0.11626E+03,	0.19163E-01,	2611	0.91356E+02,	0.31311E+00,	2586		0.60786D-01	
10	830303.160954678	0.61908E+00,	0.26173E+00,	2857	0.35950E+03,	0.24657E+00,	3218	0.17399D+00	0.18525D+00	362
	830303.174845686	0.11414E+03,	0.27848E-01,	2971	0.83258E+02,	0.31627E+00,	2940		0.63708D-01	
11	830303.174845686	0.49470E+00,	0.23929E+00,	3219	0.35938E+03,	0.24873E+00,	3579	0.18103D+00	0.18928D+00	361
	830303.192736694	0.11402E+03,	0.61873E-01,	3332	0.19861E+03,	0.29023E+00,	3417		0.55362D-01	
12	830303.192736694	0.37253E+00,	0.24655E+00,	3580	0.35926E+03,	0.24730E+00,	3941	0.18471D+00	0.15366D+00	362
	830303.210627702	0.12287E+03,	0.69628E-01,	3703	0.69065E+02,	0.28805E+00,	3649		0.58295D-01	
13	830303.210627702	0.25511E+00,	0.25588E+00,	3942	0.35915E+03,	0.22333E+00,	4302	0.18372D+00	0.19236D+00	361
	830303.224518710	0.12674E+03,	0.75295E-01,	4068	0.59981E+02,	0.29302E+00,	4001		0.57081D-01	
14	830303.224518710	0.14006E+00,	0.22349E+00,	4303	0.35903E+03,	0.25497E+00,	4664	0.16795D+00	0.17809D+00	362
	830304.002409718	0.80790E+02,	0.27684E-01,	4384	0.49904E+02,	0.27973E+00,	4353		0.59323D-01	
15	830304.002409718	0.24927E-01,	0.25156E+00,	4665	0.35992E+03,	0.26735E+00,	5024	0.15796D+00	0.16865D+00	360
	830304.020317110	0.73698E+02,	0.21918E-01,	4739	0.35992E+03,	0.26735E+00,	5024		0.59158D-01	
16	830304.020317110	0.91633E+00,	0.26192E+00,	5025	0.35980E+03,	0.26947E+00,	5382	0.14811D+00	0.16036D+00	358
	830304.034224502	0.81565E+02,	-0.10840E-01,	5104	0.35881E+03,	0.27137E+00,	5385		0.61575D-01	
17	830304.034224502	0.17898E+01,	0.26959E+00,	5383	0.37787E+01,	0.25970E+00,	5385	0.26489D+00	0.26492D+00	3
	830304.034257270	0.37787E+01,	0.25970E+00,	5385	0.17898E+01,	0.26959E+00,	5383		0.49610D-02	

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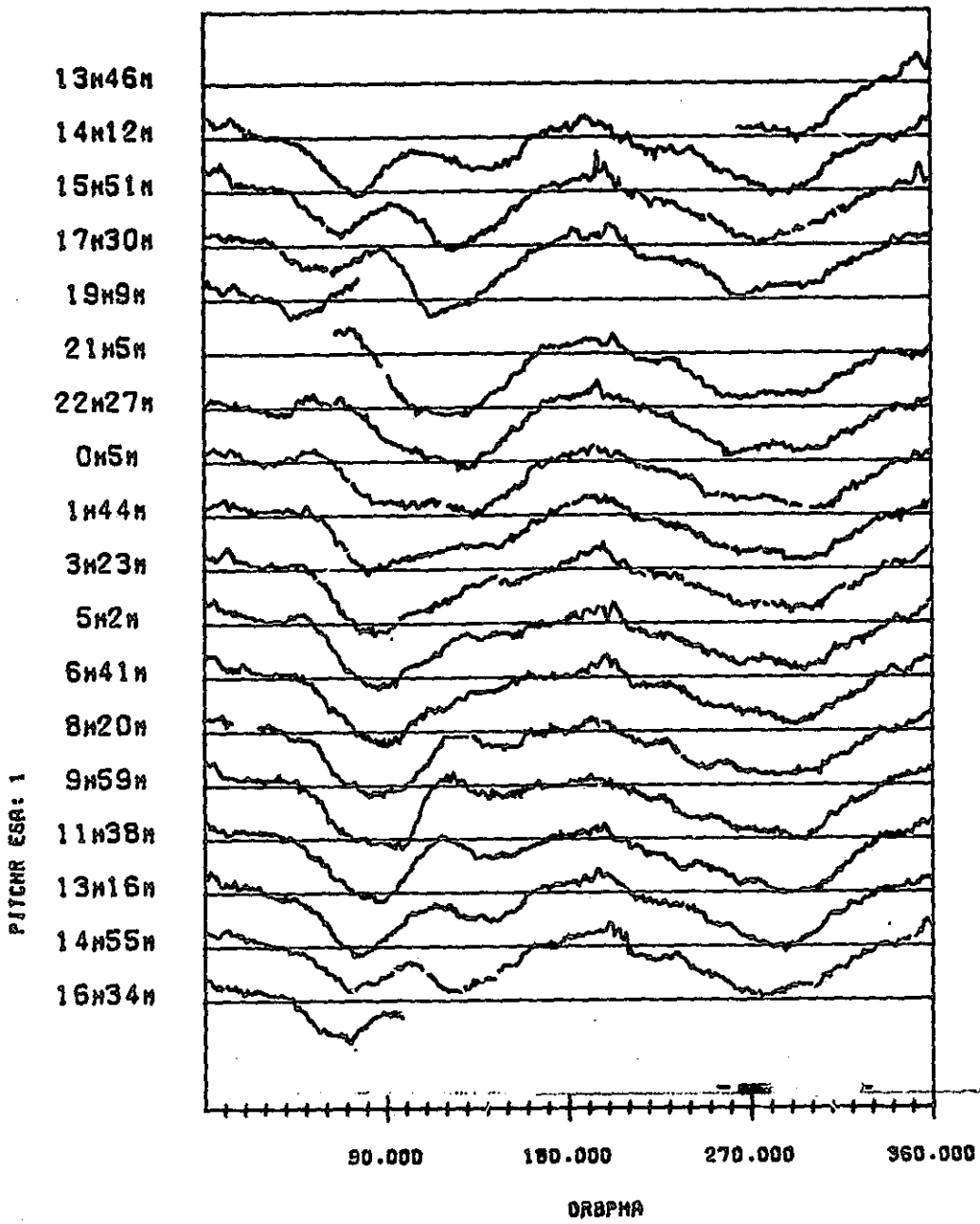

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830314.134603442
END TIME:830315.170127218

FIGURE A-14. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-14. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN X/V			(R,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830314.134603442	0.26427E+03,	0.76241E-01,	1	0.35955E+03,	0.26404E+00,	97	0.13665D+00	0.15513D+00	97
	830314.141232690	0.29302E+03,	0.30702E-01,	30	0.35358E+03,	0.27994E+00,	91		0.73820D-01	
2	830314.141232690	0.54192E+00,	0.25668E+00,	98	0.35941E+03,	0.25347E+00,	459	0.15410D+00	0.16501D+00	362
	830314.155123698	0.28099E+03,	0.33317E-01,	380	0.18871E+03,	0.26069E+00,	287		0.59080D-01	
3	830314.155123698	0.40570E+00,	0.26295E+00,	460	0.35927E+03,	0.2[illegible]E+00,	812	0.15577D+00	0.16739D+00	353
	830314.173014706	0.12389E+03,	0.34395E-01,	584	0.19453E+03,	0.3[illegible]+00,	655		0.61359D-01	
4	830314.173014706	0.26854E+00,	0.22899E+00,	813	0.35914E+03,	0.22646E+00,	1172	0.15032D+00	0.16266D+00	360
	830314.190905714	0.11380E+03,	0.44988E-02,	925	0.20135E+03,	0.25921E+00,	1013		0.62237D-01	
5	830314.190905714	0.13303E+00,	0.24155E+00,	1173	0.76798E+02,	0.26181E+00,	1250	0.20803D+00	0.21014D+00	78
	830314.210541682	0.42927E+02,	0.14867E+00,	1216	0.76798E+02,	0.26181E+00,	1250		0.29877D-01	
6	830314.210541682	0.64711E+02,	0.25706E+00,	1251	0.35987E+03,	0.20204E+00,	1544	0.14558D+00	0.16043D+00	294
	830314.222704114	0.12848E+03,	0.26228E-01,	1313	0.71686E+02,	0.27338E+00,	1258		0.67519D-01	
7	830314.222704114	0.86924E+00,	0.21033E+00,	1545	0.35976E+03,	0.22366E+00,	1905	0.15362D+00	0.16555D+00	361
	830315.000555122	0.12636E+03,	0.22[illegible]90E-01,	1670	0.19501E+03,	0.27481E+00,	1739		0.61794D-01	
8	830315.000555122	0.74404E+00,	0.22[illegible]15E+00,	1906	0.35962E+03,	0.21582E+00,	2257	0.15073D+00	0.16161D+00	352
	830315.014446130	0.13320E+03,	0.43[illegible]13E-01,	2036	0.19190E+03,	0.24488E+00,	2095		0.58376D-01	
9	830315.014446130	0.61526E+00,	0.22[illegible]65E+00,	2258	0.35949E+03,	0.23638E+00,	2617	0.15422D+00	0.16491D+00	360
	830315.032337138	0.81264E+02,	0.34[illegible]65E-01,	2339	0.19376E+03,	0.25621E-00,	2451		0.58467D-01	
10	830315.032337138	0.48243E+00,	0.24[illegible]13E+00,	2618	0.35935E+03,	0.25939E+00,	2969	0.15983D+00	0.17102D+00	352
	830315.050228146	0.84122E+02,	0.18[illegible]12E-01,	2702	0.19760E+03,	0.27602E+00,	2813		0.60929D-01	
11	830315.050228146	0.34457E+00,	0.25651E+00,	2970	0.35922E+03,	0.26140E+00,	3328	0.15593D+00	0.16736D+00	359
	830315.064119154	0.85980E+02,	0.17929E-01,	3056	0.53173E+01,	0.27281E+00,	2975		0.60877D-01	
12	830315.064119154	0.20992E+00,	0.25327E+00,	3329	0.35908E+03,	0.24886E+00,	3690	0.15635D+00	0.16839D+00	362
	830315.082010162	0.90829E+02,	0.64809E-02,	3420	0.12044E+01,	0.26482E+00,	3330		0.62612D-01	
13	830315.082010162	0.79209E-01,	0.23540E+00,	3691	0.35995E+03,	0.25793E+00,	4037	0.14906D+00	0.16078D+00	347
	830315.095917554	0.81730E+02,	0.18480E-01,	3761	0.35995E+03,	0.25793E+00,	4037		0.60352D-01	
14	830315.095917554	0.94436E+00,	0.26761E+00,	4038	0.35982E+03,	0.24789E+00,	4399	0.15385D+00	0.16698D+00	362
	830315.113808562	0.97542E+02,	0.21729E-01,	4135	0.49226E+01,	0.26949E+00,	4042		0.64984D-01	
15	830315.113808562	0.81660E+00,	0.25039E+00,	4400	0.35969E+03,	0.25113E+00,	4761	0.15139D+00	0.16349D+00	362
	830315.131659570	0.84460E+02,	0.23570E-01,	4484	0.35969E+03,	0.25113E+00,	4761		0.61804D-01	
16	830315.131659570	0.68762E+00,	0.25234E+00,	4762	0.35956E+03,	0.23442E+00,	5122	0.15480D+00	0.16651D+00	361
	830315.145550578	0.73368E+02,	0.21310E-01,	4835	0.19482E+03,	0.26885E-00,	4957		0.61437D-01	
17	830315.145550578	0.55461E+00,	0.24177E+00,	5123	0.35942E+03,	0.25461E+00,	5470	0.15766D+00	0.16755D+00	348
	830315.163441586	0.27505E+03,	0.55540E-01,	5390	0.35743E+03,	0.27380E+00,	5468		0.56803D-01	
18	830315.163441586	0.41741E+00,	0.26261E+00,	5471	0.98003E+02,	0.14991E+00,	5568	0.17703D+00	0.18420D+00	92
	830315.170127218	0.72098E+02,	0.81176E-01,	5542	0.41741E+00,	0.26261E+00,	5471		0.51180D-01	

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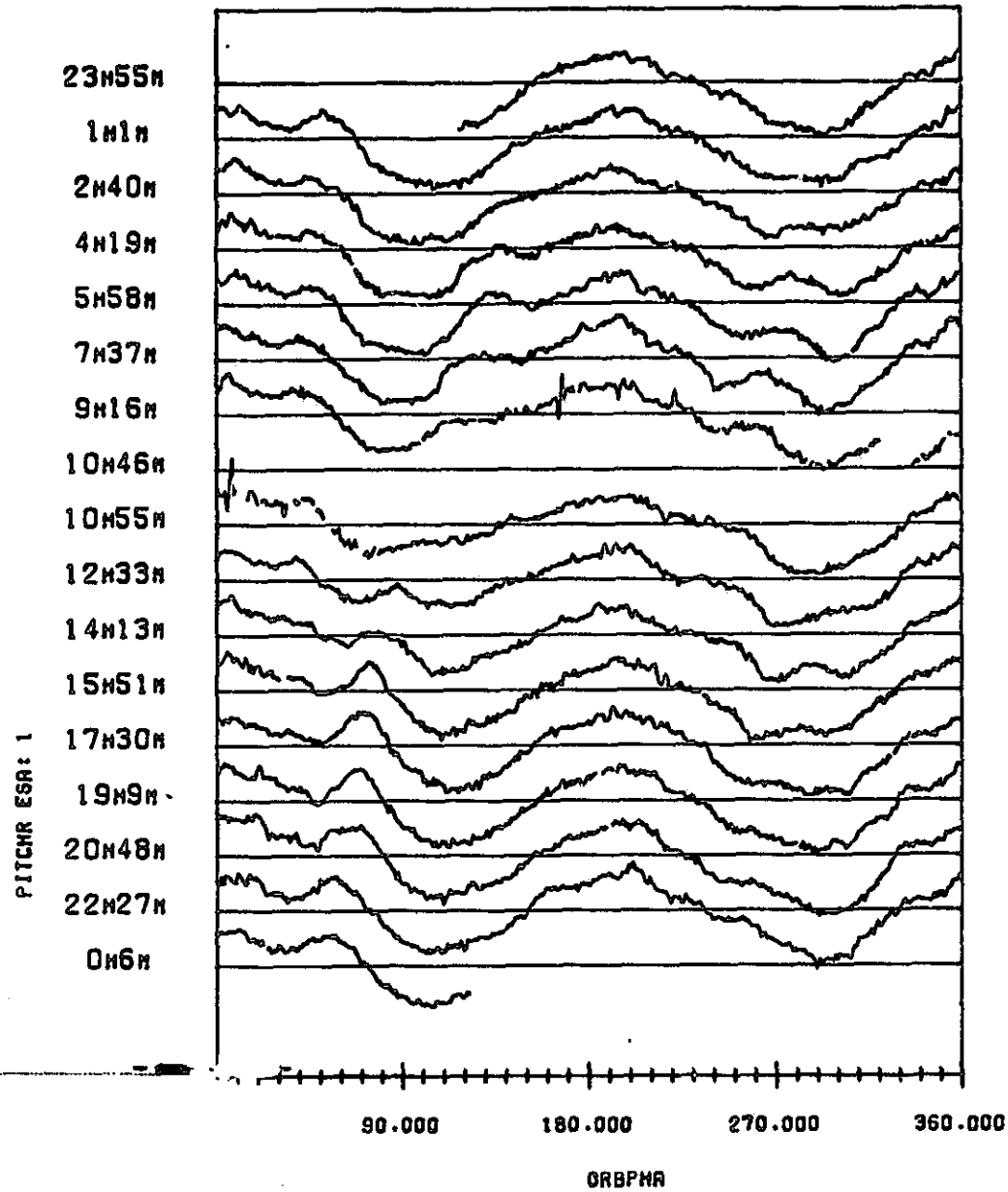

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830329.235506990
END TIME:830331.003946798

FIGURE A-15. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-15. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830329.235506990	0.11764E+03,	0.74144E-01,	1	0.35901E-03,	0.28298E+00,	244	0.17311D+00	0.18645D+00	244
	830330.010144686	0.28950E+03,	0.52374E-01,	174	0.35901E+03,	0.28298E+00,	244		0.69411D-01	
2	830330.010144686	0.15801E-02,	0.28569E+00,	245	0.35987E+03,	0.27818E+00,	607	0.17808D+00	0.19132D+00	363
	830330.024052078	0.10655E+03,	0.60368E-01,	351	0.10943E+02,	0.29201E+00,	256		0.70044D-01	
3	830330.024052078	0.86833E+00,	0.26328E+00,	608	0.35974E+03,	0.25038E+00,	967	0.17295D+00	0.18449D+00	360
	830330.041943086	0.99448E+02,	0.62037E-01,	706	0.88253E+01,	0.30014E+00,	615		0.64320D-01	
4	830330.041943086	0.73464E+00,	0.25269E+00,	968	0.35961E+03,	0.24876E+00,	1325	0.17193D+00	0.18360D+00	358
	830330.055834094	0.30497E+03,	0.66141E-01,	1270	0.67023E+01,	0.30145E+00,	974		0.64499D-01	
5	830330.055834094	0.60100E+00,	0.27050E+00,	1326	0.35948E+03,	0.28190E+00,	1686	0.17872D+00	0.19176D+00	361
	830330.073725102	0.29889E+03,	0.39634E-01,	1626	0.95532E+01,	0.29894E+00,	1335		0.69592D-01	
6	830330.073725102	0.47052E+00,	0.28611E+00,	1687	0.35935E+03,	0.28509E+00,	2048	0.19051D+00	0.20325D+00	362
	830330.091616110	0.29083E+03,	0.43442E-01,	1979	0.19658E+03,	0.31784E+00,	1884		0.70915D-01	
7	830330.091616110	0.34306E+00,	0.28393E+00,	2049	0.34062E+03,	0.18931E+00,	2362	0.18789D+00	0.19982D+00	314
	830330.104639214	0.29269E+03,	0.46888E-01,	2333	0.63110E+01,	0.31742E+00,	2055		0.68101D-01	
8	830330.104639214	0.32941E+03,	0.20100E+00,	2363	0.35922E+03,	0.29264E+00,	2386	0.24389D+00	0.24595D+00	24
	830330.105507118	0.33040E+03,	0.19946E+00,	2364	0.35425E+03,	0.29339E+00,	2382		0.32541D-01	
9	830330.105507118	0.21767E+00,	0.29696E+00,	2387	0.35910E+03,	0.26429E+00,	2734	0.19207D+00	0.20267D+00	348
	830330.123358126	0.29157E+03,	0.59726E-01,	2666	0.71804E+01,	0.38450E+00,	2394		0.64766D-01	
10	830330.123358126	0.92321E-01,	0.25556E+00,	2735	0.35996E+03,	0.28651E+00,	3097	0.19152D+00	0.20069D+00	363
	830330.141305518	0.26963E+03,	0.69012E-01,	3006	0.18825E+03,	0.29699E+00,	2924		0.60039D-01	
11	830330.141305518	0.95849E+00,	0.28886E+00,	3098	0.35983E+03,	0.29890E+00,	3459	0.18834D+00	0.19810D+00	362
	830330.155156526	0.27148E+03,	0.68905E-01,	3370	0.69261E+01,	0.31275E+00,	3104		0.61506D-01	
12	830330.155156526	0.82515E+00,	0.27575E+00,	3460	0.35970E+03,	0.27327E+00,	3816	0.18462D+00	0.19738D+00	357
	830330.173047534	0.25746E+03,	0.53467E-01,	3713	0.48033E+01,	0.31056E+00,	3464		0.69920D-01	
13	830330.173047534	0.69087E+00,	0.27470E+00,	3817	0.35956E+03,	0.26730E+00,	4176	0.18661D+00	0.20038D+00	360
	830330.190938542	0.28410E+03,	0.59101E-01,	4102	0.19182E+03,	0.30921E+00,	4009		0.73102D-01	
14	830330.190938542	0.55823E+00,	0.27985E+00,	4177	0.35944E+03,	0.29633E+00,	4534	0.18608D+00	0.20028D+00	358
	830330.204829550	0.28993E+03,	0.49158E-01,	4464	0.35419E+01,	0.30456E+00,	4180		0.74163D-01	
15	830330.204829550	0.43032E+00,	0.30633E+00,	4535	0.35932E+03,	0.27227E+00,	4895	0.18638D+00	0.20270D+00	331
	830330.222720558	0.29080E+03,	0.32824E-01,	4826	0.19333E+02,	0.31659E+00,	4554		0.79775D-01	
16	830330.222720558	0.31033E+00,	0.28124E+00,	4896	0.35919E+03,	0.29563E+00,	5256	0.19673D+00	0.21010D+00	361
	830331.000611566	0.28968E+03,	0.37898E-01,	5186	0.20139E+03,	0.33077E+00,	5097		0.73873D-01	
17	830331.000611566	0.18571E+00,	0.28918E+00,	5257	0.12267E+03,	0.12184E+00,	5379	0.20574D+00	0.21893D+00	123
	830331.003946798	0.10574E+03,	0.86933E-01,	5362	0.11127E+02,	0.30270E+00,	5268		0.75149D-01	

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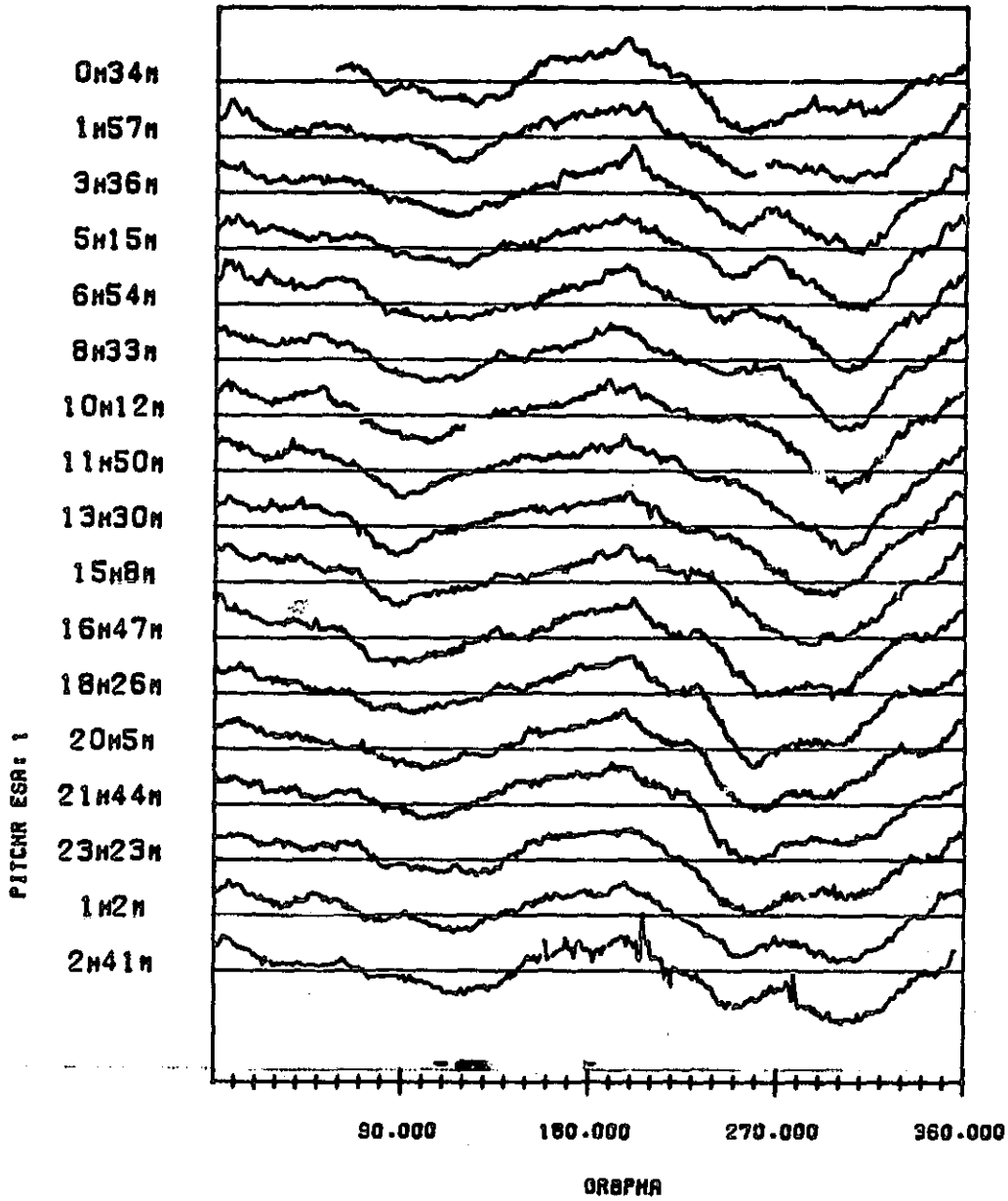

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830414.003417145
END TIME:830415.041837625

FIGURE A-16. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-16. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830414.003417145	0.56736E+02,	0.22940E+00,	1	0.35988E+03,	0.24147E+00,	306	0.18358D+00	0.19361D+00	306
	830414.015750649	0.25566E+03,	0.58476E-01,	201	0.19809E+03,	0.31833E+00,	143		0.61609D-01	
2	830414.015750649	0.87437E+00,	0.25008E+00,	307	0.35975E+03,	0.28623E+00,	662	0.19270D+00	0.20111D+00	356
	830414.033641657	0.30413E+03,	0.76873E-01,	606	0.68416E+01,	0.30300E+00,	313		0.57629D-01	
3	830414.033641657	0.74581E+00,	0.27843E+00,	663	0.35962E+03,	0.25962E+00,	1024	0.18882D+00	0.19932D+00	362
	830414.051532665	0.30995E+03,	0.35110E-01,	974	0.19982E+03,	0.32993E+00,	863		0.63924D-01	
4	830414.051532665	0.61327E+00,	0.25189E+00,	1025	0.35949E+03,	0.26364E+00,	1386	0.19528D+00	0.20492D+00	362
	830414.065423673	0.31180E+03,	0.35175E-01,	1338	0.19571E+03,	0.29324E+00,	1221		0.62205D-01	
5	830414.065423673	0.48404E+00,	0.26550E+00,	1387	0.35936E+03,	0.28601E+00,	1748	0.19861D+00	0.20963D+00	362
	830414.083314681	0.30374E+03,	0.20471E-01,	1692	0.44624E+01,	0.32231E+00,	1391		0.67150D-01	
6	830414.083314681	0.35859E+00,	0.27930E+00,	1749	0.35924E+03,	0.26707E+00,	2110	0.19385D+00	0.20482D+00	362
	830414.101205689	0.30560E+03,	0.10165E-01,	2056	0.18950E+03,	0.29816E+00,	1939		0.66218D-01	
7	830414.101205689	0.23455E+00,	0.26710E+00,	2111	0.35912E+03,	0.26281E+00,	2460	0.19061D+00	0.20305D+00	350
	830414.115056697	0.30051E+03,	-0.55597E-02,	2401	0.18937E+03,	0.29829E+00,	2289		0.70080D-01	
8	830414.115056697	0.11182E+00,	0.27651E+00,	2461	0.35999E+03,	0.25671E+00,	2823	0.18620D+00	0.20125D+00	363
	830414.133004089	0.30139E+03,	-0.21704E-01,	2764	0.19621E+03,	0.30030E+00,	2658		0.76464D-01	
9	830414.133004089	0.98198E+00,	0.25634E+00,	2824	0.35986E+03,	0.28287E+00,	3185	0.19199D+00	0.20565D+00	362
	830414.150855097	0.29630E+03,	0.14113E-01,	3121	0.35588E+03,	0.29903E+00,	3181		0.73798D-01	
10	830414.150855097	0.85310E+00,	0.29191E+00,	3186	0.35973E+03,	0.29777E+00,	3547	0.19465D+00	0.20769D+00	362
	830414.164746105	0.28922E+03,	0.30554E-01,	3476	0.35774E+03,	0.30784E+00,	3545		0.72522D-01	
11	830414.164746105	0.72063E+00,	0.30220E+00,	3548	0.35959E+03,	0.27453E+00,	3910	0.18908D+00	0.20165D+00	363
	830414.182637113	0.29603E+03,	0.35645E-01,	3846	0.17151E+01,	0.31770E+00,	3549		0.70174D-01	
12	830414.182637113	0.58902E+00,	0.27096E+00,	3911	0.35947E+03,	0.26095E+00,	4271	0.18553D+00	0.19920D+00	361
	830414.200528121	0.26020E+03,	-0.44412E-03,	4172	0.20065E+03,	0.30287E+00,	4112		0.72617D-01	
13	830414.200528121	0.46132E+00,	0.26017E+00,	4272	0.35934E+03,	0.27479E+00,	4633	0.19031D+00	0.20205D+00	362
	830414.214419129	0.26008E+03,	0.33704E-01,	4533	0.19656E+03,	0.30817E+00,	4469		0.67986D-01	
14	830414.214419129	0.33837E+00,	0.27383E+00,	4634	0.35923E+03,	0.26169E+00,	4994	0.20035D+00	0.21173D+00	361
	830414.232310137	0.25996E+03,	0.40029E-01,	4895	0.19147E+03,	0.31554E+00,	4826		0.68577D-01	
15	830414.232310137	0.21960E+00,	0.26461E+00,	4995	0.35910E+03,	0.26274E+00,	5355	0.19449D+00	0.20488D+00	361
	830415.010201145	0.25885E+03,	0.53846E-01,	5254	0.20029E+03,	0.28873E+00,	5195		0.64508D-01	
16	830415.010201145	0.96876E-01,	0.27333E+00,	5356	0.35997E+03,	0.26835E+00,	5718	0.19507D+00	0.20400D+00	363
	830415.024108537	0.29939E+03,	0.72639E-01,	5657	0.70584E+01,	0.29542E+00,	5363		0.59759D-01	
17	830415.024108537	0.96617E+00,	0.26903E+00,	5719	0.35586E+03,	0.25401E+00,	6071	0.18556D+00	0.19516D+00	353
	830415.041837625	0.30124E+03,	0.56231E-01,	6016	0.20600E+03,	0.35883E+00,	5921		0.60544D-01	

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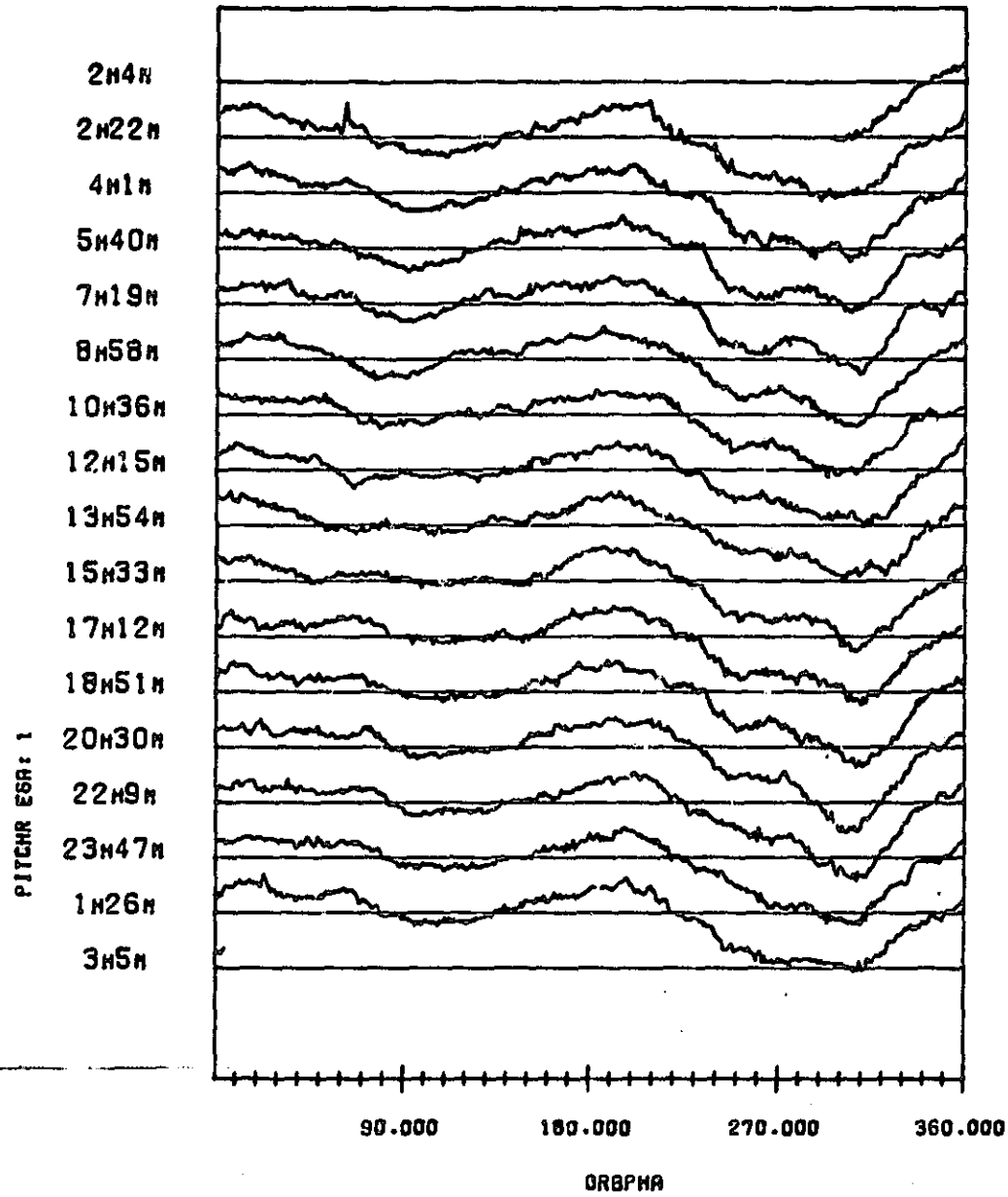

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830426.020419829
END TIME:830427.030700981

FIGURE A-17. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-17. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830426.020419829	0.29430E+03,	0.47521E-01,	1	0.35984E+03,	0.25255E+00,	67	0.14033D+00	0.15721D+00	67
	830426.022237557	0.29727E+03,	0.40341E-01,	4	0.35984E+03,	0.25255E+00,	67		0.71393D-01	
2	830426.022237557	0.83217E+00,	0.26017E+00,	58	0.35971E+03,	0.26929E+00,	426	0.18661D+00	0.19966D+00	359
	830426.040128565	0.29020E+03,	0.27059E-01,	356	0.20785E+03,	0.29797E+00,	276		0.71081D-01	
3	830426.040128565	0.70482E+00,	0.26938E+00,	427	0.35958E+03,	0.24752E+00,	788	0.17936D+00	0.19262D+00	362
	830426.054019573	0.30398E+03,	0.15108E-01,	732	0.15624E+02,	0.28306E+00,	442		0.70351D-01	
4	830426.054019573	0.57591E+00,	0.23949E+00,	789	0.35946E+03,	0.22598E+00,	1149	0.17983D+00	0.19143D+00	361
	830426.071910581	0.30482E+03,	0.27519E-01,	1094	0.19468E+03,	0.28962E+00,	984		0.65722D-01	
5	830426.071910581	0.45036E+00,	0.23809E+00,	1150	0.35933E+03,	0.23098E+00,	1511	0.18328D+00	0.19589D+00	362
	830426.085801589	0.31066E+03,	0.10881E-01,	1462	0.19058E+03,	0.27486E+00,	1341		0.69259D-01	
6	830426.085801589	0.32813E+00,	0.23[illegible]94E+00,	1512	0.35921E+03,	0.25449E+00,	1872	0.18592D+00	0.19817D+00	361
	830426.103652597	0.30657E+03,	0.18023E-01,	1820	0.18648E+03,	0.29205E+00,	1699		0.68674D-01	
7	830426.103652597	0.20760E+00,	0.2[illegible]152E+00,	1873	0.35909E+03,	0.21901E+00,	2234	0.18691D+00	0.19701D+00	362
	830426.121543605	0.29355E+03,	0.2[illegible]180E-01,	2168	0.18238E+03,	0.26883E+00,	2056		0.62373D-01	
8	830426.121543605	0.87651E-01,	0.23363E+00,	2235	0.35997E+03,	0.27290E+00,	2597	0.18608D+00	0.19558D+00	363
	830426.135450997	0.31129E+03,	0.46773E-01,	2548	0.35897E+03,	0.28541E+00,	2596		0.60315D-01	
9	830426.135450997	0.95956E+00,	0.27751E+00,	2598	0.35984E+03,	0.24590E+00,	2959	0.19227D+00	0.20123D+00	362
	830426.153342005	0.30025E+03,	0.54323E-01,	2899	0.69262E+01,	0.29315E+00,	2604		0.59484D-01	
10	830426.153342005	0.83226E+00,	0.26608E+00,	2960	0.35971E+03,	0.22926E+00,	3321	0.18551D+00	0.19753D+00	362
	830426.171233013	0.30706E+03,	0.11218E-01,	3268	0.18698E+03,	0.29474E+00,	3147		0.67938D-01	
11	830426.171233013	0.70300E+00,	0.23251E+00,	3322	0.35859E+03,	0.22690E+00,	3682	0.18586D+00	0.19785D+00	361
	830426.185124021	0.30991E+03,	0.15659E-01,	3633	0.19182E+03,	0.28328E+00,	3514		0.67938D-01	
12	830426.185124021	0.57497E+00,	0.24148E+00,	3683	0.35946E+03,	0.23506E+00,	4043	0.18643D+00	0.20033D+00	361
	830426.203015029	0.30781E+03,	-0.35119E-02,	3991	0.18872E+03,	0.28672E+00,	3871		0.73432D-01	
13	830426.203015029	0.45158E+00,	0.24500E+00,	4044	0.35934E+03,	0.23753E+00,	4404	0.18597D+00	0.20141D+00	361
	830426.220906037	0.30273E+03,	-0.32775E-01,	4348	0.19257E+03,	0.28184E+00,	4237		0.77459D-01	
14	830426.220906037	0.33305E+00,	0.23751E+00,	4405	0.35922E+03,	0.24759E+00,	4765	0.18240D+00	0.19561D+00	361
	830426.234757045	0.30757E+03,	-0.13102E-01,	4714	0.20140E+03,	0.28369E+00,	4607		0.70758D-01	
15	830426.234757045	0.21331E+00,	0.24911E+00,	4766	0.35910E+03,	0.24639E+00,	5127	0.18233D+00	0.19494D+00	362
	830427.012648053	0.30944E+03,	0.16671E-01,	5077	0.19731E+03,	0.28286E+00,	4964		0.69063D-01	
16	830427.012648053	0.93092E-01,	0.24979E+00,	5128	0.35997E+03,	0.23733E+00,	5488	0.18769D+00	0.20072D+00	361
	830427.030555445	0.30633E+03,	0.40909E-01,	5434	0.23966E+02,	0.30698E+00,	5152		0.71220D-01	
17	830427.030555445	0.96401E+00,	0.24454E+00,	5489	0.49416E+01,	0.25387E+00,	5493	0.24614D+00	0.24622D+00	5
	830427.030700981	0.29527E+01,	0.23639E+00,	5491	0.49416E+01,	0.25387E+00,	5493		0.68625D-02	

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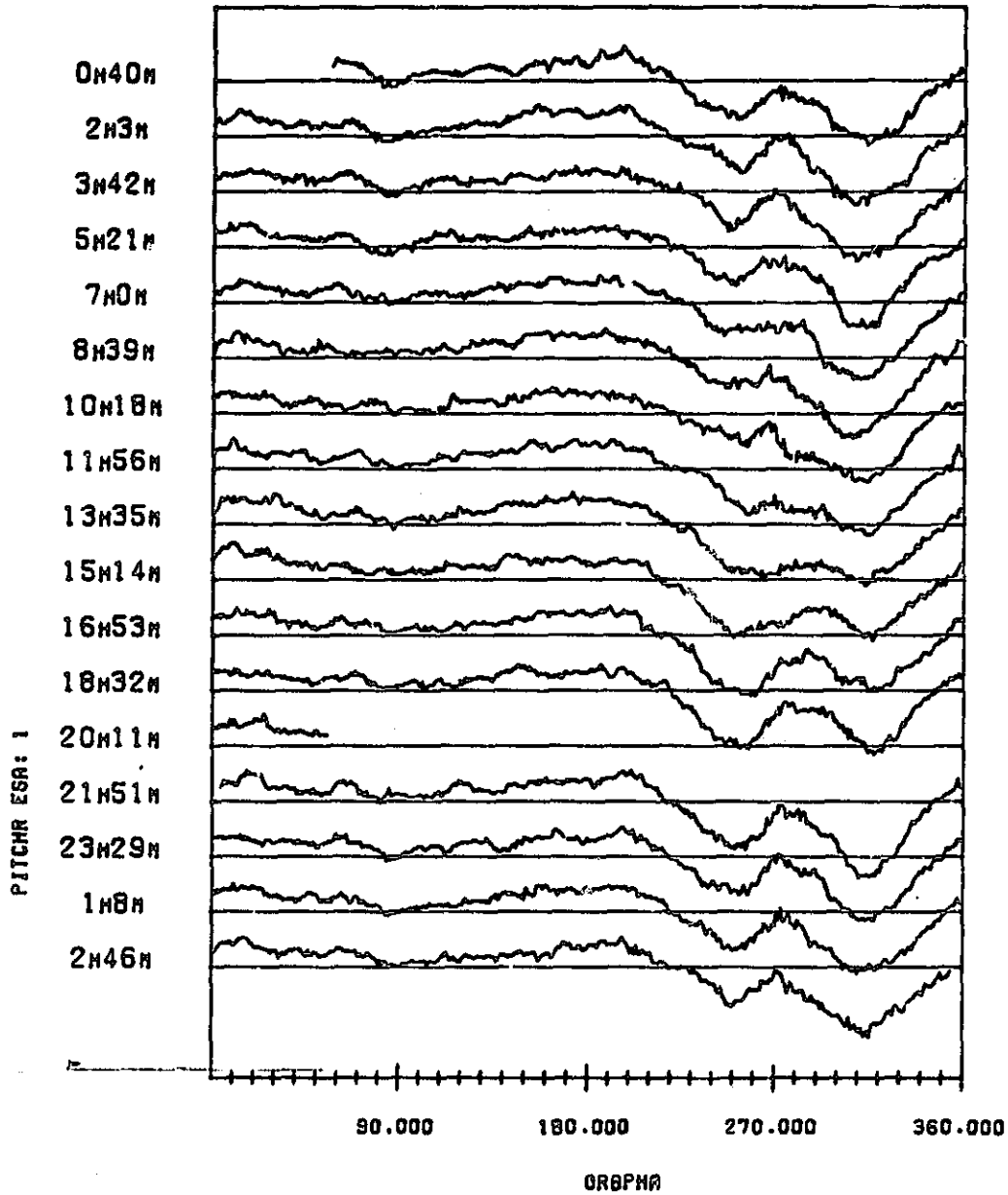

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830523.004000365
END TIME:830524.042404476

FIGURE A-18. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-18. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830523.004000365	0.56024E+02,	0.23649E+00,	1	0.35919E+03,	0.22263E-00,	306	0.18462D+00	0.19622D+00	306
	830523.020333869	0.31350E+03,	0.22198E-01,	260	0.19642E+03,	0.29520E-00,	142		0.66578D-01	
2	830523.020333869	0.18354E+00,	0.22819E+00,	307	0.35907E+03,	0.22602E+00,	667	0.19432D+00	0.20589D+00	361
	830523.034224877	0.30842E+03,	0.12016E-01,	616	0.15551E+03,	0.28713E+00,	462		0.68155D-01	
3	830523.034224877	0.63375E-01,	0.23871E+00,	668	0.35994E+03,	0.23087E+00,	1029	0.19239D+00	0.20327D+00	362
	830523.052132269	0.30830E+03,	0.11243E-01,	977	0.17331E+03,	0.26874E-00,	841		0.65710D-01	
4	830523.052132269	0.93404E+00,	0.24428E+00,	1030	0.35982E+03,	0.22186E+00,	1390	0.18460D+00	0.18713D+00	361
	830523.070023277	0.31711E+03,	-0.20002E-01,	1347	0.16846E+02,	0.26601E+00,	1046		0.69258D-01	
5	830523.070023277	0.81416E-00,	0.22526E+00,	1391	0.35970E+03,	0.22816E-00,	1748	0.18709D+00	0.20126D+00	358
	830523.083914285	0.30707E+03,	-0.88824E-02,	1695	0.18500E+03,	0.27235E+00,	1576		0.74274D-01	
6	830523.083914285	0.69796E+00,	0.21761E+00,	1749	0.35959E+03,	0.24617E+00,	2110	0.18991D+00	0.20397D+00	362
	830523.101805293	0.30695E+03,	-0.15857E-01,	2057	0.18787E+03,	0.28081E+00,	1937		0.74520D-01	
7	830523.101805293	0.58298E+00,	0.23978E+00,	2111	0.35947E+03,	0.22846E+00,	2471	0.19154D+00	0.20324D+00	361
	830523.115656301	0.31379E+03,	0.15733E-01,	2425	0.16288E+03,	0.27286E+00,	2274		0.68076D-01	
8	830523.115656301	0.46914E+00,	0.23552E+00,	2472	0.35936E+03,	0.23476E+00,	2832	0.19393D+00	0.20712D+00	361
	830523.133547309	0.31467E+03,	0.20495E-01,	2787	0.94184E+01,	0.28256E+00,	2481		0.72851D-01	
9	830523.133547309	0.35346E+00,	0.23045E+00,	2833	0.35924E+03,	0.23730E+00,	3194	0.19052D+00	0.20443D+00	362
	830523.151438317	0.31355E+03,	0.34724E-01,	3148	0.17260E+03,	0.28898E+00,	3006		0.74215D-01	
10	830523.151438317	0.23325E+00,	0.25470E+00,	3195	0.35912E+03,	0.24743E+00,	3555	0.19255D+00	0.20571D+00	361
	830523.165329325	0.31641E+03,	0.35102E-01,	3512	0.10176E+02,	0.30239E+00,	3205		0.72500D-01	
11	830523.165329325	0.10984E+00,	0.24736E+00,	3556	0.35999E+03,	0.24048E+00,	3918	0.18993D+00	0.20264D+00	363
	830523.183236717	0.25876E+03,	0.35563E-01,	3816	0.19025E+03,	0.27934E+00,	3747		0.70717D-01	
12	830523.183236717	0.98137E+00,	0.25724E+00,	3919	0.35987E+03,	0.23260E+00,	4280	0.19130D+00	0.20268D+00	362
	830523.201127725	0.31716E+03,	0.28111E-01,	4237	0.18616E+03,	0.27295E-00,	4105		0.67058D-01	
13	830523.201127725	0.86293E+00,	0.24820E+00,	4281	0.55595E+02,	0.23075E+00,	4336	0.24912D+00	0.24954D+00	56
	830523.215124269	0.54599E+02,	0.22714E+00,	4335	0.24734E+02,	0.28834E+00,	4305		0.14596D-01	
14	830523.215124269	0.47262E+01,	0.24118E+00,	4337	0.35965E+03,	0.24114E+00,	4693	0.19276D+00	0.20601D+00	357
	830523.232909741	0.30999E+03,	-0.86357E-02,	4643	0.20085E+03,	0.28569E+00,	4534		0.72800D-01	
15	830523.232909741	0.64148E+00,	0.25305E+00,	4694	0.35953E+03,	0.24459E+00,	5054	0.19629D+00	0.20651D+00	361
	830524.010800749	0.31782E+03,	0.24575E-01,	5012	0.19676E+03,	0.28316E+00,	4890		0.64259D-01	
16	830524.010800749	0.52793E+00,	0.25667E+00,	5055	0.35942E+03,	0.22569E+00,	5416	0.19645D+00	0.20715D+00	362
	830524.024651757	0.30976E+03,	0.31327E-01,	5366	0.10471E+02,	0.27796E+00,	5065		0.65797D-01	
17	830524.024651757	0.41204E+00,	0.24265E+00,	5417	0.35433E+03,	0.19166E+00,	5772	0.19337D+00	0.20451D+00	356
	830524.042404476	0.31559E+03,	0.88002E-02,	5733	0.15328E+02,	0.28163E+00,	5432		0.66652D-01	

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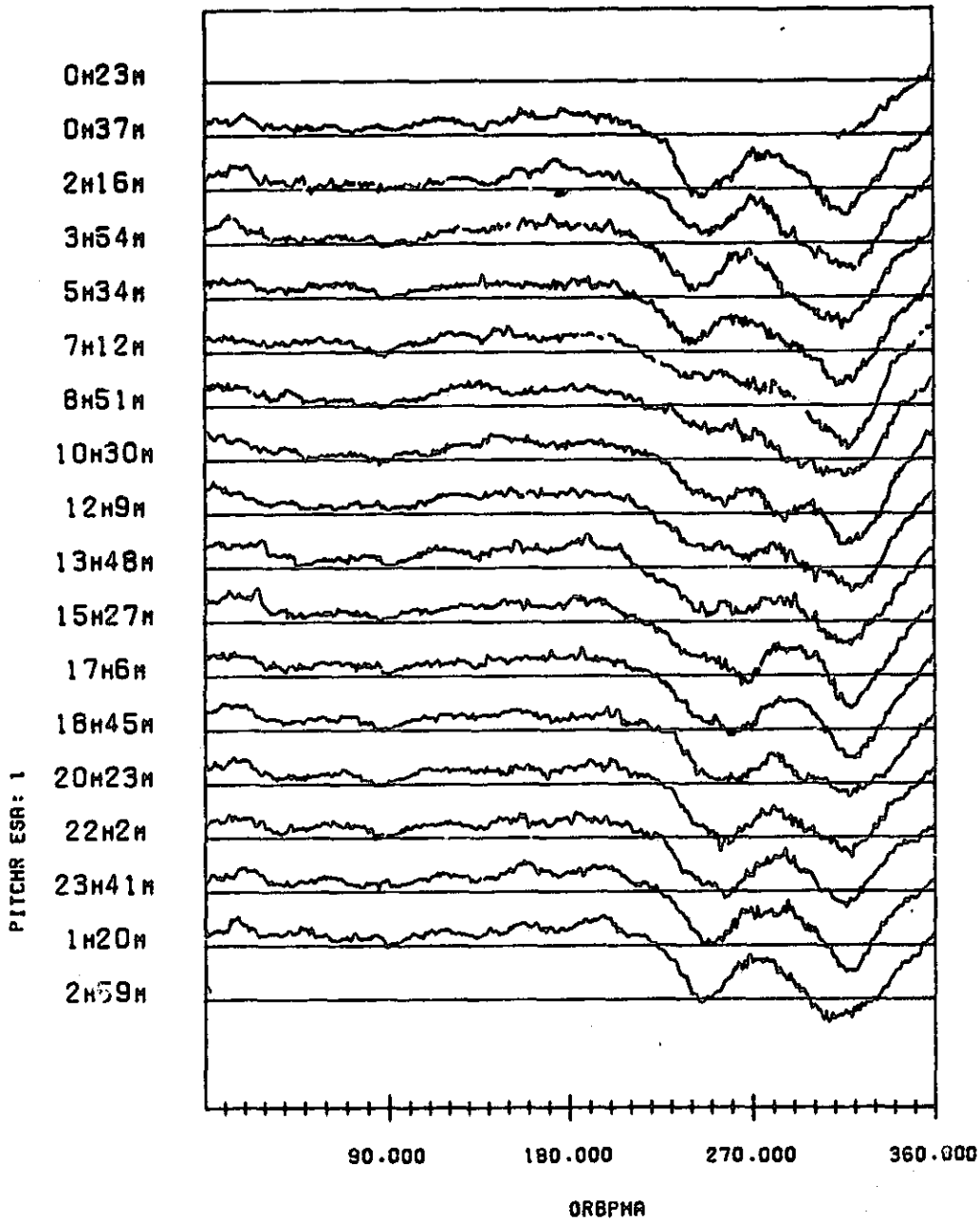

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830606.002351736
END TIME:830607.025956216

FIGURE A-19. Sensor One Pitch Residuals for Consecutive Orbits

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TABLE A-19. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830606.002351736	0.31167E+03.	0.56346E-01.	1	0.35934E+03.	0.23937E+00.	49	0.12527D+00	0.13786D+00	49
	830606.003714552	0.31266E+03.	0.38449E-01.	2	0.35934E+03.	0.23937E+00.	49		0.58160D-01	
2	830606.003714552	0.33127E+00.	0.23023E+00.	50	0.35921E+03.	0.21816E+00.	411	0.18220D+00	0.19839D+00	362
	830606.021605560	0.31690E+03.	-0.22149E-01.	368	0.17657E+03.	0.27664E+00.	227		0.78618D-01	
3	830606.021605560	0.20545E+00.	0.22839E+00.	412	0.35908E+03.	0.23193E+00.	769	0.17942D+00	0.19537D+00	358
	830606.035456568	0.32034E+03.	-0.25874E-01.	731	0.17346E+03.	0.28744E+00.	583		0.77433D-01	
4	830606.035456568	0.74377E-01.	0.24029E+00.	770	0.35994E+03.	0.24229E+00.	1124	0.17883D+00	0.19583D+00	355
	830606.053403960	0.31425E+03.	-0.37759E-01.	1078	0.17134E+03.	0.28300E+00.	936		0.79916D-01	
5	830606.053403960	0.93524E+00.	0.24284E+00.	1125	0.35981E+03.	0.24832E+00.	1486	0.17732D+00	0.19473D+00	362
	830606.071254968	0.31115E+03.	-0.43828E-01.	1437	0.13737E+03.	0.26575E+00.	1262		0.80593D-01	
6	830606.071254968	0.80523E+00.	0.23904E+00.	1487	0.35968E+03.	0.26480E+00.	1837	0.18152D+00	0.19977D+00	351
	830606.085145976	0.31697E+03.	-0.71183E-01.	1797	0.15018E+03.	0.27244E+00.	1637		0.83517D-01	
7	830606.085145976	0.67887E+00.	0.24681E+00.	1838	0.35956E+03.	0.26758E+00.	2197	0.18755D+00	0.20205D+00	360
	830606.103036984	0.31689E+03.	0.32322E-02.	2155	0.35857E+03.	0.27456E+00.	2196		0.75252D-01	
8	830606.103036984	0.55405E+00.	0.27306E+00.	2198	0.35944E+03.	0.27602E+00.	2559	0.18122D+00	0.19931D+00	362
	830606.120927992	0.31474E+03.	-0.36073E-01.	2514	0.15483E+01.	0.28126E+00.	2199		0.83071D-01	
9	830606.120927992	0.43003E+00.	0.26869E+00.	2560	0.35931E+03.	0.25732E+00.	2920	0.18647D+00	0.20333D+00	361
	830606.134819000	0.31859E+03.	-0.15199E-01.	2879	0.44072E+01.	0.29349E+00.	2564		0.81169D-01	
10	830606.134819000	0.30366E+00.	0.25304E+00.	2921	0.35918E+03.	0.24978E+00.	3281	0.18598D+00	0.20349D+00	361
	830606.152710008	0.31846E+03.	-0.17165E-01.	3240	0.18848E+03.	0.29342E+00.	3110		0.82703D-01	
11	830606.152710008	0.17238E+00.	0.25257E+00.	3282	0.35904E+03.	0.23927E+00.	3642	0.18403D+00	0.20157D+00	361
	830606.170601016	0.31832E+03.	-0.42274E-01.	3602	0.27029E+02.	0.29544E+00.	3309		0.82334D-01	
12	830606.170601016	0.38814E-01.	0.24497E+00.	3643	0.35991E+03.	0.25218E+00.	4005	0.18346D+00	0.20075D+00	363
	830606.184508408	0.32017E+03.	-0.33515E-01.	3965	0.18622E+03.	0.27887E+00.	3830		0.81621D-01	
13	830606.184508408	0.90063E+00.	0.25345E+00.	4006	0.35978E+03.	0.23362E+00.	4367	0.18375D+00	0.19895D+00	362
	830606.202359416	0.31707E+03.	0.12945E-01.	4324	0.88556E+01.	0.27576E+00.	4014		0.76372D-01	
14	830606.202359416	0.77272E+00.	0.25276E+00.	4368	0.35965E+03.	0.23916E+00.	4729	0.18422D+00	0.19933D+00	362
	830606.220250424	0.31893E+03.	-0.57150E-02.	4688	0.14696E+02.	0.27872E+00.	4382		0.76246D-01	
15	830606.220250424	0.64919E+00.	0.23829E+00.	4730	0.35953E+03.	0.23110E+00.	5090	0.18821D+00	0.20158D+00	361
	830606.234141432	0.31583E+03.	0.49182E-02.	5046	0.18286E+03.	0.27277E+00.	4912		0.72306D-01	
16	830606.234141432	0.52700E+00.	0.23073E+00.	5091	0.35941E+03.	0.22672E+00.	5451	0.19064D+00	0.20538D+00	361
	830607.012032440	0.31571E+03.	-0.24443E-01.	5407	0.15787E+03.	0.28712E+00.	5248		0.76505D-01	
17	830607.012032440	0.40288E+00.	0.24814E+00.	5452	0.35928E+03.	0.22916E+00.	5813	0.18553D+00	0.20165D+00	362
	830607.025923448	0.30764E+03.	-0.12222E-01.	5781	0.19653E+03.	0.28484E+00.	5649		0.79119D-01	
18	830607.025923448	0.27588E+00.	0.23724E+00.	5814	0.22643E+01.	0.22373E+00.	5816	0.23239D+00	0.23247D+00	3
	830607.025956216	0.22643E+01.	0.22373E+00.	5816	0.27588E+00.	0.23724E+00.	5814		0.75141D-02	

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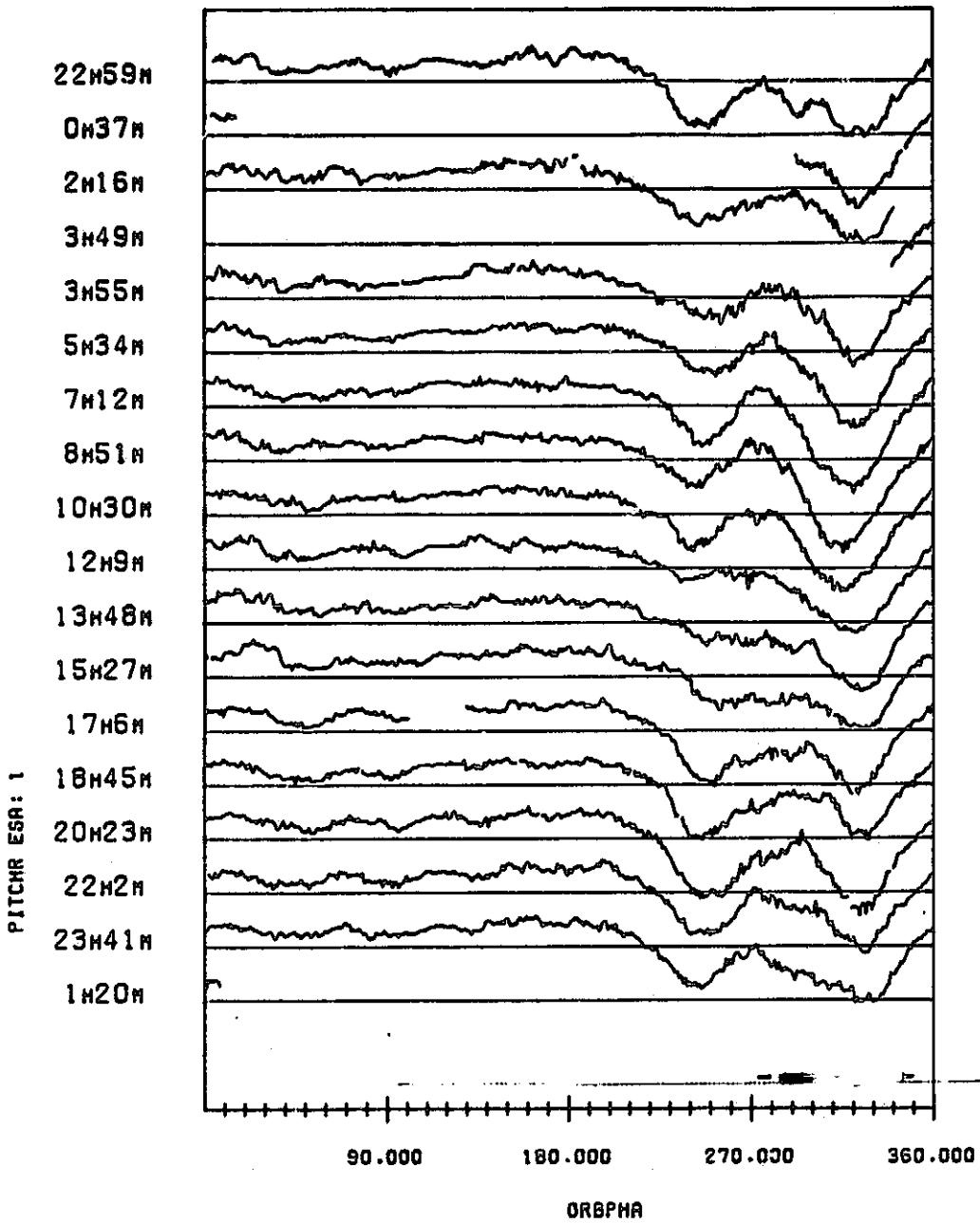

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830621.225929155
END TIME:830623.012243587

FIGURE A-20. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-20. Data Statistics by Orbit

ORBIT	TIME START/END	(V,V,REC) AT MIN V/V			(V,V,REC) AT MAX V/V			MEAN V	V-RMS/STDV	POINTS
1	830621.225929155	0.37950E+01.	0.25590E+00.	1	0.35970E+03.	0.25620E+00.	359	0.20472D+00	0.21589D+00	359
	830622.003731011	0.32592E+03.	0.42183E-01.	325	0.16215E+03.	0.29796E+00.	160		0.68616D-01	
2	830622.003731011	0.69377E-00.	0.24710E+00.	360	0.35958E+03.	0.25197E+00.	443	0.13279D+00	0.15792D+00	84
	830622.021622019	0.32183E+03.	-0.31500E-02.	406	0.46712E+01.	0.26308E+00.	364		0.85981D-01	
3	830622.021622019	0.57115E+00.	0.24066E+00.	444	0.34057E+03.	0.14709E+00.	782	0.20660D+00	0.21589D+00	339
	830622.034928963	0.32567E+03.	0.48080E-01.	767	0.18378E+03.	0.29412E+00.	625		0.62781D-01	
4	830622.034928963	0.33957E+03.	0.13695E+00.	783	0.35945E+03.	0.25818E-00.	803	0.20198D+00	0.20525D+00	21
	830622.035513027	0.33957E+03.	0.13695E+00.	783	0.35945E+03.	0.25818E-00.	803		0.37366D-01	
5	830622.035513027	0.44334E+00.	0.25494E+00.	804	0.35932E+03.	0.25574E+00.	1163	0.21770D+00	0.22652D+00	360
	830622.053404035	0.32058E+03.	0.65385E-02.	1124	0.16276E+03.	0.30313E-00.	965		0.62673D-01	
6	830622.053404035	0.31323E-00.	0.25722E+00.	1164	0.35919E+03.	0.25871E+00.	1524	0.21297D+00	0.22424D+00	361
	830622.071255043	0.32144E-03.	-0.11868E-01.	1486	0.92642E+01.	0.28607E-00.	1173		0.70278D-01	
7	830622.071255043	0.18647E+00.	0.26738E+00.	1525	0.35907E+03.	0.27259E+00.	1886	0.20482D+00	0.21948D+00	362
	830622.089146051	0.32032E+03.	-0.41830E-01.	1847	0.17942E+03.	0.28457E+00.	1705		0.78974D-01	
8	830622.089146051	0.63380E-01.	0.[illegible]7624E+00.	1887	0.35994E+03.	0.25929E-00.	2249	0.20598D+00	0.22114D-00	363
	830622.103053443	0.31524E-03.	-0.[illegible]7530E-01.	2204	0.90143E+01.	0.28746E+00.	1896		0.80591D-01	
9	830622.103053443	0.93621E+00.	0.[illegible]5988E+00.	2250	0.35982E+03.	0.26913E+00.	2611	0.20422D+00	0.21725D+00	362
	830622.120944451	0.31413E+03.	-0.[illegible]4755E-01.	2565	0.15530E+03.	0.28207E+00.	2405		0.74202D-01	
10	830622.120944451	0.81547E+00.	0.[illegible]7744E+00.	2612	0.35970E+03.	0.29963E+00.	2973	0.21259D+00	0.22346D+00	362
	830622.134835459	0.32195E+03.	0.[illegible]8341E-01.	2935	0.23697E+02.	0.29615E+00.	2635		0.68936D-01	
11	830622.134835459	0.69240E+00.	0.26012E+00.	2974	0.35957E+03.	0.25160E+00.	3335	0.20660D+00	0.21788D+00	362
	830622.152726467	0.32381E+03.	0.76899E-02.	3299	0.15612E+02.	0.29751E+00.	2989		0.69283D-01	
12	830622.152726467	0.56441E+00.	0.26048E+00.	3336	0.35944E+03.	0.25206E+00.	3695	0.21272D+00	0.22267D+00	360
	830622.170617475	0.32467E+03.	0.51197E-01.	3660	0.24439E+02.	0.30551E+00.	3359		0.65892D-01	
13	830622.170617475	0.43417E+00.	0.24838E+00.	3696	0.35931E+03.	0.26878E+00.	4027	0.20023D+00	0.21313D+00	332
	830622.184508483	0.31958E+03.	0.21622E-01.	3988	0.19656E+03.	0.29153E+00.	3865		0.73123D-01	
14	830622.184508483	0.30516E+00.	0.25863E-00.	4028	0.35919E+03.	0.25914E+00.	4385	0.20297D+00	0.21312D+00	358
	830622.202359491	0.32739E-03.	0.42882E-01.	4353	0.18948E+03.	0.27673E+00.	4216		0.65070D-01	
15	830622.202359491	0.18092E+00.	0.25366E+00.	4386	0.35907E+03.	0.24540E+00.	4744	0.19941D+00	0.21455D+00	359
	830622.220250499	0.32330E+03.	-0.16564E-01.	4709	0.16052E+03.	0.28990E-00.	4547		0.79281D-01	
16	830622.220250499	0.60458E-01.	0.25296E+00.	4745	0.35994E+03.	0.25057E+00.	5106	0.20569D+00	0.21554D+00	362
	830622.234157891	0.32616E+03.	0.29592E-01.	5072	0.19619E+03.	0.29080E-00.	4941		0.64507D-01	
17	830622.234157891	0.93036E+00.	0.24717E+00.	5107	0.35981E+03.	0.24922E+00.	5468	0.20339D+00	0.21418D+00	362
	830623.012048899	0.32405E+03.	0.41542E-01.	5432	0.16425E+03.	0.28715E+00.	5271		0.67202D-01	
18	830623.012048899	0.80906E+00.	0.23774E+00.	5469	0.77702E+01.	0.24177E+00.	5476	0.25253D+00	0.25265D+00	8
	830623.012243587	0.80906E+00.	0.23774E-00.	5469	0.18034E+01.	0.25951E-00.	5470		0.81067D-02	

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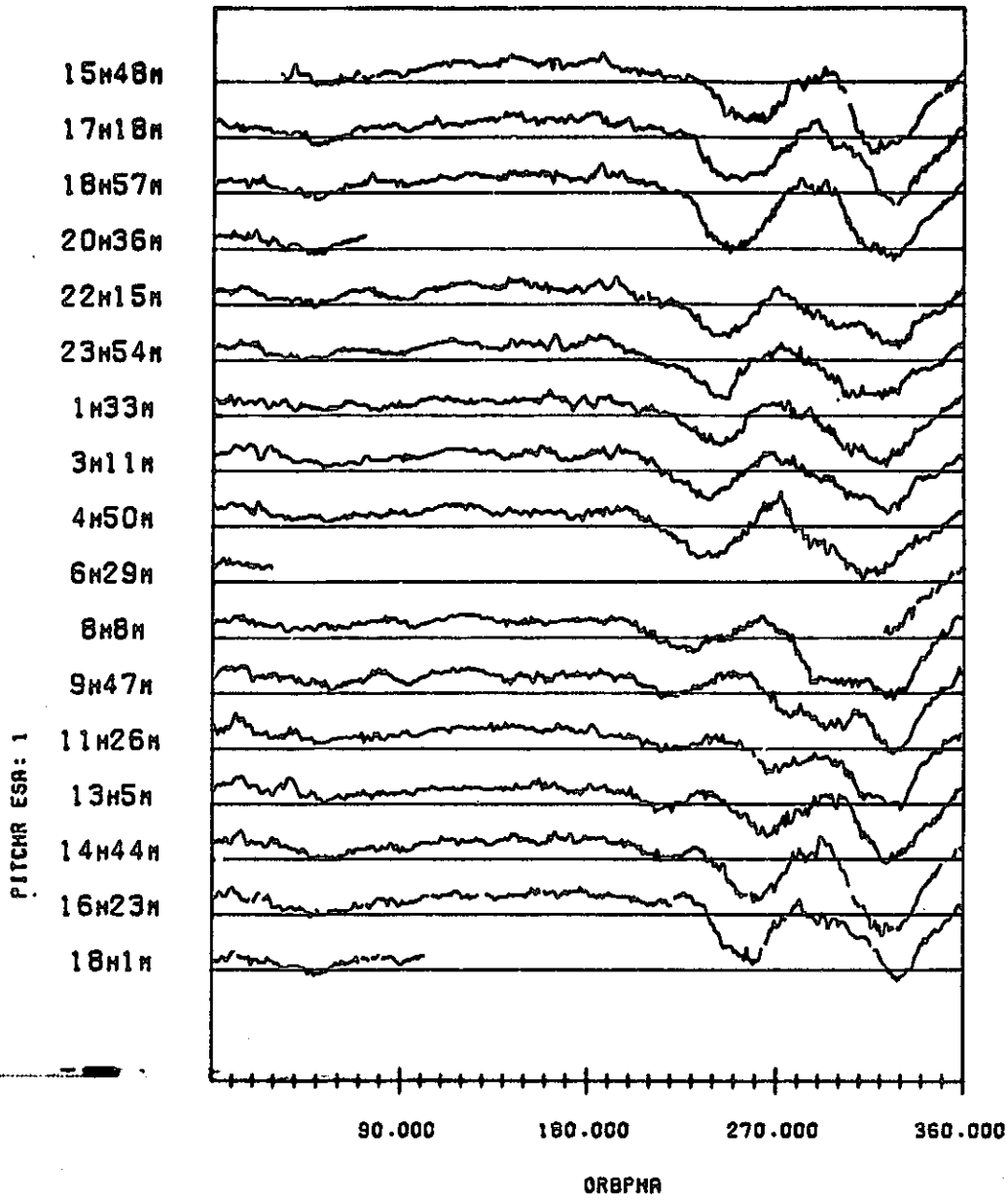

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830706.154825062
END TIME:830707.182940838

FIGURE A-21. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-21. Data Statistics by Orbit

ORBIT	TIME START/END	(V,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830706.154825062	0.32076E+02.	0.22017E+00.	1	0.35911E+03.	0.22587E+00.	326	0.19334D+00	0.20413D+00	326
	830706.171848166	0.31540E+03.	0.51403E-02.	283	0.18662E+03.	0.27966E+00.	154		0.65587D-01	
2	830706.171848166	0.11023E+01.	0.24360E+00.	327	0.35998E+03.	0.22052E+00.	688	0.19607D+00	0.20459D+00	362
	830706.185739174	0.32818E+03.	0.20076E-01.	656	0.14053E+03.	0.26809E+00.	468		0.58522D-01	
3	830706.185739174	0.97611E+00.	0.22321E+00.	689	0.35986E+03.	0.23187E+00.	1050	0.19217D+00	0.20292D+00	362
	830706.203630182	0.32608E+03.	0.19533E-01.	1016	0.18617E+03.	0.27842E+00.	875		0.65252D-01	
4	830706.203630182	0.85451E+00.	0.23399E+00.	1051	0.72540E+02.	0.23680E+00.	1123	0.21894D+00	0.21954D+00	73
	830706.221521190	0.48630E+02.	0.18524E+00.	1099	0.20751E+02.	0.25136E+00.	1071		0.16402D-01	
5	830706.221521190	0.73685E-00.	0.23622E+00.	1124	0.35962E+03.	0.24338E+00.	1484	0.20631D+00	0.21128D+00	361
	830706.235412198	0.32892E+03.	0.83232E-01.	1453	0.19389E+03.	0.27499E+00.	1318		0.45620D-01	
6	830706.235412198	0.61879E+00.	0.23646E+00.	1485	0.35950E+03.	0.24683E+00.	1846	0.20472D+00	0.20952D+00	362
	830707.013303206	0.24736E+03.	0.93093E-01.	1733	0.18581E+03.	0.26702E+00.	1671		0.44674D-01	
7	830707.013303206	0.49560E+00.	0.24627E+00.	1847	0.35938E+03.	0.25094E+00.	2208	0.20608D+00	0.21136D+00	362
	830707.031154214	0.32262E+03.	0.60088E-01.	2171	0.16182E+03.	0.26912E+00.	2009		0.47049D-01	
8	830707.031154214	0.37296E+00.	0.24384E+00.	2209	0.35925E+03.	0.23714E+00.	2570	0.21392D+00	0.21847D+00	362
	830707.045045222	0.32348E+03.	0.83347E-01.	2534	0.18279E+02.	0.27405E+00.	2227		0.44404D-01	
9	830707.045045222	0.24459E+00.	0.25899E+00.	2571	0.35912E+03.	0.23918E+00.	2932	0.20596D+00	0.21225D+00	362
	830707.062936230	0.31144E+03.	0.55951E-01.	2884	0.27177E+03.	0.29481E+00.	2844		0.51360D-01	
10	830707.062936230	0.11891E+00.	0.24627E+00.	2933	0.36000E+03.	0.23520E+00.	2998	0.19418D+00	0.20456D+00	66
	830707.080843622	0.32422E+03.	0.57839E-01.	2965	0.50916E+01.	0.26601E+00.	2938		0.64804D-01	
11	830707.080843622	0.99142E+00.	0.24084E+00.	2999	0.35988E+03.	0.25494E+00.	3360	0.20635D+00	0.21509D+00	362
	830707.094734630	0.32609E+03.	0.33054E-01.	3326	0.11951E+03.	0.26542E+00.	3118		0.60804D-01	
12	830707.094734630	0.87127E+00.	0.24347E+00.	3361	0.35976E+03.	0.25500E+00.	3722	0.21357D+00	0.22055D+00	362
	830707.112625638	0.32597E+03.	0.36393E-01.	3688	0.14798E+02.	0.27810E+00.	3375		0.55130D-01	
13	830707.112625638	0.75295E+00.	0.26337E+00.	3723	0.35964E+03.	0.23614E+00.	4084	0.21101D+00	0.21782D+00	362
	830707.130516646	0.32983E+03.	0.35258E-01.	4054	0.11695E+02.	0.29855E+00.	3734		0.54111D-01	
14	830707.130516646	0.63379E+00.	0.23767E+00.	4085	0.35952E+03.	0.24478E+00.	4446	0.20782D+00	0.21387D+00	362
	830707.144407654	0.32275E+03.	0.39963E-01.	4409	0.14560E+02.	0.27657E+00.	4099		0.50568D-01	
15	830707.144407654	0.51099E+00.	0.24754E+00.	4447	0.35939E+03.	0.22672E+00.	4801	0.20416D+00	0.21416D+00	355
	830707.162315046	0.32064E+03.	-0.59792E-02.	4766	0.14437E+02.	0.27880E+00.	4461		0.64788D-01	
16	830707.162315046	0.13780E+01.	0.24568E+00.	4802	0.35926E+03.	0.21666E+00.	5149	0.20573D+00	0.21418D+00	348
	830707.180149670	0.32846E+03.	0.21005E-01.	5118	0.10330E+02.	0.27473E+00.	4811		0.59675D-01	
17	830707.180149670	0.25622E+00.	0.22476E+00.	5150	0.10183E+03.	0.23805E+00.	5248	0.22093D+00	0.22139D+00	99
	830707.182940838	0.49026E+02.	0.18458E+00.	5198	0.11197E+02.	0.25061E+00.	5161		0.14308D-01	

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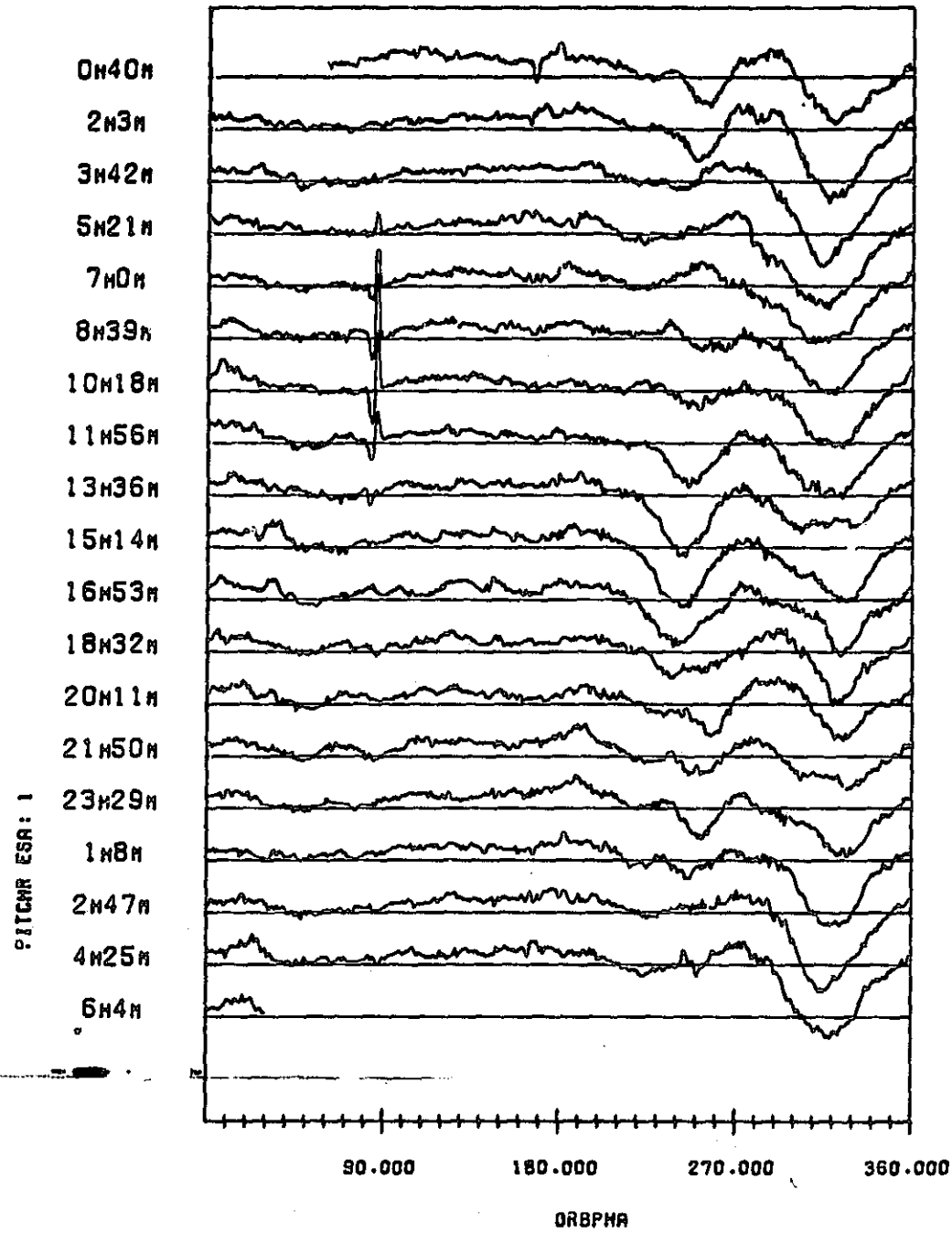

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830726.004016064
END TIME:830727.061244608

FIGURE A-22. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-22. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830726.004016064	0.56601E+02.	0.24867E+00.	1	0.35975E+03.	0.22065E-00.	305	0.21854D+00	0.22500D+00	306
	830726.020349568	0.32100E+03.	0.64250E-01.	267	0.17908E+03.	0.29828E-00.	124		0.53605D-01	
2	830726.020349568	0.74253E+00.	0.23180E+00.	397	0.35963E+03.	0.21983E+00.	668	0.20059D+00	0.20900D+00	362
	830726.034240576	0.31790E+03.	-0.11884E-01.	626	0.18791E+03.	0.27493E-00.	495		0.58771D-01	
3	830726.034240576	0.62044E+00.	0.23418E+00.	669	0.35950E+03.	0.23611E+00.	1030	0.19648D+00	0.20684D+00	362
	830726.052131584	0.31479E+03.	-0.45177E-01.	985	0.26222E+03.	0.25998E+00.	932		0.64739D-01	
4	830726.052131584	0.49501E+00.	0.24139E+00.	1031	0.35938E+03.	0.22292E+00.	1392	0.19491D+00	0.20534D+00	362
	830726.070022592	0.31765E+03.	-0.16235E-01.	1350	0.16678E+03.	0.26709E-00.	1198		0.64706D-01	
5	830726.070022592	0.37318E+00.	0.22525E+00.	1393	0.35926E+03.	0.23779E-00.	1753	0.19941D+00	0.20641D+00	361
	830726.083913600	0.31058E+03.	0.38441E-01.	1704	0.87002E+02.	0.30329E-00.	1480		0.53391D-01	
6	830726.083913600	0.25503E+00.	0.23316E+00.	1754	0.35914E+03.	0.23656E-00.	2114	0.20339D+00	0.20940D+00	361
	830726.101804608	0.32039E+03.	0.39946E-01.	2075	0.86883E+02.	0.38560E-00.	1841		0.49858D-01	
7	830726.101804608	0.13812E+00.	0.23596E+00.	2115	0.35903E+03.	0.26582E+00.	2476	0.19948D+00	0.20586D+00	362
	830726.115655616	0.32524E+03.	0.36821E-01.	2442	0.86765E+02.	0.37233E+00.	2202		0.50925D-01	
8	830726.115655616	0.22354E-01.	0.25442E+00.	2477	0.35990E+03.	0.23247E-00.	2839	0.19187D+00	0.19907D+00	363
	830726.133603008	0.32512E+03.	0.41780E-01.	2804	0.86648E+02.	0.29026E-00.	2564		0.53114D-01	
9	830726.133603008	0.89922E+00.	0.23554E+00.	2840	0.35978E+03.	0.24023E+00.	3201	0.19384D+00	0.20087D+00	362
	830726.151454016	0.24465E+03.	0.26401E-01.	3085	0.12835E+02.	0.26667E+00.	2852		0.52744D-01	
10	830726.151454016	0.77704E+00.	0.23594E+00.	3202	0.35966E+03.	0.23894E-00.	3562	0.19245D+00	0.20198D+00	361
	830726.165345024	0.24254E+03.	0.31327E-01.	3444	0.36600E+02.	0.27859E+00.	3237		0.61412D-01	
11	830726.165345024	0.65170E+00.	0.23617E+00.	3563	0.35953E+03.	0.23984E-00.	3924	0.19935D+00	0.20585D+00	362
	830726.183236032	0.32376E+03.	0.38063E-01.	3888	0.66191E+01.	0.27207E+00.	3569		0.51401D-01	
12	830726.183236032	0.52717E+00.	0.23801E+00.	3925	0.35941E+03.	0.23638E+00.	4285	0.20648D+00	0.21067D+00	361
	830726.201127040	0.31967E+03.	0.49511E-01.	4245	0.29288E+03.	0.26656E+00.	4218		0.41860D-01	
13	830726.201127040	0.40681E+00.	0.23279E+00.	4286	0.35930E+03.	0.24029E+00.	4646	0.21215D+00	0.21544D+00	361
	830726.215018048	0.32551E+03.	0.95388E-01.	4612	0.29177E+03.	0.27627E+00.	4578		0.37575D-01	
14	830726.215018048	0.29117E+00.	0.23839E+00.	4647	0.35918E+03.	0.22783E+00.	5007	0.21270D+00	0.21602D+00	361
	830726.232909056	0.32738E+03.	0.10559E+00.	4975	0.19342E+03.	0.29536E+00.	4841		0.37803D-01	
15	830726.232909056	0.17577E+00.	0.23969E+00.	5008	0.35907E+03.	0.22837E+00.	5369	0.20735D+00	0.21247D+00	362
	830727.010800064	0.32727E+03.	0.60763E-01.	5337	0.18834E+03.	0.29813E+00.	5197		0.46416D-01	
16	830727.010800064	0.59891E-01.	0.23767E+00.	5370	0.35994E+03.	0.22425E+00.	5732	0.20128D+00	0.20892D+00	363
	830727.024707456	0.31921E+03.	0.11251E-01.	5691	0.18225E+03.	0.28055E+00.	5553		0.56054D-01	
17	830727.024707456	0.93606E+00.	0.22279E+00.	5733	0.35982E+03.	0.23204E+00.	6093	0.20204D+00	0.21162D+00	361
	830727.042558464	0.31312E+03.	-0.28876E-01.	6046	0.17716E+03.	0.27101E+00.	5910		0.63053D-01	
18	830727.042558464	0.81160E+00.	0.238[illegible]4E+00.	6094	0.35969E+03.	0.21562E+00.	6455	0.19971D+00	0.20949D+00	362
	830727.060449472	0.31895E+03.	-0.965[illegible]6E-02.	6414	0.23695E+02.	0.28703E+00.	6117		0.63346D-01	
19	830727.060449472	0.68754E+00.	0.22182E+00.	6456	0.29544E+02.	0.21215E+00.	6485	0.23559D+00	0.23600D+00	30
	830727.061244608	0.28549E+02.	0.20880E+00.	6484	0.18595E+02.	0.26397E+00.	6474		0.14181D-01	

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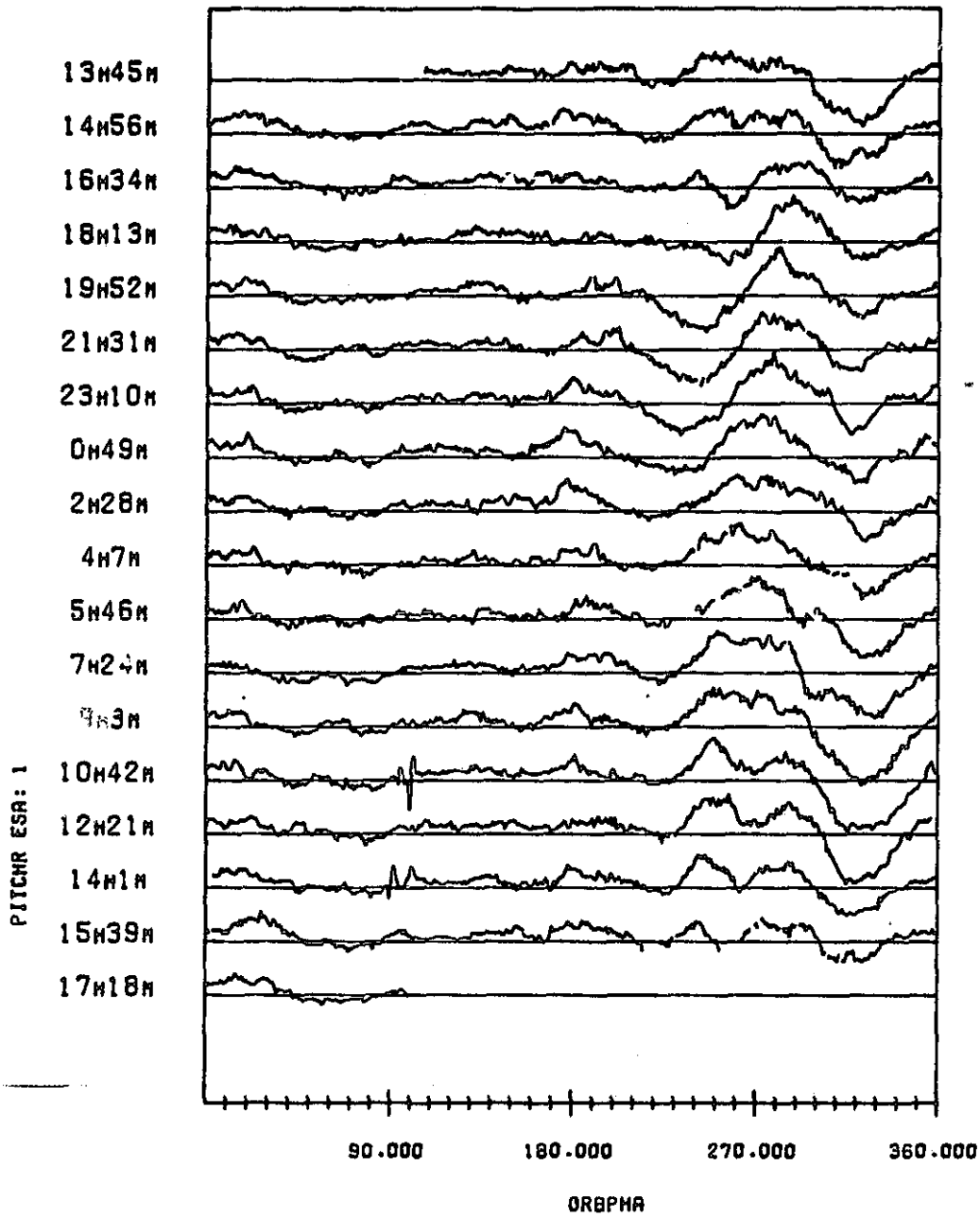

SENSOR 1 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.2 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830806.134523196
END TIME:830807.174517564

FIGURE A-23. Sensor One Pitch Residuals for Consecutive Orbits

TABLE A-23. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830806.134523196	0.10331E+03.	0.21452E+00.	1	0.35964E+03.	0.23801E-00.	259	0.21003D+00	0.21484D+00	259
	830806.145606652	0.32287E+03.	0.72770E-01.	222	0.25641E+03.	0.27908E+00.	155		0.45281D-01	
2	830806.145606652	0.63222E+00.	0.22806E+00.	260	0.35951E+03.	0.23212E+00.	619	0.21653D+00	0.21903D+00	360
	830806.163457660	0.31183E+03.	0.10325E+00.	571	0.25331E+03.	0.27402E+00.	512		0.33039D-01	
3	830806.163457660	0.50848E+00.	0.23199E+00.	620	0.35939E+03.	0.23869E+00.	979	0.21445D+00	0.21589D+00	360
	830806.181348668	0.25516E+03.	0.14177E+00.	876	0.29583E+03.	0.27378E+00.	917		0.24854D-01	
4	830806.181348668	0.38517E+00.	0.22769E+00.	980	0.35927E+03.	0.23375E-00.	1341	0.20904D+00	0.21144D+00	362
	830806.195239676	0.25604E+03.	0.13469E+00.	1237	0.28777E+03.	0.32854E+00.	1269		0.31809D-01	
5	830806.195239676	0.26517E+00.	0.22480E+00.	1342	0.35916E+03.	0.22681E-00.	1702	0.20551D+00	0.20902D+00	361
	830806.213130684	0.24501E+03.	0.10054E+00.	1587	0.28171E+03.	0.33313E+00.	1624		0.38208D-01	
6	830806.213130684	0.15048E+00.	0.23739E+00.	1703	0.35904E+03.	0.23075E+00.	2060	0.20554D+00	0.20881D+00	358
	830806.231021692	0.24297E+03.	0.10315E+00.	1945	0.27267E+03.	0.30481E+00.	1974		0.36904D-01	
7	830806.231021692	0.36017E-01.	0.22385E+00.	2061	0.35992E+03.	0.25300E+00.	2422	0.21094D+00	0.21466D+00	362
	830807.004929084	0.23288E+03.	0.11346E+00.	2294	0.27851E+03.	0.34635E+00.	2340		0.39875D-01	
8	830807.004929084	0.91605E+00.	0.24365E+00.	2423	0.35981E+03.	0.23247E+00.	2783	0.21664D+00	0.21965D+00	361
	830807.022820092	0.31907E+03.	0.12828E+00.	2743	0.27244E+03.	0.32254E+00.	2696		0.36297D-01	
9	830807.022820092	0.79971E+00.	0.24475E+00.	2784	0.35968E+03.	0.22436E+00.	3145	0.22031D+00	0.22291D+00	362
	830807.040711100	0.32490E+03.	0.11598E+00.	3110	0.26042E+03.	0.30306E+00.	3045		0.34032D-01	
10	830807.040711100	0.67772E+00.	0.23126E+00.	3146	0.35956E+03.	0.22956E+00.	3498	0.21425D+00	0.21711D+00	353
	830807.054602108	0.32279E+03.	0.10627E+00.	3461	0.26228E+03.	0.31856E+00.	3403		0.35150D-01	
11	830807.054602108	0.55453E+00.	0.23023E+00.	3499	0.35944E+03.	0.22300E+00.	3847	0.20843D+00	0.21218D+00	349
	830807.072453116	0.32465E+03.	0.91432E-01.	3812	0.27108E+03.	0.31814E+00.	3758		0.39786D-01	
12	830807.072453116	0.43448E+00.	0.21912E+00.	3848	0.35932E+03.	0.22203E+00.	4208	0.20608D+00	0.21157D+00	361
	830807.090344124	0.33249E+03.	0.77154E-01.	4181	0.25113E+03.	0.31964E+00.	4100		0.47959D-01	
13	830807.090344124	0.31784E+00.	0.22870E+00.	4209	0.35921E+03.	0.23367E+00.	4570	0.20621D+00	0.21277D+00	362
	830807.104235132	0.32244E+03.	0.35283E-01.	4533	0.24903E+03.	0.31038E+00.	4459		0.52471D-01	
14	830807.104235132	0.20308E+00.	0.23163E+00.	4571	0.35909E+03.	0.22408E+00.	4932	0.20693D+00	0.21282D+00	362
	830807.122126140	0.31637E+03.	0.51995E-01.	4889	0.24892E+03.	0.32065E+00.	4821		0.49785D-01	
15	830807.122126140	0.88791E-01.	0.21895E+00.	4933	0.35699E+03.	0.24656E+00.	5292	0.21408D+00	0.21883D+00	360
	830807.140122684	0.31526E+03.	0.61388E-01.	5250	0.25674E+03.	0.31178E+00.	5191		0.45426D-01	
16	830807.140122684	0.39497E+01.	0.23431E+00.	5293	0.35985E+03.	0.23394E+00.	5651	0.21426D+00	0.21655D+00	359
	830807.153924540	0.31514E+03.	0.12627E+00.	5606	0.24174E+03.	0.29296E+00.	5532		0.31443D-01	
17	830807.153924540	0.84416E+00.	0.23119E+00.	5652	0.35973E+03.	0.22360E+00.	5988	0.21628D+00	0.21792D+00	337
	830807.171815548	0.31105E+03.	0.14296E+00.	5940	0.26711E-02.	0.23472E+00.	5677		0.26705D-01	
18	830807.171815548	0.72057E+00.	0.22729E+00.	5989	0.99289E+02.	0.19760E+00.	6088	0.21030D+00	0.21155D+00	100
	830807.174517564	0.56457E+02.	0.17243E+00.	6045	0.14646E+02.	0.26176E-00.	6003		0.23074D-01	

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TABLE A-24. Summary Statistics for the Period from 8/10/82 to 8/6/83

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SEGMENT NUMBER	SEGMENT[1] DATE	MEAN FULL ORBIT AVERAGE	p-p	σ	NO. OF ORBITS
1	8/10/82	0.1991	0.0259	0.0086	8
2	9/8/82	0.2237	0.0175	0.0054	11
3	9/22/82	0.1604	0.0308	0.0117	8
4	10/5/82	0.1342	0.0269	0.0092	8
5	10/20/82	0.1494	0.0244	0.0093	11
6	11/2/82	0.1619	0.0131	0.0039	9
7	11/16/82	0.1467	0.0198	0.0059	8
8	12/1/82	0.2178	0.0405	0.0135	13
9	12/14/82	0.1675	0.0250	0.0096	6
10	12/28/82	0.2072	0.0369	0.0121	8
11	1/19/83	0.1751	0.0256	0.0086	12
12	2/2/83	0.1909	0.0412	0.0142	14
13	3/3/83	0.1721	0.0366	0.0113	13
14	3/14/83	0.1542	0.0095	0.0027	12
15	3/29/83	0.1844	0.0248	0.0075	12
16	4/14/83	0.1921	0.0148	0.0044	16
17	4/26/83	0.1851	0.0129	0.0032	15
18	5/23/83	0.1918	0.0118	0.0032	15
19	6/6/83	0.1838	0.0133	0.0036	16
20	6/21/83	0.2072	0.0183	0.0052	13
21	7/6/83	0.2057	0.0217	0.0063	12
22	7/26/83	0.2008	0.0208	0.0062	17
23	8/6/83	0.2115	0.0148	0.0049	14

1 Segment date refers to the start date of each segment. Each segment is approximately 24 hours in length.

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APPENDIX B

This appendix contains plots and statistics for sensor 2 pitch residual versus orbit phase from the ascending node for all orbits in 23 data segments. The 23 segments are presented in sequence from the earliest segment to the most recent. Figures B-1 through B-23 provide plots and Tables B-1 through B-23 provide tables of statistics computed by orbit for each segment. Tables B-1 through B-23 are organized vertically by orbit number and horizontally into the following six columns:

(1)	ORBIT TIME START/END:	Orbit start and end times in the format YYMMDD.HHMMSSMMM, where: YY... Year MM... Month DD... Day HH... Hours MM... Minutes SS... Seconds MMM... Milliseconds
(2)	(X,Y,REC) AT MIN X/Y:	Provides the coordinates — orbit phase (X), residual value (Y), and record number (REC) — at which the minimum values occur. The upper line gives the minimum orbit phase (X) coordinates and the lower line gives the minimum residual value (Y) coordinates for each orbit.
(3)	(X,Y,REC) AT MAX X/Y:	Same as (2) except maximum rather than minimum values
(4)	MEAN Y:	Full-orbit average of pitch residual.
(5)	Y-RMS/STDV:	For each orbit, the upper value is the root mean square of pitch residual and the lower value, the standard deviation.
(6)	POINTS:	The number of points contained in each orbit.

Table B-24 provides mean, peak-to-peak and standard deviation of full orbit average pitch residual for each segment. Note that only orbits with at least 350 data points were used in compiling these statistics for each segment. The number of orbits used is provided.

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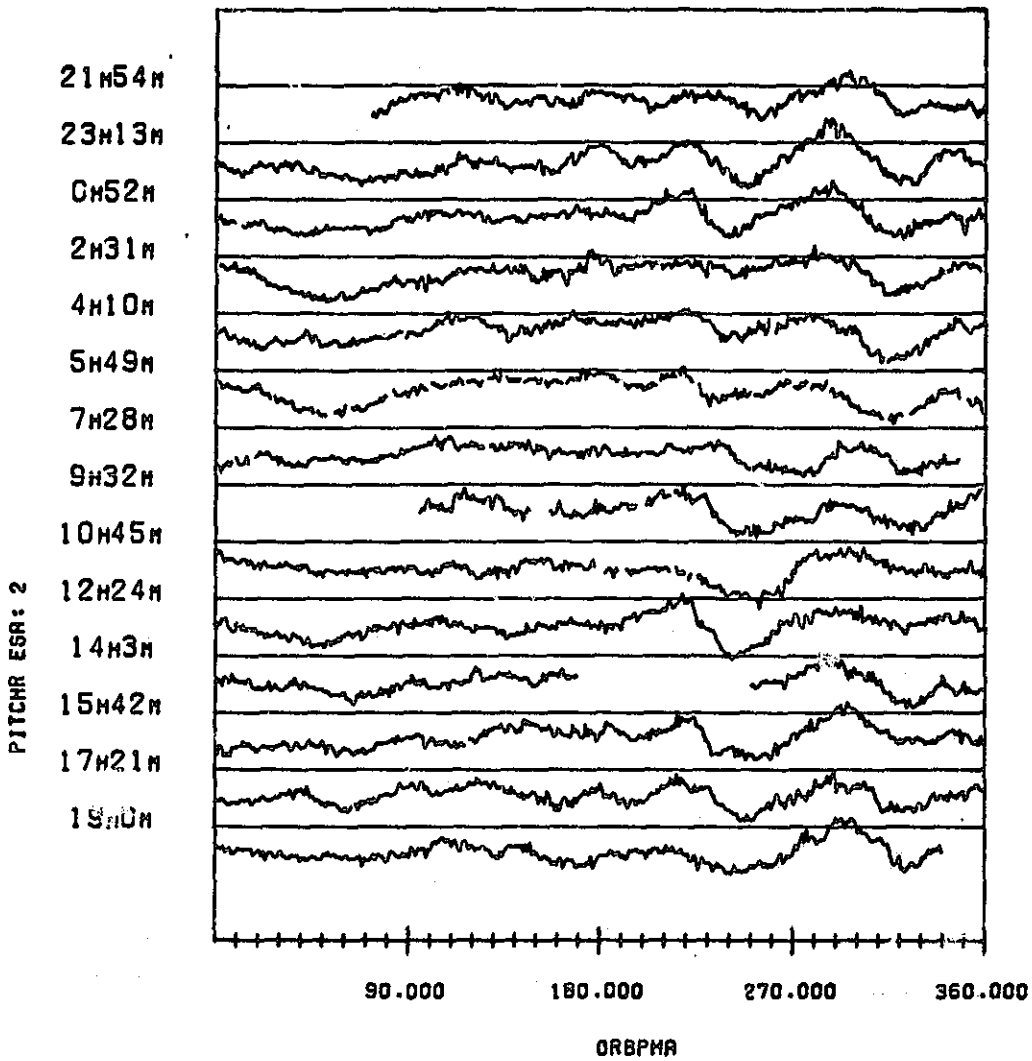

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820810.215426522
END TIME:820811.203329690

FIGURE B-1. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-1. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	820810.215426522	0.72118E+02,	-0.80003E-01,	1	0.35933E+03,	-0.54095E-01,	289	-0.36306D-01	0.43568D-01	289
	820810.231337882	0.25411E+03,	-0.89771E-01,	183	0.29576E+03,	0.39778E-01,	225		0.24127D-01	
2	820810.231337882	0.32249E+00,	-0.63999E-01,	290	0.35921E+03,	-0.49384E-01,	651	-0.54465D-01	0.64579D-01	362
	820811.005228890	0.24804E+03,	-0.12046E+00,	539	0.28771E+03,	0.63096E-01,	579		0.34748D-01	
3	820811.005228890	0.20319E+00,	-0.50544E-01,	652	0.35909E+03,	-0.39862E-01,	1011	-0.46654D-01	0.55736D-01	360
	820811.023119898	0.32132E+03,	-0.10400E+00,	973	0.28759E+03,	0.49025E-01,	939		0.30537D-01	
4	820811.023119898	0.81257E-01,	-0.19550E-01,	1012	0.35995E+03,	-0.53391E-01,	1372	-0.45032D-01	0.54650D-01	361
	820811.041027290	0.51845E+02,	-0.12001E-00,	1063	0.27952E+03,	0.29757E-01,	1292		0.31006D-01	
5	820811.041027290	0.94867E+00,	-0.50030E-01,	1373	0.35983E+03,	-0.24218E-01,	1730	-0.44476D-01	0.53832D-01	358
	820811.054918298	0.31114E+03,	-0.13072E+00,	1682	0.21890E+03,	0.12723E-01,	1591		0.30370D-01	
6	820811.054918298	0.82069E+00,	-0.31371E-01,	1731	0.35970E+03,	-0.11132E+00,	2059	-0.55651D-01	0.64246D-01	329
	820811.072809306	0.31697E+03,	-0.14066E+00,	2022	0.21877E+03,	0.12657E-01,	1931		0.32149D-01	
7	820811.072809306	0.69661E+00,	-0.97763E-01,	2060	0.34765E+03,	-0.78538E-01,	2404	-0.73365D-01	0.76934D-01	345
	820811.093256794	0.27419E+03,	-0.12821E+00,	2330	0.10228E+03,	-0.19848E-01,	2159		0.23195D-01	
8	820811.093256794	0.95184E+02,	-0.74232E-01,	2405	0.35847E+03,	-0.10325E-01,	2657	-0.69344D-01	0.75688D-01	253
	820811.104551322	0.25226E+03,	-0.14152E+00,	2550	0.21853E+03,	-0.19917E-03,	2516		0.30392D-01	
9	820811.104551322	0.45643E+00,	-0.24604E-01,	2658	0.35934E+03,	-0.65584E-01,	3007	-0.73952D-01	0.78769D-01	350
	820811.122442330	0.25412E+03,	-0.17649E+00,	2901	0.28577E+03,	-0.14491E-01,	2943		0.27164D-01	
10	820811.122442330	0.33782E+00,	-0.76266E-01,	3008	0.35922E+03,	-0.77774E-01,	3369	-0.72271D-01	0.77882D-01	362
	820811.140333338	0.24111E+03,	-0.15959E+00,	3250	0.21829E+03,	0.14567E-01,	3227		0.29066D-01	
11	820811.140333338	0.21582E+00,	-0.56740E-01,	3370	0.35909E+03,	-0.89746E-01,	3651	-0.72844D-01	0.77172D-01	282
	820811.154224346	0.32332E+03,	-0.13810E+00,	3615	0.28061E+03,	-0.03404E-02,	3577		0.25526D-01	
12	820811.154224346	0.89517E-01,	-0.89153E-01,	3652	0.35996E+03,	-0.85682E-01,	4013	-0.65415D-01	0.71885D-01	362
	820811.172131738	0.24780E+03,	-0.12573E+00,	3900	0.29540E+03,	0.27428E-01,	3948		0.29847D-01	
13	820811.172131738	0.95600E+00,	-0.86020E-01,	4014	0.35983E+03,	-0.53269E-01,	4374	-0.69911D-01	0.74017D-01	361
	820811.190022746	0.24767E+03,	-0.13673E+00,	4261	0.28932E+03,	-0.32257E-02,	4303		0.24343D-01	
14	820811.190022746	0.82974E+00,	-0.51191E-01,	4375	0.33983E+03,	-0.69328E-01,	4716	-0.69141D-01	0.74663D-01	342
	820811.203329690	0.24160E+03,	-0.12647E+00,	4517	0.29019E+03,	0.26088E-01,	4666		0.28223D-01	

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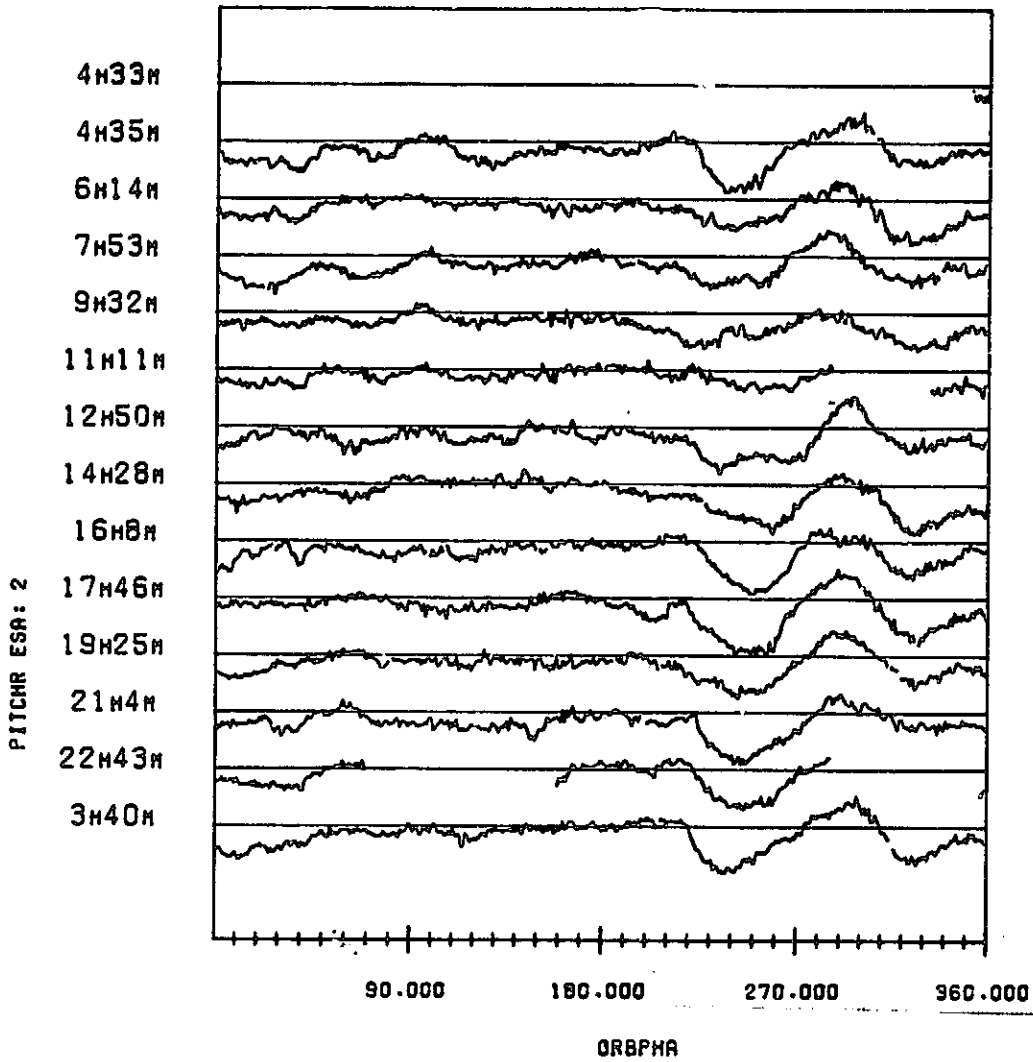

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820908.043319559
END TIME:820909.051848519

FIGURE B-2. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-2. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	820908.043319559	0.35183E+03,	-0.83939E-02,	1	0.35979E+03,	-0.12049E-01,	9	-0.26098D-01	0.28249D-01	9
	820908.043547015	0.35680E+03,	-0.41143E-01,	6	0.35183E+03,	-0.83939E-02,	1		0.11468D-01	
2	820908.043547015	0.78028E+00,	-0.37050E-01,	10	0.35955E+03,	-0.22362E-01,	370	-0.28378D-01	0.46961D-01	361
	820908.061438023	0.24451E+03,	-0.13264E+00,	255	0.30006E+03,	0.81168E-01,	311		0.37469D-01	
3	820908.061438023	0.64770E+00,	-0.27557E-01,	371	0.35952E+03,	-0.42416E-01,	731	-0.29314D-01	0.43567D-01	361
	820908.075329031	0.32276E+03,	-0.11811E+00,	694	0.28703E+03,	0.50934E-01,	658		0.32275D-01	
4	820908.075329031	0.51890E+00,	-0.30125E-01,	732	0.35940E+03,	-0.20289E-01,	1090	-0.29682D-01	0.43469D-01	359
	820908.093220039	0.27380E+02,	-0.10195E+00,	758	0.28294E+03,	0.69657E-01,	1014		0.31801D-01	
5	820908.093220039	0.39327E+00,	-0.37241E-01,	1091	0.35927E+03,	-0.43146E-01,	1452	-0.32495D-01	0.40801D-01	362
	820908.111111047	0.32648E+03,	-0.96180E-01,	1419	0.91979E+02,	0.24472E-01,	1183		0.24709D-01	
6	820908.111111047	0.26878E+00,	-0.32973E-01,	1453	0.35915E+03,	-0.38171E-01,	1767	-0.18817D-01	0.27080D-01	315
	820908.125002055	0.35716E+03,	-0.69712E-01,	1765	0.20933E+03,	0.26822E-01,	1654		0.19504D-01	
7	820908.125002055	0.14426E+00,	-0.57999E-01,	1768	0.35902E+03,	-0.33603E-01,	2129	-0.29647D-01	0.44416D-01	362
	820908.142853063	0.23396E+03,	-0.12062E+00,	2003	0.29546E+03,	0.83143E-01,	2065		0.33120D-01	
8	820908.142853063	0.15521E-01,	-0.29963E-01,	2130	0.35988E+03,	-0.48501E-01,	2488	-0.31178D-01	0.50002D-01	359
	820908.160800455	0.32808E+03,	-0.12980E+00,	2456	0.14338E+03,	0.39445E-01,	2274		0.39145D-01	
9	820908.160800455	0.87682E+00,	-0.80188E-01,	2489	0.35975E+03,	-0.22233E-01,	2845	-0.31728D-01	0.47311D-01	357
	820908.174651463	0.24957E+03,	-0.13919E+00,	2734	0.28528E+03,	0.38267E-01,	2770		0.35145D-01	
10	820908.174651463	0.74347E+00,	-0.22524E-01,	2846	0.35962E+03,	-0.53161E-01,	3206	-0.29185D-01	0.52469D-01	361
	820908.192542471	0.25142E+03,	-0.15328E+00,	3098	0.28911E+03,	0.80648E-01,	3136		0.43664D-01	
11	820908.192542471	0.61234E+00,	-0.46064E-01,	3207	0.35949E+03,	-0.50651E-01,	3564	-0.24503D-01	0.41032D-01	358
	820908.210433479	0.24336E+03,	-0.11163E+00,	3449	0.29295E+03,	0.70025E-01,	3499		0.32959D-01	
12	820908.210433479	0.48423E+00,	-0.48324E-01,	3565	0.35937E+03,	-0.43358E-01,	3924	-0.29773D-01	0.44456D-01	360
	820908.224324497	0.24423E+03,	-0.13676E+00,	3808	0.29085E+03,	0.51469E-01,	3855		0.33059D-01	
13	820908.224324487	0.35983E+00,	-0.33490E-01,	3925	0.35998E+03,	-0.55301E-01,	4126	-0.23369D-01	0.42895D-01	202
	820909.034013895	0.24596E+03,	-0.10593E+00,	4082	0.28465E+03,	0.34115E-01,	4121		0.36059D-01	
14	820909.034013895	0.97464E+00,	-0.59762E-01,	4127	0.35985E+03,	-0.42049E-01,	4486	-0.25525D-01	0.46746D-01	360
	820909.051848519	0.23677E+03,	-0.12370E+00,	4363	0.29827E+03,	0.82219E-01,	4425		0.39216D-01	

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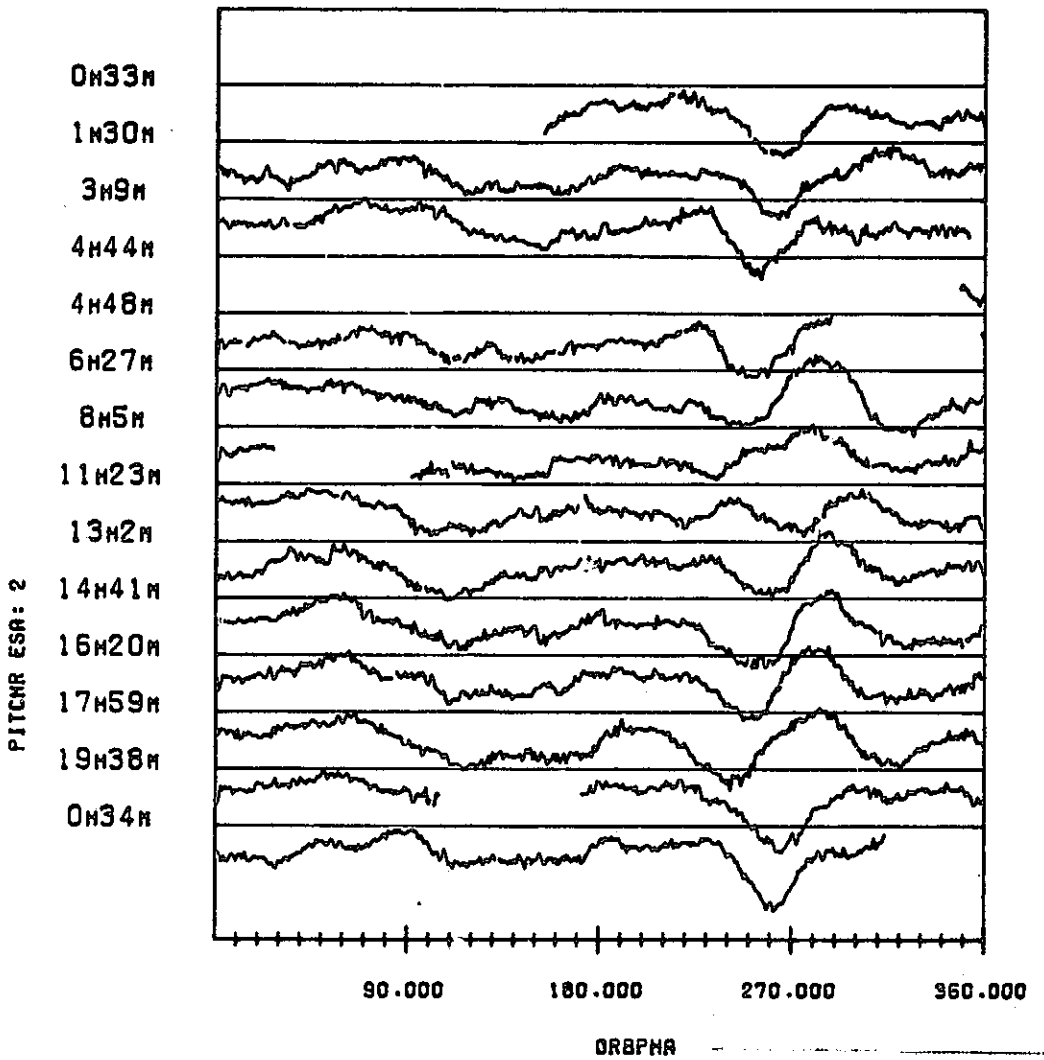

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820922.003327603
END TIME:820923.020043395

FIGURE B-3. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-3. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN V	V-RMS/STDV	POINTS
1	820922.003327683	0.15319E-03,	-0.12734E-00,	1	0.35975E+03,	-0.10861E+00,	206	-0.82517D-01	0.90838D-01	206
	820922.013031939	0.26545E+03,	-0.18927E+00,	111	0.21782E+03,	-0.12207E-01,	65		0.38072D-01	
2	820922.013031939	0.74076E+00,	-0.72326E-01,	207	0.35962E+03,	-0.54877E-01,	568	-0.89373D-01	0.96022D-01	362
	820922.030922947	0.26334E+03,	-0.20012E+00,	471	0.31592E+03,	-0.56682E-02,	524		0.35160D-01	
3	820922.030922947	0.61617E+00,	-0.59127E-01,	569	0.35253E+03,	-0.98890E-01,	921	-0.74856D-01	0.83767D-01	353
	820922.044457347	0.25528E+03,	-0.20780E+00,	823	0.70279E+02,	0.49943E-02,	637		0.37650D-01	
4	820922.044457347	0.34856E+03,	-0.82608E-01,	922	0.35949E+03,	-0.10096E+00,	933	-0.99585D-01	0.10078D+00	12
	820922.044813955	0.35750E+03,	-0.12765E+00,	931	0.34955E+03,	-0.72027E-01,	923		0.16158D-01	
5	820922.044813955	0.48643E+00,	-0.10470E+00,	934	0.35936E+03,	-0.60728E-01,	1214	-0.82422D-01	0.88810D-01	281
	820922.062704963	0.25316E+03,	-0.16799E+00,	1177	0.28788E+03,	-0.48852E-02,	1212		0.33131D-01	
6	820922.062704963	0.35881E+00,	-0.49988E-01,	1215	0.35924E+03,	-0.66082E-01,	1576	-0.80966D-01	0.91780D-01	362
	820922.080555971	0.32645E-03,	-0.17325E+00,	1543	0.28081E+03,	0.43138E-01,	1497		0.43280D-01	
7	820922.080555971	0.23474E+00,	-0.76367E-01,	1577	0.35999E+03,	-0.55293E-01,	1870	-0.86579D-01	0.92152D-01	294
	820922.112354371	0.13950E+03,	-0.14712E+00,	1652	0.27958E+03,	0.95553E-02,	1793		0.31615D-01	
8	820922.112354371	0.98759E+00,	-0.42526E-01,	1871	0.35987E+03,	-0.10580E-00,	2228	-0.74192D-01	0.80239D-01	358
	820922.130245379	0.11946E+03,	-0.13820E+00,	1989	0.43769E+02,	-0.97832E-02,	1914		0.30603D-01	
9	820922.130245379	0.86686E+00,	-0.10331E+00,	2229	0.35975E+03,	-0.85746E-01,	2589	-0.73404D-01	0.81697D-01	361
	820922.144136387	0.10938E+03,	-0.15705E+00,	2336	0.28330E+03,	0.28793E-01,	2512		0.35914D-01	
10	820922.144136387	0.74189E+00,	-0.71151E-01,	2590	0.35962E+03,	-0.76334E-01,	2948	-0.76982D-01	0.88132D-01	359
	820922.162027395	0.25342E+03,	-0.18316E+00,	2843	0.28813E+03,	0.22399E-01,	2878		0.42967D-01	
11	820922.162027395	0.61275E+00,	-0.64597E-01,	2949	0.35949E+03,	-0.51976E-01,	3309	-0.69747D-01	0.80243D-01	361
	820922.175918403	0.24734E+03,	-0.17097E+00,	3196	0.28701E+03,	0.27382E-01,	3236		0.39733D-01	
12	820922.175918403	0.48375E+00,	-0.49012E-01,	3310	0.35936E+03,	-0.83560E-01,	3671	-0.81582D-01	0.92979D-01	362
	820922.193809411	0.24126E+03,	-0.20522E+00,	3552	0.28292E+03,	0.12368E-01,	3594		0.44665D-01	
13	820922.193809411	0.36724E+00,	-0.92387E-01,	3672	0.35999E+03,	-0.81075E-01,	3967	-0.69574D-01	0.81976D-01	296
	820923.003458819	0.26570E+03,	-0.22094E+00,	3872	0.51101E+02,	0.21096E-02,	3723		0.43426D-01	
14	820923.003458819	0.98536E+00,	-0.70137E-01,	3968	0.31319E+03,	-0.49997E-01,	4281	-0.76027D-01	0.85868D-01	314
	820923.020043395	0.26160E+03,	-0.22187E+00,	4229	0.92561E+02,	-0.52523E-02,	4060		0.39979D-01	

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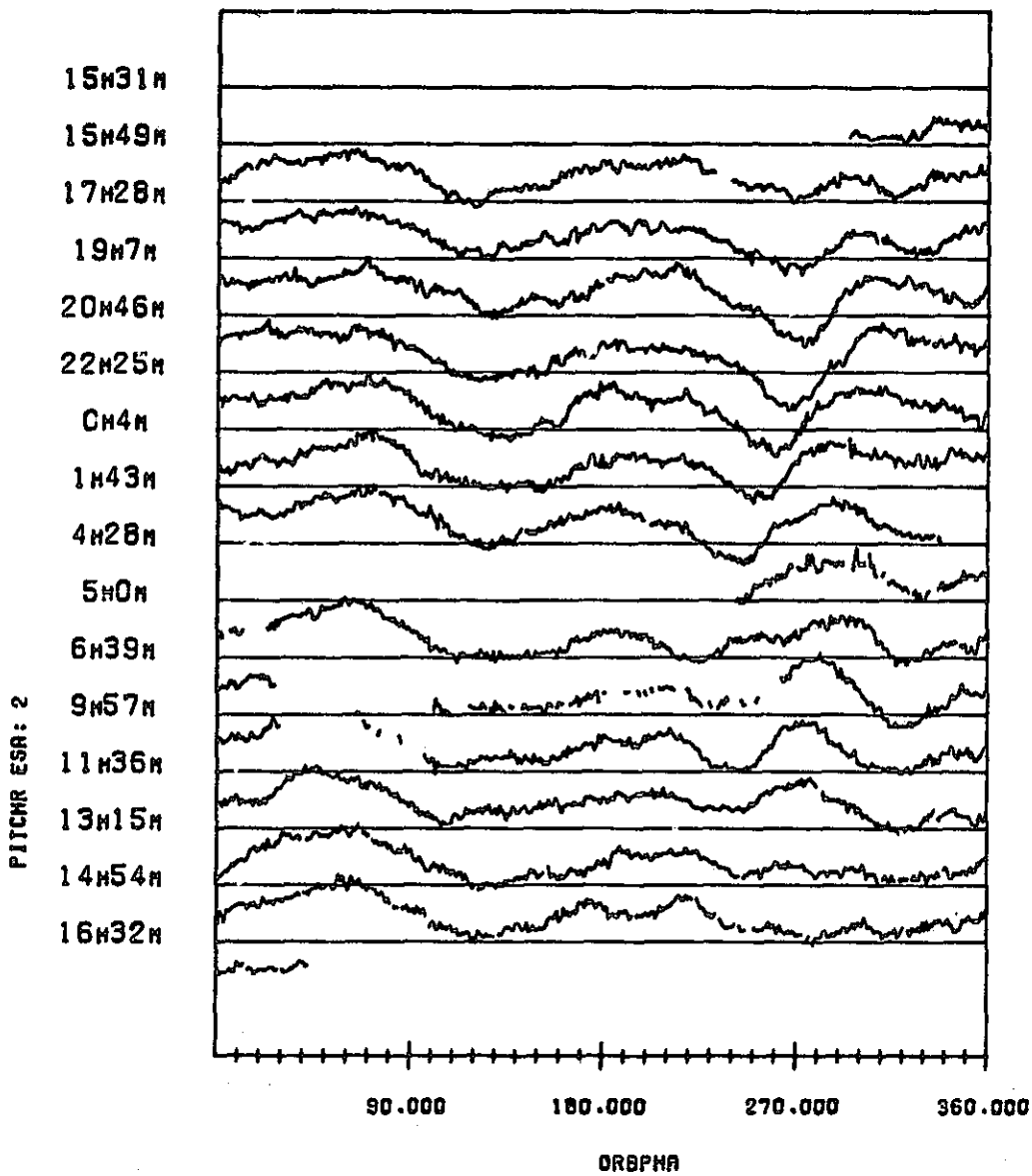

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821005.153123435
END TIME:821006.164427194

FIGURE B-4. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-4. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821005.153123435	0.29399E+03,	-0.13010E+00,	1	0.35952E+03,	-0.95978E-01,	67	-0.11403D+00	0.11561D+00	67
	821005.154941163	0.32078E+03,	-0.14856E+00,	28	0.33666E+03,	-0.76010E-01,	44		0.19221D-01	
2	821005.154941163	0.80978E+00,	-0.99302E-01,	68	0.35938E+03,	-0.65997E-01,	421	-0.84230D-01	0.91468D-01	354
	821005.172832171	0.11998E+03,	-0.16564E+00,	187	0.64198E+02,	-0.12822E-01,	131		0.35713D-01	
3	821005.172832171	0.37226E+00,	-0.62494E-01,	422	0.35924E+03,	-0.56895E-01,	782	-0.91552D-01	0.99450D-01	361
	821005.190723179	0.27190E+03,	-0.19095E+00,	695	0.63065E+02,	-0.13652E-01,	485		0.38894D-01	
4	821005.190723179	0.23648E+00,	-0.63696E-01,	783	0.35911E+03,	-0.74405E-01,	1142	-0.87139D-01	0.98829D-01	360
	821005.204614202	0.27376E+03,	-0.23021E+00,	1056	0.68907E+02,	0.53716E-02,	852		0.46690D-01	
5	821005.204614202	0.10634E+00,	-0.83658E-01,	1143	0.35997E+03,	-0.80981E-01,	1504	-0.99135D-01	0.11237D+00	362
	821005.222521594	0.26570E+03,	-0.24782E+00,	1410	0.22980E+02,	-0.68926E-02,	1166		0.52976D-01	
6	821005.222521594	0.96360E+00,	-0.68244E-01,	1505	0.35984E+03,	-0.10009E+00,	1866	-0.92275D-01	0.10402D+00	362
	821006.000412602	0.25961E+03,	-0.22048E+00,	1765	0.69636E+02,	-0.12901E-03,	1574		0.48077D-01	
7	821006.000412602	0.83518E+00,	-0.10013E+00,	1867	0.35971E+03,	-0.60836E-01,	2227	-0.91504D-01	0.10026D+00	361
	821006.014303610	0.24956E+03,	-0.19252E+00,	2117	0.72494E+02,	0.46612E-03,	1939		0.41043D-01	
8	821006.014303610	0.70559E+00,	-0.41149E-01,	2228	0.33971E+03,	-0.15239E+00,	2564	-0.91231D-01	0.10226D+00	337
	821006.042815930	0.24447E+03,	-0.20450E+00,	2469	0.72363E+02,	0.68707E-02,	2300		0.46269D-01	
9	821006.042815930	0.24235E+03,	-0.14498E+00,	2565	0.35944E+03,	-0.87220E-01,	2673	-0.89209D-01	0.94997D-01	109
	821006.050045626	0.24334E+03,	-0.15905E+00,	2566	0.29788E+03,	-0.84303E-02,	2617		0.32804D-01	
10	821006.050045626	0.43342E+00,	-0.91302E-01,	2674	0.35930E+03,	-0.86073E-01,	3022	-0.97751D-01	0.10696D+00	349
	821006.063936634	0.31660E+03,	-0.17177E+00,	2980	0.59146E+02,	0.98142E-02,	2721		0.43481D-01	
11	821006.063936634	0.29822E+00,	-0.80865E-01,	3023	0.35904E+03,	-0.88324E-01,	3262	-0.10090D+00	0.10997D+00	240
	821006.095718650	0.31435E+03,	-0.18391E+00,	3217	0.28062E+03,	0.12542E-01,	3183		0.43810D-01	
12	821006.095718650	0.36834E-01,	-0.73770E-01,	3263	0.35991E+03,	-0.94954E-01,	3576	-0.92014D-01	0.10021D+00	314
	821006.113626042	0.10158E+03,	-0.15937E+00,	3316	0.45805E+02,	0.19970E-01,	3295		0.39757D-01	
13	821006.113626042	0.90263E+00,	-0.82380E-01,	3577	0.35978E+03,	-0.10731E+00,	3934	-0.80323D-01	0.88941D-01	358
	821006.131917050	0.31806E+03,	-0.16450E+00,	3894	0.40698E+02,	0.17566E-01,	3617		0.38246D-01	
14	821006.131517050	0.77314E+00,	-0.13189E+00,	3935	0.35965E+03,	-0.75043E-01,	4285	-0.92122D-01	0.10033D+00	351
	821006.145408058	0.12424E+03,	-0.16087E+00,	4054	0.65465E-02,	0.13118E-01,	3998		0.39812D-01	
15	821006.145408058	0.63970E+00,	-0.99641E-01,	4286	0.35951E+03,	-0.65208E-01,	4632	-0.82335D-01	0.92156D-01	347
	821006.163259066	0.27812E+03,	-0.15716E+00,	4551	0.56362E+02,	0.30440E-01,	4340		0.41457D-01	
16	821006.163259066	0.50209E+00,	-0.72012E-01,	4633	0.42284E+02,	-0.58060E-01,	4673	-0.69579D-01	0.70217D-01	41
	821006.164427194	0.17407E+02,	-0.86470E-01,	4649	0.38303E+02,	-0.46313E-01,	4669		0.95608D-02	

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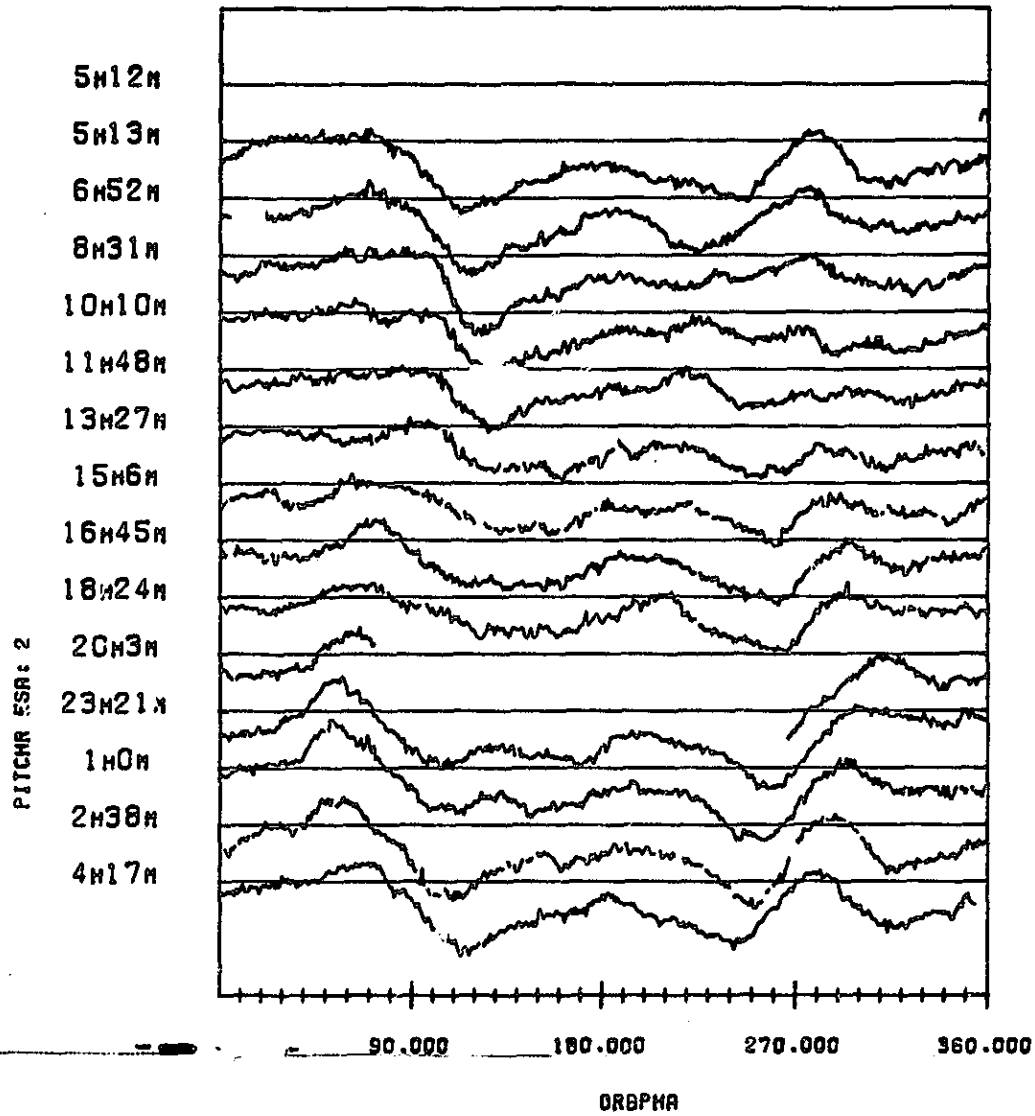

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821020.051211761
END TIME:821021.055456871

FIGURE B-5. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-5. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821020.051211751	0.35601E+03,	-0.96060E-01,	1	0.35998E+03,	-0.76456E-01,	5	-0.79683D-01	0.80213D-01	5
	821020.051333671	0.35601E+03,	-0.96060E-01,	1	0.35800E+03,	-0.68377E-01,	3		0.10296D-01	
2	821020.051333671	0.97820E+00,	-0.55815E-01,	6	0.35986E+03,	-0.66939E-01,	367	-0.69700D-01	0.89509D-01	362
	821020.065224679	0.11350E+03,	-0.19022E+00,	119	0.69661E+02,	0.34347E-01,	75		0.56236D-01	
3	821020.065224679	0.84988E+00,	-0.48048E-01,	368	0.35973E+03,	-0.36007E-01,	729	-0.66314D-01	0.83646D-01	362
	821020.083115687	0.11836E+03,	-0.20115E+00,	486	0.69534E+02,	0.47270E-01,	437		0.51053D-01	
4	821020.083115687	0.72543E+00,	-0.45057E-01,	730	0.35961E+03,	-0.27220E-01,	1090	-0.59435D-01	0.76492D-01	361
	821020.101006695	0.12321E+03,	-0.20820E+00,	853	0.58451E+02,	0.23244E-01,	788		0.48217D-01	
5	821020.101006695	0.60228E+00,	-0.11733E-01,	1091	0.35949E+03,	-0.34846E-01,	1450	-0.55641D-01	0.70978D-01	360
	821020.114857703	0.12698E+03,	-0.16659E+00,	1215	0.63308E+02,	0.38116E-01,	1152		0.44129D-01	
6	821020.114857703	0.48044E+00,	-0.28819E-01,	1451	0.35936E+03,	-0.44631E-01,	1812	-0.57007D-01	0.67402D-01	362
	821020.132748711	0.12595E+03,	-0.16513E+00,	1577	0.85103E+02,	0.10579E-01,	1536		0.36012D-01	
7	821020.132748711	0.35697E+00,	-0.38563E-01,	1813	0.35824E+03,	-0.72138E-01,	2166	-0.65700D-01	0.76684D-01	354
	821020.150639719	0.16167E+03,	-0.14505E+00,	1971	0.88962E+02,	0.23144E-01,	1901		0.39604D-01	
8	821020.150639719	0.22905E+00,	-0.61593E-01,	2167	0.35910E+03,	-0.40424E-01,	2504	-0.69373D-01	0.79530D-01	338
	821020.164530727	0.25987E+03,	-0.16570E+00,	2409	0.61933E+02,	0.24626E-01,	2225		0.38948D-01	
9	821020.164530727	0.97600E-01,	-0.43884E-01,	2505	0.35997E+03,	-0.19948E-01,	2860	-0.65430D-01	0.80747D-01	356
	821020.182438119	0.26172E+03,	-0.17132E+00,	2762	0.68774E+02,	0.56154E-01,	2569		0.47385D-01	
10	821020.182438119	0.96106E+00,	-0.27052E-01,	2861	0.35984E+03,	-0.47578E-01,	3216	-0.45708D-01	0.62873D-01	356
	821020.200329127	0.26060E+03,	-0.14513E+00,	3118	0.29432E+03,	0.39440E-01,	3152		0.43233D-01	
11	821020.200329127	0.83428E+00,	-0.37959E-01,	3217	0.35960E+03,	-0.52385E-01,	3383	-0.50589D-01	0.76722D-01	167
	821020.232111143	0.26632E+03,	-0.22091E+00,	3289	0.65530E+02,	0.72330E-01,	3281		0.57855D-01	
12	821020.232111143	0.59568E+00,	-0.63762E-01,	3384	0.35948E+03,	-0.25530E-01,	3744	-0.69659D-01	0.93959D-01	361
	821021.010002151	0.25232E+03,	-0.20675E+00,	3636	0.57322E+02,	0.90954E-01,	3441		0.63142D-01	
13	821021.010002151	0.47406E+00,	-0.17158E-01,	3745	0.35936E+03,	-0.47535E-01,	4105	-0.53644D-01	0.84524D-01	361
	821021.023853159	0.24525E+03,	-0.19204E+00,	3991	0.53214E+02,	0.12958E+00,	3798		0.65410D-01	
14	821021.023853159	0.35028E+00,	-0.66001E-01,	4106	0.35923E+03,	-0.45386E-01,	4440	-0.75236D-01	0.99958D-01	335
	821021.041744167	0.25206E+03,	-0.21901E+00,	4340	0.58071E+02,	0.74090E-01,	4159		0.65910D-01	
15	821021.041744167	0.22048E+00,	-0.31955E-01,	4441	0.35413E+03,	-0.61380E-01,	4796	-0.68047D-01	0.90608D-01	356
	821021.055456871	0.11374E+03,	-0.19631E+00,	4555	0.69896E+02,	0.52247E-01,	4511		0.59912D-01	

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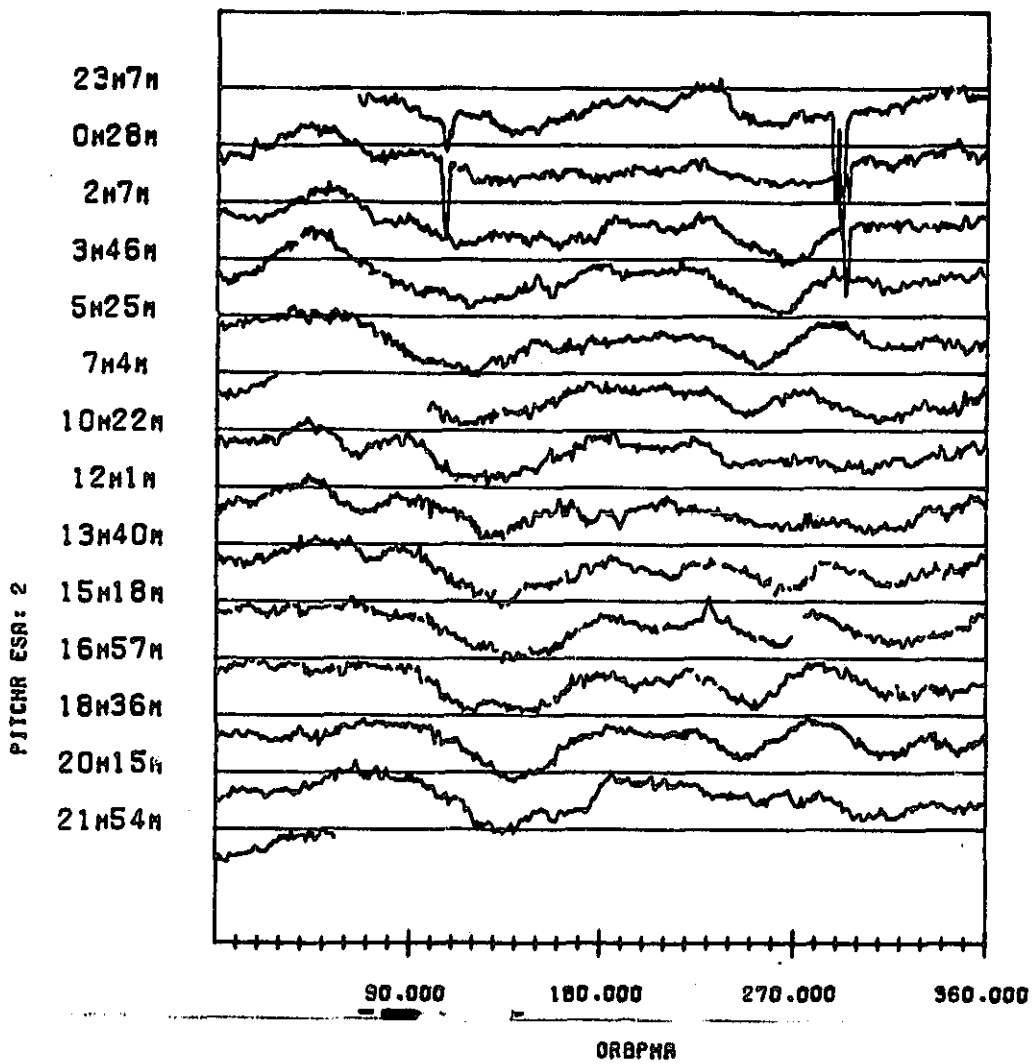

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821102.230736644
END TIME:821103.220936128

FIGURE B-6. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-6. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	821102.230736644	0.64203E+02,	-0.20716E-01,	1	0.35939E+03,	-0.20288E-01,	298	-0.58566D-01	0.73032D-01	298
	821103.002859076	0.28891E+03,	-0.30000E+00,	227	0.23437E+03,	0.25906E-01,	172		0.43704D-01	
2	821103.002859076	0.38859E+00,	-0.25620E-01,	299	0.35928E+03,	-0.13508E-01,	658	-0.49627D-01	0.66539D-01	360
	821103.020750084	0.10595E+03,	-0.24656E+00,	405	0.43179E+02,	0.60337E-01,	342		0.44385D-01	
3	821103.020750084	0.27494E+00,	-0.34356E-01,	659	0.35916E+03,	-0.40106E-01,	1020	-0.66508D-01	0.78702D-01	362
	821103.034641092	0.29363E+03,	-0.24690E+00,	954	0.51032E+02,	0.51799E-01,	710		0.42138D-01	
4	821103.034641092	0.45641E+00,	-0.39[illegible]37E-01,	1021	0.35904E+03,	-0.41140E-01,	1380	-0.51415D-01	0.68274D-01	360
	821103.052532115	0.26278E+03,	-0.14[illegible]29E+00,	1283	0.42947E+02,	0.84012E-01,	1063		0.44982D-01	
5	821103.052532115	0.35927E-01,	-0.29987E-01,	1381	0.35992E+03,	-0.59460E-01,	1742	-0.64249D-01	0.75714D-01	362
	821103.070439522	0.11855E+03,	-0.15173E+00,	1499	0.35858E+02,	0.27760E-01,	1417		0.40114D-01	
6	821103.070439522	0.91320E+00,	-0.5[illegible]750E-01,	1743	0.35969E+03,	-0.54959E-01,	2032	-0.74300D-01	0.80503D-01	290
	821103.102221538	0.11434E+03,	-0.13954E+00,	1787	0.27777E+02,	-0.64805E-02,	1770		0.31041D-01	
7	821103.102221538	0.68613E+00,	-0.43742E-01,	2033	0.35958E+03,	-0.34595E-01,	2394	-0.59280D-01	0.69133D-01	362
	821103.120112546	0.12618E+03,	-0.14476E+00,	2159	0.42484E+02,	0.34417E-01,	2075		0.35620D-01	
8	821103.120112546	0.57445E+00,	-0.52303E-01,	2395	0.35947E+03,	-0.48422E-01,	2753	-0.63966D-01	0.72309D-01	359
	821103.134003569	0.13403E+03,	-0.13826E+00,	2528	0.42372E+02,	0.34114E-01,	2436		0.33767D-01	
9	821103.134003569	0.46172E+00,	-0.26130E-01,	2754	0.35935E+03,	-0.33978E-01,	3097	-0.63529D-01	0.73987D-01	344
	821103.151854577	0.13292E+03,	-0.16559E+00,	2885	0.46241E+02,	0.24112E-01,	2800		0.37979D-01	
10	821103.151854577	0.34327E+00,	-0.24769E-01,	3098	0.35923E+03,	-0.30995E-01,	3439	-0.65756D-01	0.76005D-01	342
	821103.165745585	0.13379E+03,	-0.15727E+00,	3224	0.23023E+03,	0.14652E-01,	3317		0.38173D-01	
11	821103.165745585	0.22206E+00,	-0.40184E-01,	3440	0.35911E+03,	-0.65652E-01,	3789	-0.63811D-01	0.74308D-01	350
	821103.183636608	0.12072E+03,	-0.14750E+00,	3555	0.16136E+02,	0.71354E-03,	3456		0.38136D-01	
12	821103.183636608	0.10293E+00,	-0.70255E-01,	3790	0.35999E+03,	-0.77057E-01,	4152	-0.66142D-01	0.75533D-01	363
	821103.201544000	0.13953E+03,	-0.17618E+00,	3930	0.27661E+03,	0.15230E-02,	4068		0.36525D-01	
13	821103.201544000	0.98156E+00,	-0.76589E-01,	4153	0.35988E+03,	-0.78103E-01,	4513	-0.65967D-01	0.77098D-01	361
	821103.215435008	0.13942E+03,	-0.16246E+00,	4291	0.64693E+02,	0.31817E-01,	4216		0.39961D-01	
14	821103.215435008	0.87050E+00,	-0.82502E-01,	4514	0.55615E+02,	-0.23154E-01,	4569	-0.39807D-01	0.47798D-01	56
	821103.220936128	0.58426E+01,	-0.87195E-01,	4519	0.50635E+02,	0.61610E-02,	4564		0.26698D-01	

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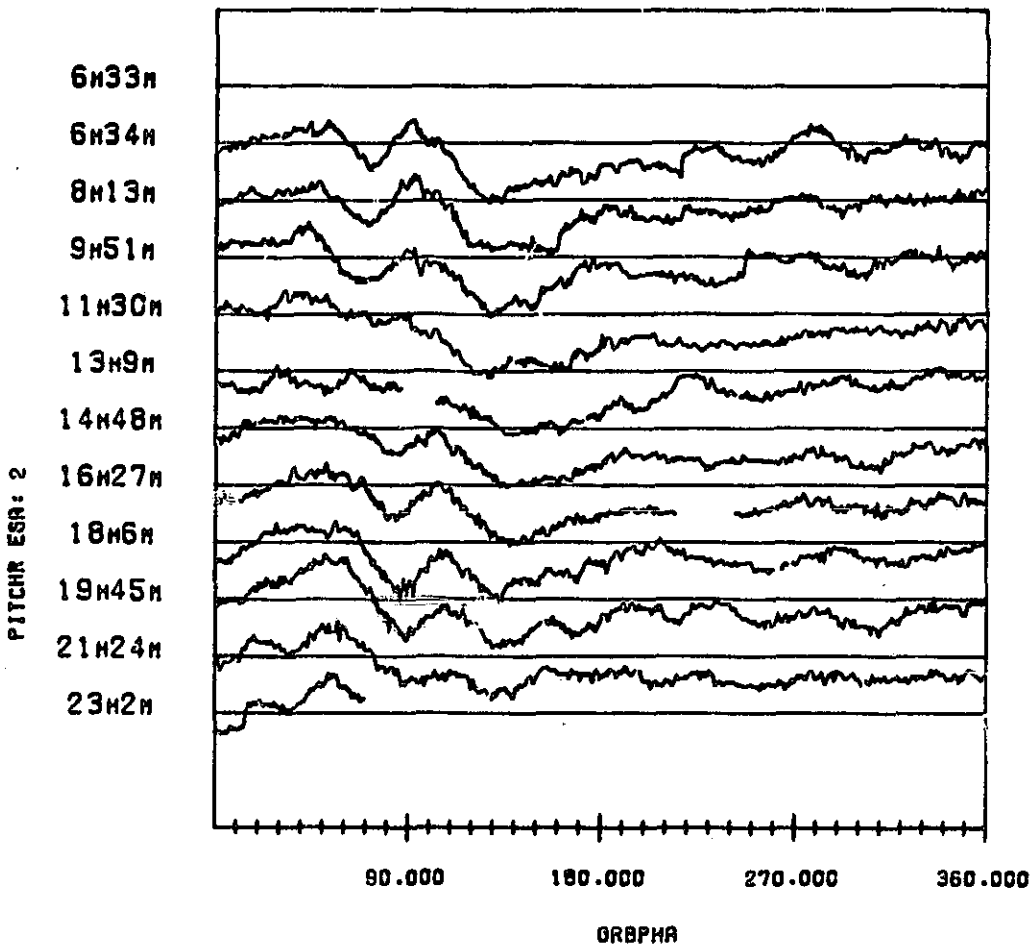

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821116.063354045
END TIME:821116.232203818

FIGURE B-7. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-7. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821116.063354045	0.35944E+03.	-0.34424E-01.	1	0.35944E+03.	-0.34424E-01.	1	-0.34424D-01	0.34424D-01	1
	821116.063410429	0.35944E+03.	-0.34424E-01.	1	0.35944E+03.	-0.34424E-01.	1		0.0	
2	821116.063410429	0.43162E+00.	-0.20349E-01.	2	0.35930E+03.	-0.75856E-02.	362	-0.30254D-01	0.57166D-01	361
	821116.081301452	0.12792E+03.	-0.15826E+00.	129	0.92053E+02.	0.60525E-01.	93		0.48572D-01	
3	821116.081301452	0.29894E+00.	-0.11215E-01.	363	0.35917E+03.	0.28004E-01.	722	-0.25193D-01	0.52459D-01	360
	821116.095152460	0.15566E+03.	-0.14748E+00.	519	0.91919E+02.	0.67150E-01.	455		0.46078D-01	
4	821116.095152460	0.16715E+00.	0.14043E-01.	723	0.35904E+03.	0.13426E-01.	1084	-0.26043D-01	0.54447D-01	362
	821116.113043468	0.12865E+03.	-0.15794E+00.	852	0.42967E+02.	0.93028E-01.	766		0.47881D-01	
5	821116.113043468	0.37086E-01.	0.80357E-02.	1085	0.35991E+03.	-0.38473E-01.	1446	-0.52376D-01	0.73557D-01	362
	821116.130950875	0.12752E+03.	-0.16671E+00.	1213	0.32877E+02.	0.65488E-01.	1118		0.51719D-01	
6	821116.130950875	0.90151E+00.	-0.32666E-01.	1447	0.35977E+03.	-0.93633E-02.	1789	-0.59817D-01	0.75052D-01	343
	821116.144841883	0.16123E+03.	-0.16799E+00.	1591	0.28763E+02.	0.16236E-01.	1475		0.45397D-01	
7	821116.144841883	0.76658E+00.	-0.21320E-01.	1790	0.35963E+03.	-0.58059E-01.	2150	-0.63193D-01	0.78448D-01	361
	821116.162732891	0.13322E+03.	-0.15517E+00.	1922	0.30618E+02.	0.33661E-01.	1820		0.46548D-01	
8	821116.162732891	0.62713E+00.	-0.49893E-01.	2151	0.35949E+03.	-0.43047E-01.	2485	-0.53302D-01	0.68462D-01	335
	821116.180623899	0.13806E+03.	-0.16024E+00.	2289	0.51391E+02.	0.58315E-01.	2202		0.43029D-01	
9	821116.180623899	0.48812E+00.	-0.51892E-01.	2486	0.35936E+03.	-0.42990E-02.	2844	-0.43261D-01	0.60852D-01	359
	821116.194514907	0.13294E+03.	-0.16124E+00.	2619	0.56234E+02.	0.53470E-01.	2542		0.42855D-01	
10	821116.194514907	0.35214E+00.	-0.49164E-02.	2845	0.35923E+03.	-0.70158E-02.	3205	-0.29986D-01	0.58913D-01	361
	821116.212405915	0.12982E+03.	-0.12801E+00.	2975	0.51118E+02.	0.11951E-00.	2896		0.50781D-01	
11	821116.212405915	0.22100E+00.	-0.16795E-01.	3206	0.35910E+03.	-0.51137E-01.	3564	-0.39320D-01	0.57032D-01	359
	821116.230256938	0.12969E+03.	-0.11250E+00.	3335	0.56963E+02.	0.90123E-01.	3263		0.41368D-01	
12	821116.230256938	0.93636E-01.	-0.50325E-01.	3565	0.69787E+02.	0.39929E-01.	3635	0.25198D-01	0.50470D-01	71
	821116.232203818	0.30772E+01.	-0.56211E-01.	3568	0.52851E+02.	0.10686E+00.	3618		0.44041D-01	

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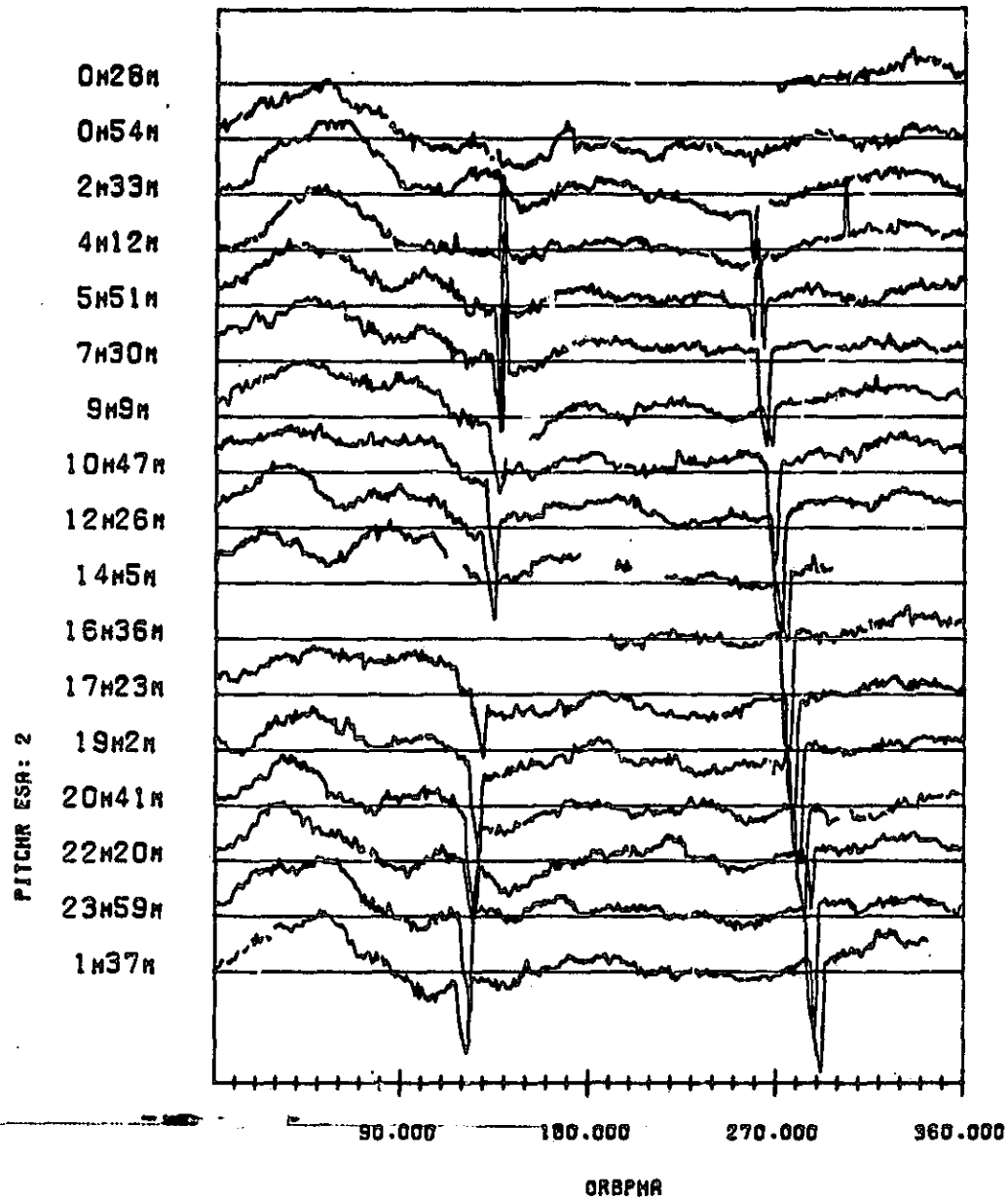

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821201.002856720
END TIME:821202.031150860

FIGURE B-8. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-8. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821201.002856720	0.26704E+03,	-0.14329E-01,	1	0.35936E+03,	0.28284E-01,	89	0.28028D-01	0.36781D-01	89
	821201.005436816	0.27101E+03,	-0.19729E-01,	3	0.33451E+03,	0.95167E-01,	66		0.23952D-01	
2	821201.005436816	0.35852E+00,	0.29116E-01,	90	0.35924E+03,	0.87154E-02,	442	0.92565D-02	0.55905D-01	353
	821201.023327824	0.14773E+03,	-0.83392E-01,	233	0.53114E+02,	0.15994E+00,	142		0.55212D-01	
3	821201.023327824	0.23480E+00,	0.96661E-02,	443	0.35911E+03,	0.91617E-02,	799	0.37304D-01	0.74055D-01	357
	821201.041218832	0.25885E+03,	-0.18554E+00,	703	0.50998E+02,	0.20000E+00,	494		0.64062D-01	
4	821201.041218832	0.10528E+00,	0.15424E-01,	800	0.35998E+03,	0.37440E-01,	1149	0.32379D-01	0.60237D-01	350
	821201.055126239	0.26170E+03,	-0.73126E-01,	1054	0.13753E+03,	0.20000E+00,	934		0.50867D-01	
5	821201.055126239	0.97076E+00,	0.46785E-01,	1150	0.35985E+03,	0.71914E-01,	1509	0.46240D-01	0.69666D-01	360
	821201.073017262	0.25740E+03,	-0.28294E+00,	1285	0.13840E+03,	0.20000E+00,	1286		0.52179D-01	
6	821201.073017262	0.24504E+00,	0.69654E-01,	1510	0.35973E+03,	0.41016E-01,	1870	0.51870D-01	0.76341D-01	361
	821201.090908270	0.23541E+03,	-0.22936E+00,	1776	0.14026E+03,	0.20000E+00,	1650		0.56091D-01	
7	821201.090908270	0.72163E+00,	0.41407E-01,	1871	0.35961E+03,	0.55036E-01,	2232	0.44486D-01	0.72218D-01	362
	821201.104759278	0.13715E+03,	-0.20660E+00,	2008	0.42526E+02,	0.15480E+00,	1913		0.56968D-01	
8	821201.104759278	0.60016E+00,	0.71987E-01,	2233	0.35949E+03,	0.81025E-01,	2592	0.46231D-01	0.73474D-01	360
	821201.122650301	0.13604E+03,	-0.28289E+00,	2369	0.50372E+02,	0.13127E+00,	2283		0.57186D-01	
9	821201.122650301	0.47979E+00,	0.62461E-01,	2593	0.35936E+03,	0.65827E-01,	2954	0.57269D-01	0.83856D-01	362
	821201.140541309	0.27199E+03,	-0.28433E+00,	2936	0.27347E+02,	0.17819E+00,	2620		0.61394D-01	
10	821201.140541309	0.35569E+00,	0.59390E-01,	2955	0.29666E+03,	0.43002E-01,	3203	0.61245D-01	0.82480D-01	245
	821201.163641661	0.27484E+03,	-0.15549E+00,	3182	0.83994E+02,	0.17214E+00,	3039		0.55356D-01	
11	821201.163641661	0.19036E+03,	0.82081E-02,	3204	0.35910E+03,	0.50779E-01,	3373	0.73147D-02	0.57516D-01	170
	821201.172323325	0.27570E+03,	-0.30000E+00,	3290	0.33316E+03,	0.92781E-01,	3347		0.57218D-01	
12	821201.172323325	0.96549E-01,	0.50625E-01,	3374	0.35997E+03,	0.26581E-01,	3734	0.13768D-01	0.71142D-01	361
	821201.190230717	0.27756E+03,	-0.30000E+00,	3651	0.46876E+02,	0.13168E+00,	3421		0.69893D-01	
13	821201.190230717	0.96248E+00,	0.34572E-01,	3735	0.35984E+03,	0.39927E-01,	4093	-0.45245D-02	0.59858D-01	359
	821201.204121740	0.28140E+03,	-0.30000E+00,	4014	0.46749E+02,	0.11893E+00,	3781		0.59770D-01	
14	821201.204121740	0.83949E+00,	0.28161E-01,	4094	0.35972E+03,	0.30458E-01,	4443	-0.13922D-02	0.60365D-01	350
	821201.222012748	0.12632E+03,	-0.30000E+00,	4220	0.32684E+02,	0.14103E+00,	4126		0.60435D-01	
15	821201.222012748	0.71926E+00,	0.25012E-01,	4444	0.35960E+03,	0.36975E-01,	4805	0.23880D-01	0.57055D-01	362
	821201.235903756	0.12520E+03,	-0.18198E+00,	4569	0.33559E+02,	0.16430E+00,	4477		0.51889D-01	
16	821201.235903756	0.59067E+00,	0.33411E-01,	4806	0.35947E+03,	0.26778E-01,	5166	0.27530D-01	0.69082D-01	361
	821202.013754764	0.28897E+03,	-0.30000E+00,	5096	0.50360E+02,	0.16320E+00,	4856		0.63447D-01	
17	821202.013754764	0.46864E+00,	0.89848E-02,	5167	0.34245E+03,	0.82888E-01,	5504	0.21996D-01	0.70160D-01	338
	821202.031150860	0.29182E+03,	-0.27264E+00,	5453	0.51232E+02,	0.17018E+00,	5212		0.66722D-01	

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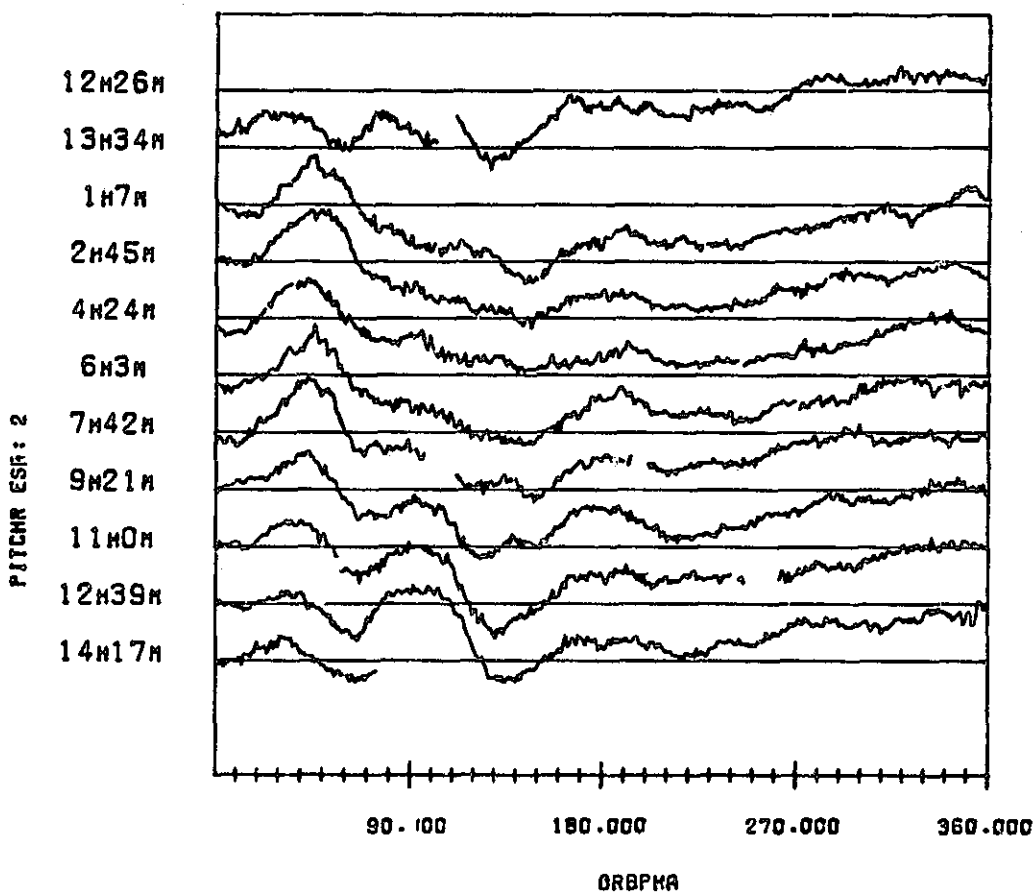

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821214.122607064
END TIME:821215.143609812

FIGURE B-9. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-9. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	821214.122607064	0.11096E+03,	-0.68360E-01,	1	0.35932E+03,	0.41369E-01,	251	-0.32402D-01	0.70546D-01	251
	821214.133439448	0.12789E+03,	-0.20741E+00,	18	0.31858E+03,	0.65686E-01,	210		0.62790D-01	
2	821214.133439448	0.31669E+00,	0.49619E-01,	252	0.10187E+03,	0.15248E-01,	353	0.53213D-01	0.60268D-01	102
	821215.010742070	0.98047E+02,	-0.90241E-02,	310	0.22204E+02,	0.98742E-01,	274		0.28436D-01	
3	821215.010742070	0.34892E+01,	-0.62007E-02,	354	0.35940E+03,	0.14369E-01,	710	-0.58557D-01	0.89970D-01	357
	821215.024543926	0.14388E+03,	-0.20768E+00,	494	0.46284E+02,	0.13181E+00,	397		0.68402D-01	
4	821215.024543926	0.39166E+00,	0.34520E-02,	711	0.35928E+03,	-0.40388E-01,	1071	-0.56026D-01	0.89230D-01	361
	821215.042434934	0.14676E+03,	-0.17550E+00,	858	0.49158E+02,	0.13906E+00,	760		0.69545D-01	
5	821215.042434934	0.27155E+00,	-0.24762E-01,	1072	0.35916E+03,	-0.36230E-01,	1429	-0.61425D-01	0.84768D-01	358
	821215.060325957	0.14067E+03,	-0.14504E+00,	1211	0.43066E+02,	0.10564E+00,	1113		0.58499D-01	
6	821215.060325957	0.15280E+00,	-0.23467E-01,	1430	0.35904E+03,	-0.21135E-01,	1790	-0.64058D-01	0.88872D-01	361
	821215.074216965	0.14354E+03,	-0.18368E+00,	1574	0.45935E+02,	0.13370E+00,	1476		0.61688D-01	
7	821215.074216965	0.36613E-01,	-0.29739E-01,	1791	0.35992E+03,	-0.14947E-01,	2130	-0.42864D-01	0.78492D-01	340
	821215.092124357	0.14840E+03,	-0.18199E+00,	1925	0.42832E+02,	0.14671E+00,	1834		0.65851D-01	
8	821215.092124357	0.91805E+00,	-0.75642E-02,	2131	0.35981E+03,	-0.46066E-02,	2491	-0.49458D-01	0.79561D-01	361
	821215.110015380	0.12339E+03,	-0.18333E+00,	2284	0.43714E+02,	0.10138E+00,	2174		0.62407D-01	
9	821215.110015380	0.80796E+00,	0.39484E-02,	2492	0.35970E+03,	-0.44054E-02,	2833	-0.52604D-01	0.84201D-01	342
	821215.123906388	0.13025E+03,	-0.24206E+00,	2621	0.33646E+02,	0.71452E-01,	2525		0.65843D-01	
10	821215.123906388	0.69683E+00,	0.81843E-02,	2834	0.35959E+03,	-0.60609E-02,	3195	-0.63232D-01	0.87986D-01	362
	821215.141757396	0.13412E+03,	-0.20665E+00,	2968	0.91300E+02,	0.49998E-01,	2925		0.61268D-01	
11	821215.141757396	0.58257E+00,	-0.62080E-02,	3196	0.74249E+02,	-0.25667E-01,	3269	0.29291D-02	0.33243D-01	74
	821215.143809812	0.65284E+02,	-0.56229E-01,	3260	0.30432E+02,	0.65608E-01,	3226		0.33339D-01	

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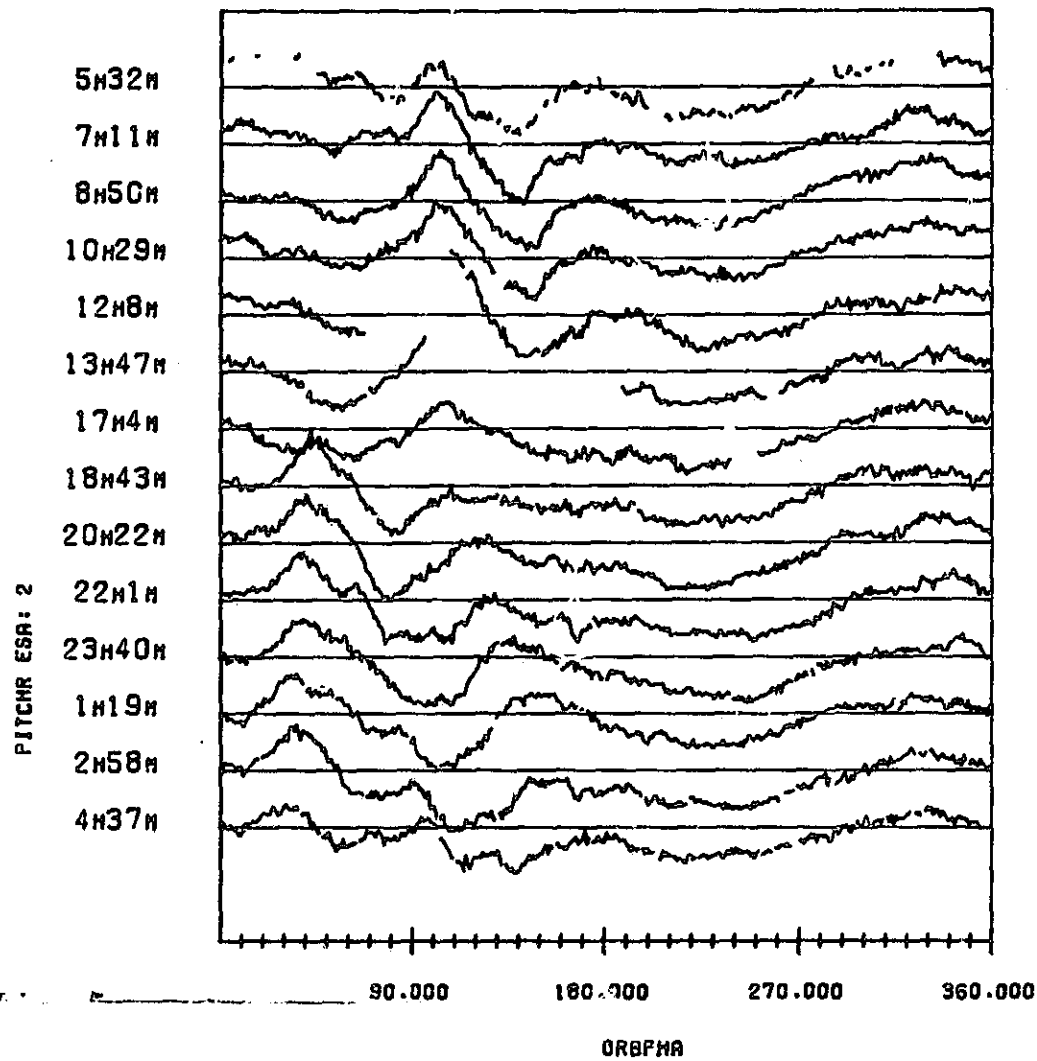

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821228.059240480
END TIME:821229.061420138

FIGURE B-10. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-10. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821228.053240480	0.54884E+00,	0.57130E-01,	1	0.35942E+03,	0.37904E-01,	261	-0.64178D-02	0.56039D-01	261
	821228.071131503	0.13994E+03,	-0.12611E+00,	101	0.21438E+02,	0.10045E-00,	10		0.55777D-01	
2	821228.071131503	0.41262E+00,	0.36449E-01,	262	0.35929E+03,	0.36420E-01,	623	0.40341D-02	0.54245D-01	362
	821228.085022511	0.14180E-03,	-0.15798E+00,	404	0.99971E+02,	0.13784E-00,	362		0.54170D-01	
3	821228.085022511	0.27913E+00,	0.31524E-01,	624	0.35915E+03,	0.58880E-01,	985	0.36750D-02	0.57852D-01	362
	821228.102913519	0.14365E+03,	-0.12914E+00,	768	0.10282E+03,	0.13332E+00,	727		0.57815D-01	
4	821228.102913519	0.14712E+00,	0.51049E-01,	986	0.35902E+03,	0.66786E-01,	1343	0.16207D-01	0.54467D-01	358
	821228.120804527	0.14750E+03,	-0.10957E+00,	1130	0.99704E+02,	0.14691E+00,	1086		0.52073D-01	
5	821228.120804527	0.15908E 01,	0.57269E-01,	1340	0.35988E+03,	0.33861E-01,	1662	-0.60456D-02	0.55183D-01	319
	821228.134711934	0.14339E-03,	-0.11138E+00,	1447	0.10754E+03,	0.16848E+00,	1412		0.54937D-01	
6	821228.134711934	0.87757E+00,	0.30047E-01,	1663	0.35960E+03,	0.18825E-01,	1926	-0.17702D-01	0.51192D-01	264
	821228.170453950	0.56607E+02,	-0.10036E+00,	1718	0.95451E+02,	0.93071E-01,	1756		0.48125D-01	
7	821228.170453950	0.59855E+00,	0.18141E-01,	1927	0.35946E+03,	0.34106E-01,	2275	-0.23238D-01	0.55040D-01	349
	821228.184344958	0.21754E+03,	-0.12109E+00,	2145	0.32767E+03,	0.74412E-01,	2243		0.49965D-01	
8	821228.184344958	0.45906E+00,	0.13671E-01,	2276	0.35933E+03,	0.36150E-01,	2634	-0.24719D-01	0.60803D-01	359
	821228.202235981	0.80091E+02,	-0.13012E+00,	2356	0.42248E+02,	0.14853E+00,	2318		0.55630D-01	
9	821228.202235981	0.32495E+00,	0.31351E-01,	2635	0.35920E+03,	0.24291E-01,	2996	-0.24661D-01	0.69382D-01	362
	821228.220126989	0.78962E+02,	-0.15086E+00,	2714	0.40123E+02,	0.12994E+00,	2675		0.64941D-01	
10	821228.220126989	0.19368E+00,	0.20987E-01,	2997	0.35907E+03,	0.20948E-01,	3359	-0.24877D-01	0.63971D-01	363
	821228.234017997	0.76838E+02,	-0.11505E+00,	3075	0.38996E+02,	0.12804E+00,	3036		0.59018D-01	
11	821228.234017997	0.62472E-01,	0.79590E-02,	3360	0.35993E+03,	0.18581E-02,	3713	-0.25309D-01	0.63329D-01	354
	821229.011925389	0.96629E+02,	-0.12946E+00,	3456	0.38864E+02,	0.10102E+00,	3398		0.58134D-01	
12	821229.011925389	0.92527E+00,	-0.64543E-02,	3714	0.35980E+03,	0.19169E-02,	4065	-0.15954D-01	0.58121D-01	352
	821229.025816412	0.10147E+03,	-0.14890E+00,	3811	0.35745E+02,	0.10680E+00,	3749		0.55968D-01	
13	821229.025816412	0.79197E+00,	-0.37377E-02,	4066	0.35966E+03,	0.86641E-02,	4414	-0.34474D-01	0.69574D-01	349
	821229.043707420	0.10732E+03,	-0.16238E+00,	4170	0.35612E+02,	0.12320E+00,	4100		0.60519D-01	
14	821229.043707420	0.65157E+00,	0.12718E-01,	4415	0.35455E+03,	-0.36840E-02,	4751	-0.27836D-01	0.51432D-01	337
	821229.061420139	0.13805E+03,	-0.12194E+00,	4547	0.30496E+02,	0.61657E-01,	4445		0.43312D-01	

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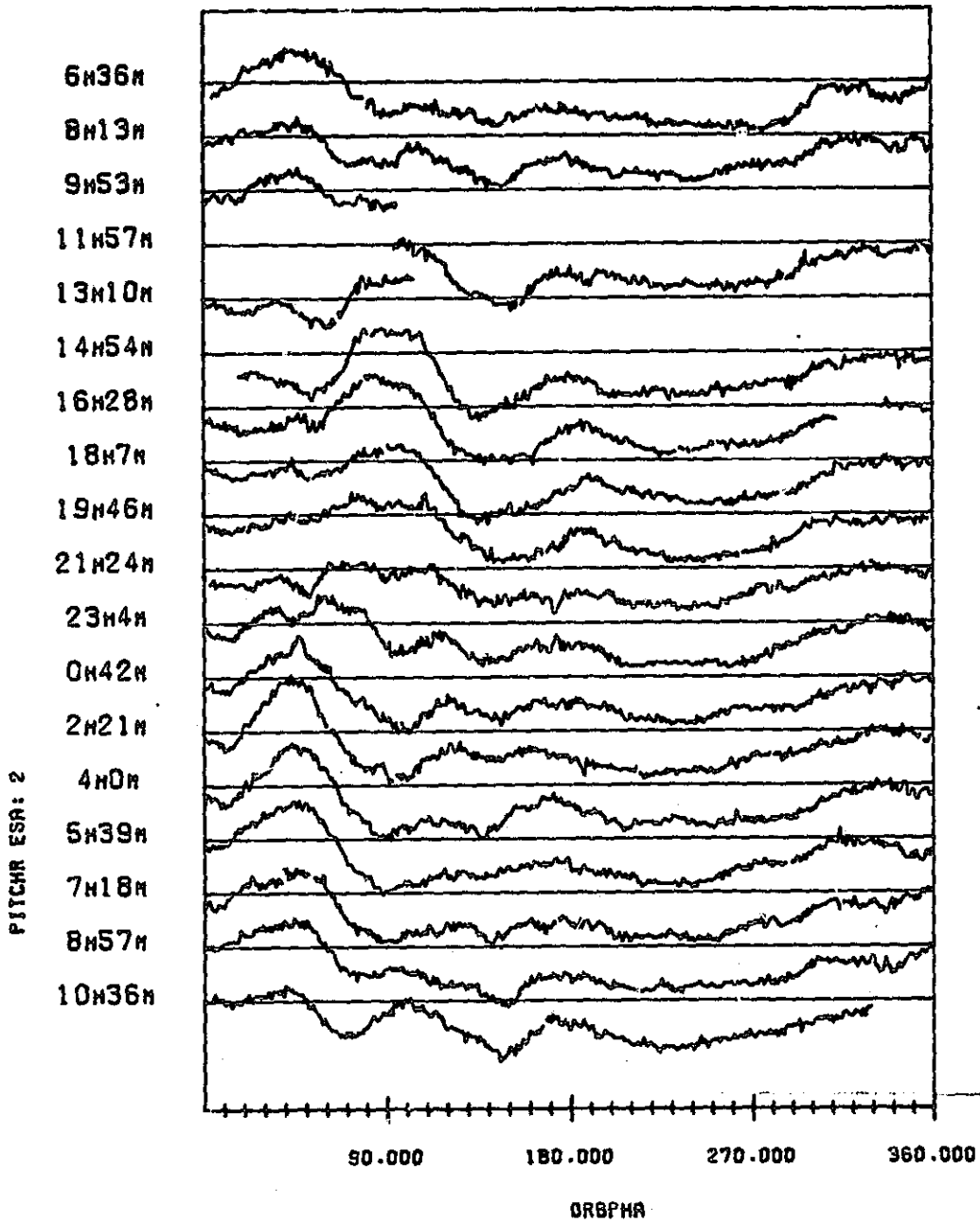

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:890119.063600627
END TIME:89C120.120626114

FIGURE B-11. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-11. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830119.063608627	0.41493E+01,	-0.38844E-01,	1	0.35905E+03,	0.71517E-02,	356	-0.60471D-01	0.85210D-01	356
	830119.081354114	0.27567E+03,	-0.14695E+00,	272	0.38974E+02,	0.94726E-01,	36		0.60118D-01	
2	830119.081354114	0.45614E-01,	-0.82588E-02,	357	0.35992E+03,	-0.20350E-01,	719	-0.60703D-01	0.76076D-01	363
	830119.095301506	0.13945E+03,	-0.14747E+00,	497	0.45816E+02,	0.53233E-01,	404		0.45918D-01	
3	830119.095301506	0.91422E+00,	-0.34676E-01,	720	0.95492E+02,	-0.34799E-01,	815	-0.49046D-02	0.32437D-01	96
	830119.115732610	0.89515E-02,	-0.57882E-01,	809	0.45690E+02,	0.61109E-01,	765		0.32232D-01	
4	830119.115732610	0.94371E+02,	-0.98520E-02,	816	0.35967E+03,	-0.10716E-01,	1080	-0.83191D-01	0.95128D-01	265
	830119.131043522	0.15114E+03,	-0.18334E+00,	873	0.99352E+02,	0.17523E-01,	821		0.46224D-01	
5	830119.131043522	0.66545E+00,	-0.12190E-01,	1081	0.10421E+03,	0.54950E-01,	1183	-0.76527D-02	0.41371D-01	103
	830119.145413058	0.52408E+02,	-0.80806E-01,	1132	0.90258E+02,	0.66964E-01,	1169		0.40856D-01	
6	830119.145413058	0.17442E+02,	-0.62088E-01,	1184	0.35941E+03,	-0.28159E-01,	1525	-0.69265D-01	0.90233D-01	342
	830119.162825538	0.13595E+03,	-0.18908E+00,	1301	0.79169E+02,	0.68283E-01,	1245		0.57915D-01	
7	830119.162825538	0.40334E+00,	-0.37252E-01,	1526	0.35928E+03,	-0.14004E-01,	1862	-0.60738D-01	0.86256D-01	337
	830119.180716546	0.13780E+03,	-0.16340E+00,	1663	0.85011E+02,	0.91151E-01,	1610		0.61337D-01	
8	830119.180716546	0.27042E+00,	-0.10934E-01,	1863	0.35915E+03,	-0.15340E-01,	2222	-0.61113D-01	0.80964D-01	360
	830119.194607554	0.13966E+03,	-0.17954E+00,	2002	0.97830E+02,	0.48124E-01,	1960		0.53181D-01	
9	830119.194607554	0.14053E+00,	-0.20633E-01,	2223	0.35803E+03,	-0.15648E-01,	2580	-0.50506D-01	0.72444D-01	358
	830119.212458562	0.23001E+03,	-0.13629E+00,	2452	0.72797E+02,	0.62659E-01,	2295		0.52008D-01	
10	830119.212458562	0.15487E-01,	-0.18921E-01,	2581	0.35989E+03,	-0.13625E-01,	2939	-0.49241D-01	0.62159D-01	359
	830119.230405954	0.17226E+03,	-0.12549E+00,	2753	0.67692E+02,	0.23263E-01,	2648		0.37988D-01	
11	830119.230405954	0.88570E+00,	-0.10564E-01,	2940	0.35977E+03,	-0.16492E-01,	3301	-0.47573D-01	0.71091D-01	362
	830120.004256962	0.25854E+03,	-0.12706E+00,	3199	0.55616E+02,	0.80119E-01,	2995		0.52901D-01	
12	830120.004256962	0.76622E+00,	-0.27443E-01,	3302	0.35965E+03,	-0.18529E-01,	3663	-0.62185D-01	0.83334D-01	362
	830120.022147970	0.10132E+03,	-0.15568E+00,	3403	0.46534E+02,	0.11764E+00,	3348		0.55552D-01	
13	830120.022147970	0.64051E+00,	-0.20441E-01,	3664	0.35952E+03,	-0.22416E-01,	4019	-0.50556D-01	0.81528D-01	356
	830120.040038978	0.91227E+02,	-0.14574E+00,	3754	0.42426E+02,	0.15893E-00,	3706		0.64050D-01	
14	830120.040038978	0.50941E+00,	-0.48484E-01,	4020	0.35938E+03,	-0.26146E-01,	4380	-0.60381D-01	0.85568D-01	361
	830120.053929986	0.92095E+02,	-0.19359E+00,	4112	0.43291E+02,	0.11788E+00,	4063		0.60715D-01	
15	830120.053929986	0.37675E+00,	-0.22818E-01,	4381	0.35925E+03,	-0.31612E-01,	4740	-0.58884D-01	0.85798D-01	360
	830120.071820994	0.87980E+02,	-0.15590E+00,	4469	0.46147E+02,	0.11090E+00,	4427		0.62489D-01	
16	830120.071820994	0.24739E+00,	-0.40113E-01,	4741	0.35913E+03,	0.47778E-02,	5099	-0.69928D-01	0.88143D-01	359
	830120.085712002	0.14164E+03,	-0.14726E+00,	4880	0.45022E+02,	0.71926E-01,	4785		0.53733D-01	
17	830120.085712002	0.12135E+00,	0.39452E-02,	5100	0.36000E+03,	0.73273E-02,	5462	-0.65672D-01	0.86386D-01	363
	830120.103619394	0.14948E+03,	-0.16849E+00,	5250	0.43901E+02,	0.81289E-01,	5144		0.56201D-01	
18	830120.103619394	0.99127E+00,	0.1[illegible]377E-03,	5463	0.32907E+03,	-0.16668E-01,	5792	-0.67858D-01	0.83375D-01	330
	830120.120626[illegible]14	0.14537E+03,	-0.1[illegible]915E+00,	5608	0.39793E+02,	0.43117E-01,	5502		0.48516D-01	

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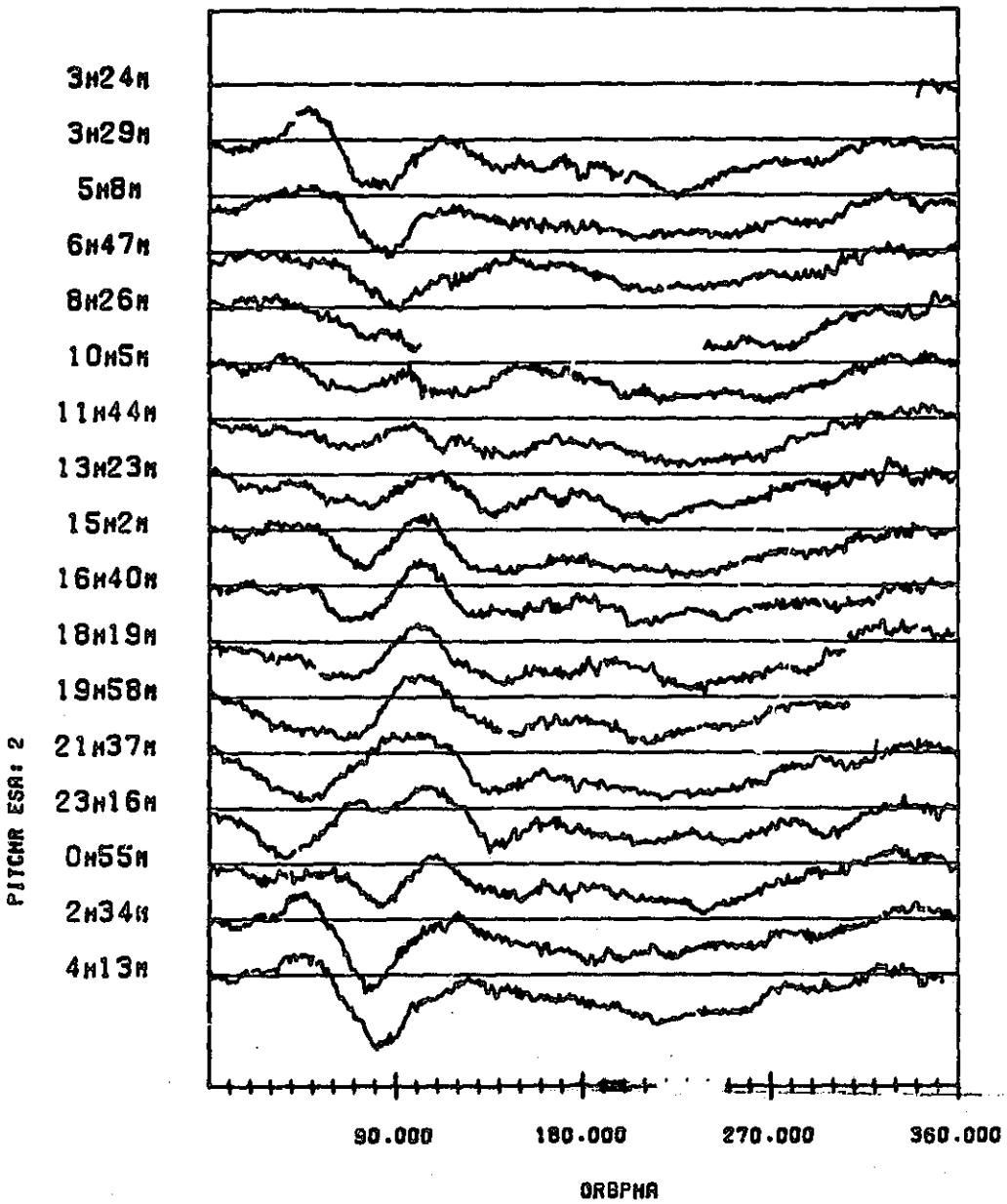

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:890202.032425071
END TIME:890203.054950590

FIGURE B-12. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-12. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830202.032425071	0.34053E+03,	-0.33257E-01,	1	0.35941E+03,	-0.15691E-01,	20	-0.75330D-02	0.13339D-01	20
	830202.032952751	0.34053E+03,	-0.33257E-01,	1	0.34749E+03,	0.12348E-01,	8		0.11294D-01	
2	830202.032952751	0.40758E+00,	-0.15870E-01,	21	0.35928E+03,	-0.40715E-01,	380	-0.52455D-01	0.72550D-01	360
	830202.050843759	0.22433E+03,	-0.16112E+00,	244	0.48169E+02,	0.88511E-01,	68		0.50189D-01	
3	830202.050843759	0.27601E+00,	-0.36359E-01,	381	0.35915E+03,	-0.31519E-01,	742	-0.61282D-01	0.74393D-01	362
	830202.064734767	0.85892E+02,	-0.16670E+00,	467	0.51027E+02,	0.28197E-01,	432		0.42234D-01	
4	830202.064734767	0.14781E+00,	-0.36659E-01,	743	0.35903E+03,	0.18401E-01,	1102	-0.53278D-01	0.66046D-01	360
	830202.082625775	0.91743E+02,	-0.15877E-00,	835	0.32624E+03,	0.21682E-01,	1069		0.39086D-01	
5	830202.082625775	0.23231E-01,	0.96[illegible]17E-02,	1103	0.35990E+03,	0.11257E-01,	1329	-0.40986D-01	0.61934D-01	227
	830202.100533167	0.98593E+02,	-0.12[illegible]45E+00,	1202	0.34897E+03,	0.38340E-01,	1318		0.46535D-01	
6	830202.100533167	0.89430E+00,	-0.83[illegible]21E-02,	1330	0.35978E+03,	-0.92501E-02,	1690	-0.44776D-01	0.57503D-01	361
	830202.114424175	0.21688E+03,	-0.10[illegible]54E+00,	1546	0.34388E+03,	0.28068E-01,	1674		0.36129D-01	
7	830202.114424175	0.77258E+00,	-0.75[illegible]72E-02,	1691	0.35966E+03,	-0.70056E-02,	2051	-0.54971D-01	0.68525D-01	361
	830202.132315183	0.22569E+03,	-0.13773E+00,	1916	0.34276E+03,	0.39020E-01,	2034		0.40968D-01	
8	830202.132315183	0.64957E+00,	0.10514E-01,	2052	0.35953E+03,	-0.74796E-02,	2413	-0.50172D-01	0.62958D-01	362
	830202.150206191	0.21068E+03,	-0.13660E+00,	2263	0.32675E+03,	0.42701E-01,	2380		0.38086D-01	
9	830202.150206191	0.52232E+00,	0.61513E-02,	2414	0.35940E+03,	-0.28548E-02,	2774	-0.54399D-01	0.71645D 01	361
	830202.164057199	0.22941E+03,	-0.13080E+00,	2643	0.10706E+03,	0.42678E-01,	2520		0.46688D-01	
10	830202.164057199	0.39104E+00,	-0.93788E-02,	2775	0.35927E+03,	-0.24777E-01,	3132	-0.41743D-01	0.56093D-01	358
	830202.181948207	0.20147E+03,	-0.10855E+00,	2976	0.10194E+03,	0.69473E-01,	2876		0.37522D-01	
11	830202.181948207	0.26029E+00,	-0.14806E-01,	3133	0.35815E+03,	0.21522E-01,	3483	-0.51195D-01	0.70630D-01	351
	830202.195839215	0.23808E+03,	-0.14392E+00,	3367	0.32338E+03,	0.58097E-01,	3450		0.48728D-01	
12	830202.195839215	0.13326E+00,	0.12975E-01,	3484	0.35902E+03,	0.24623E-02,	3787	-0.54918D-01	0.70523D-01	204
	830202.213730223	0.21016E+03,	-0.12778E+00,	3691	0.10268E+03,	0.59393E-01,	3587		0.44316D-01	
13	830202.213730223	0.11103E-01,	0.21817E-02,	3788	0.35989E+03,	-0.15916E-01,	4149	-0.50915D-01	0.71703D-01	382
	830202.231637615	0.44785E+02,	-0.13032E+00,	3833	0.95588E+02,	0.55515E-01,	3884		0.50557D-01	
14	830202.231637615	0.88346E+00,	-0.12389E-01,	4150	0.35977E+03,	0.36311E-02,	4511	-0.44050D-01	0.61987D-01	362
	830203.005528623	0.36698E+02,	-0.13479E+00,	4186	0.10344E+03,	0.61234E-01,	4253		0.43672D-01	
15	830203.005528623	0.76823E+00,	-0.16657E-01,	4512	0.35965E+03,	-0.48837E-02,	4872	-0.48242D-01	0.64120D-01	361
	830203.023419631	0.23760E+03,	-0.13998E+00,	4749	0.32985E+03,	0.46327E-01,	4842		0.42298D-01	
16	830203.023419631	0.64456E+00,	-0.10594E-01,	4873	0.35952E+03,	0.78760E-02,	5233	-0.46209D-01	0.70192D-01	361
	830203.041310639	0.75298E+02,	-0.19928E+00,	4948	0.46414E+02,	0.73846E-01,	4919		0.52909D-01	
17	830203.041310639	0.51504E+00,	0.10034E-01,	5234	0.35243E+03,	-0.23763E-01,	5584	-0.52233D-01	0.75404D-01	351
	830203.054950590	0.81149E+02,	-0.20140E+00,	5313	0.44295E+02,	0.59758E-01,	5277		0.84461D-01	

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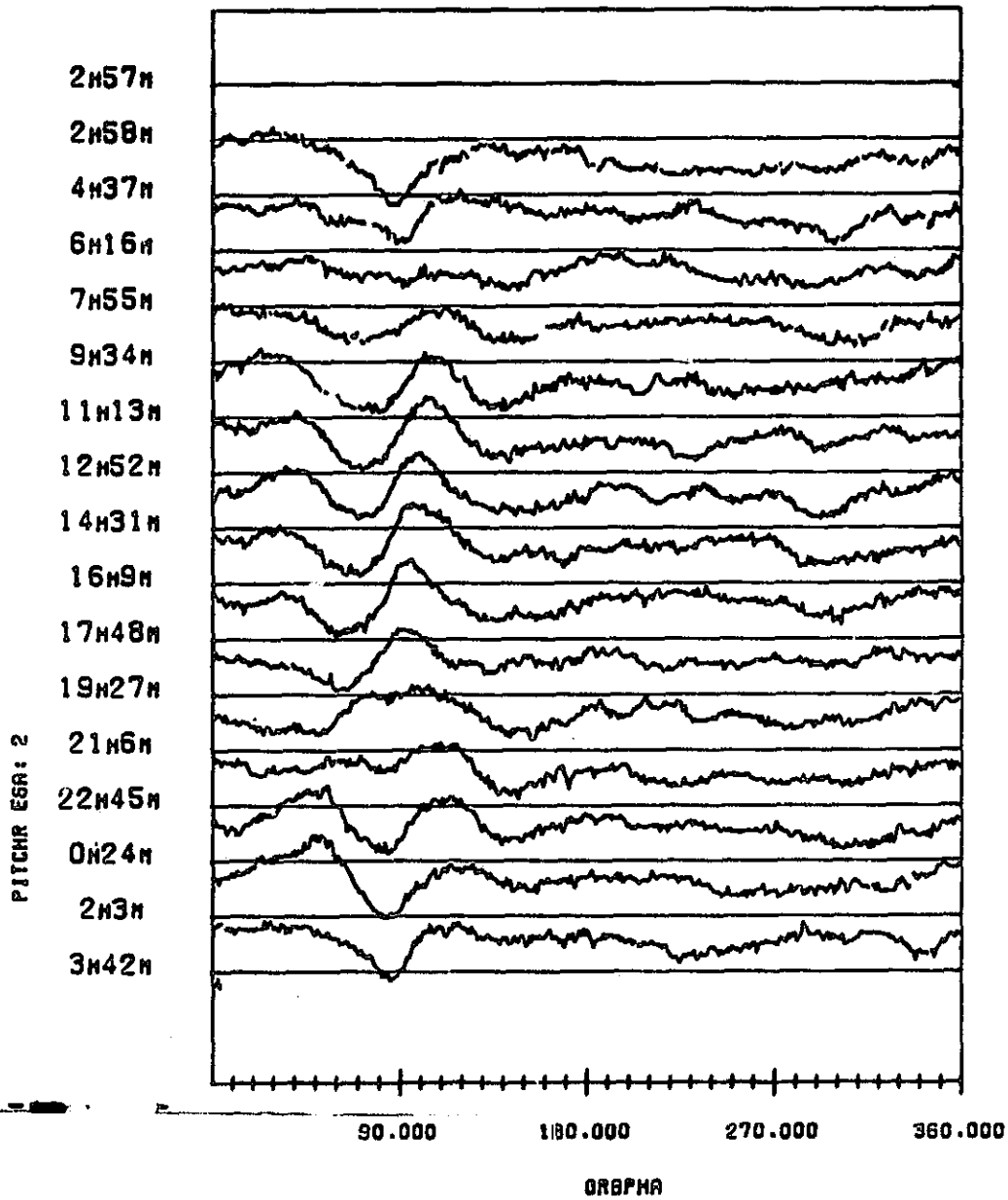

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:890303.025744694
END TIME:890304.034257270

FIGURE B-13. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-13. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830303.025744694	0.35661E+03,	-0.77269E-02,	1	0.35959E+03,	-0.79721E-02,	4	-0.91817D-02	0.92892D-02	4
	830303.025850230	0.35760E+03,	-0.11152E-01,	2	0.35661E+03,	-0.77269E-02,	1		0.16271D-02	
2	830303.025850230	0.58539E+00,	-0.15091E-01,	5	0.35947E+03,	-0.27573E-01,	348	-0.56907D-01	0.71220D-01	344
	830303.043741238	0.86216E+02,	-0.18071E-00,	86	0.29438E+02,	0.35096E-01,	33		0.40067D-01	
3	830303.043741238	0.46040E+00,	-0.45608E-01,	349	0.35934E+03,	-0.50503E-01,	704	-0.56218D-01	0.63115D-01	356
	830303.061632246	0.29877E+03,	-0.13877E+00,	646	0.11897E+03,	0.14346E-01,	465		0.28730D-01	
4	830303.061632246	0.33694E+00,	-0.47768E-01,	705	0.35922E+03,	-0.23503E-01,	1056	-0.58704D-01	0.63295D-01	362
	830303.075523254	0.14275E+03,	-0.10838E-00,	848	0.19647E+03,	0.22598E-02,	902		0.23701D-01	
5	830303.075523254	0.21692E+00,	-0.14865E-01,	1067	0.35910E+03,	-0.32165E-01,	1415	-0.51790D-01	0.58022D-01	349
	830303.093430646	0.30845E+03,	-0.11205E+00,	1368	0.51897E+01,	0.87216E-02,	1072		0.26198D-01	
6	830303.093430646	0.10939E+01,	-0.23327E-01,	1416	0.35998E+03,	-0.10666E-01,	1770	-0.55815D-01	0.68016D-01	355
	830303.111321654	0.79755E+02,	-0.13974E+00,	1489	0.23977E+02,	0.38099E-01,	1439		0.38925D-01	
7	830303.111321654	0.97844E+00,	-0.17882E-01,	1771	0.35987E+03,	-0.55514E-01,	2132	-0.57710D-01	0.69450D-01	362
	830303.125212662	0.71667E+02,	-0.14383E+00,	1842	0.10256E+03,	0.57964E-01,	1873		0.38690D-01	
8	830303.125212662	0.86256E+00,	-0.71738E-01,	2133	0.35975E+03,	-0.16178E-01,	2494	-0.57151D-01	0.69068D-01	362
	830303.143103670	0.29223E+03,	-0.12730E+00,	2426	0.10045E+03,	0.56792E-01,	2233		0.38836D-01	
9	830303.143103670	0.74333E+00,	-0.16893E-01,	2495	0.35962E+03,	-0.51034E-01,	2856	-0.50488D-01	0.63267D-01	362
	830303.160954678	0.64453E+02,	-0.12915E+00,	2559	0.96338E+02,	0.67605E-01,	2591		0.38179D-01	
10	830303.160954678	0.61908E+00,	-0.28017E-01,	2857	0.35950E+03,	-0.20934E-01,	3218	-0.52172D-01	0.63251D-01	362
	830303.174845686	0.59347E+02,	-0.14403E+00,	2916	0.95215E+02,	0.67607E-01,	2952		0.35809D-01	
11	830303.174845685	0.49470E+00,	-0.49219E-01,	3219	0.35938E+03,	-0.48251E-01,	3579	-0.58635D-01	0.64851D-01	361
	830303.192736694	0.60220E+02,	-0.14285E+00,	3278	0.92103E+02,	0.29175E-01,	3310		0.27744D-01	
12	830303.192736694	0.37253E+00,	-0.60068E-01,	3580	0.35926E+03,	-0.96070E-02,	3941	-0.54016D-01	0.63173D-01	362
	830303.210627702	0.15473E+03,	-0.12100E+00,	3735	0.95969E+02,	0.27962E-01,	3676		0.32804D-01	
13	830303.210627702	0.25511E+00,	-0.14296E-01,	3942	0.35915E+03,	-0.46554E-01,	4302	-0.58351D-01	0.65366D-01	361
	830303.224518710	0.14765E+03,	-0.13234E+00,	4089	0.10980E+03,	0.23199E-01,	4051		0.29501D-01	
14	830303.224518710	0.14006E+00,	-0.43529E-01,	4303	0.35903E+03,	-0.41032E-01,	4664	-0.54113D-01	0.66356D-01	362
	830304.002409718	0.84775E+02,	-0.12929E+00,	4388	0.55881E+02,	0.57494E-01,	4359		0.38458D-01	
15	830304.002409718	0.24927E-01,	-0.44096E-01,	4665	0.35992E+03,	-0.13793E-01,	5024	-0.50943D-01	0.65006D-01	360
	830304.020317110	0.82665E+02,	-0.15577E+00,	4748	0.48792E+02,	0.72577E-01,	4714		0.40437D-01	
16	830304.020317110	0.91633E+00,	-0.28988E-01,	5025	0.35980E+03,	-0.47278E-01,	5382	-0.66542D-01	0.73156D-01	358
	830304.034224502	0.85551E+02,	-0.17372E+00,	5108	0.25788E+02,	-0.71702E-02,	5048		0.30441D-01	
17	830304.034224502	0.17898E+01,	-0.33645E-01,	5383	0.37787E+01,	-0.43884E-01,	5385	-0.31254D-01	0.33273D-01	3
	830304.034257270	0.37787E+01,	-0.43884E-01,	5385	0.27843E+01,	-0.16231E-01,	5384		0.13981D-01	

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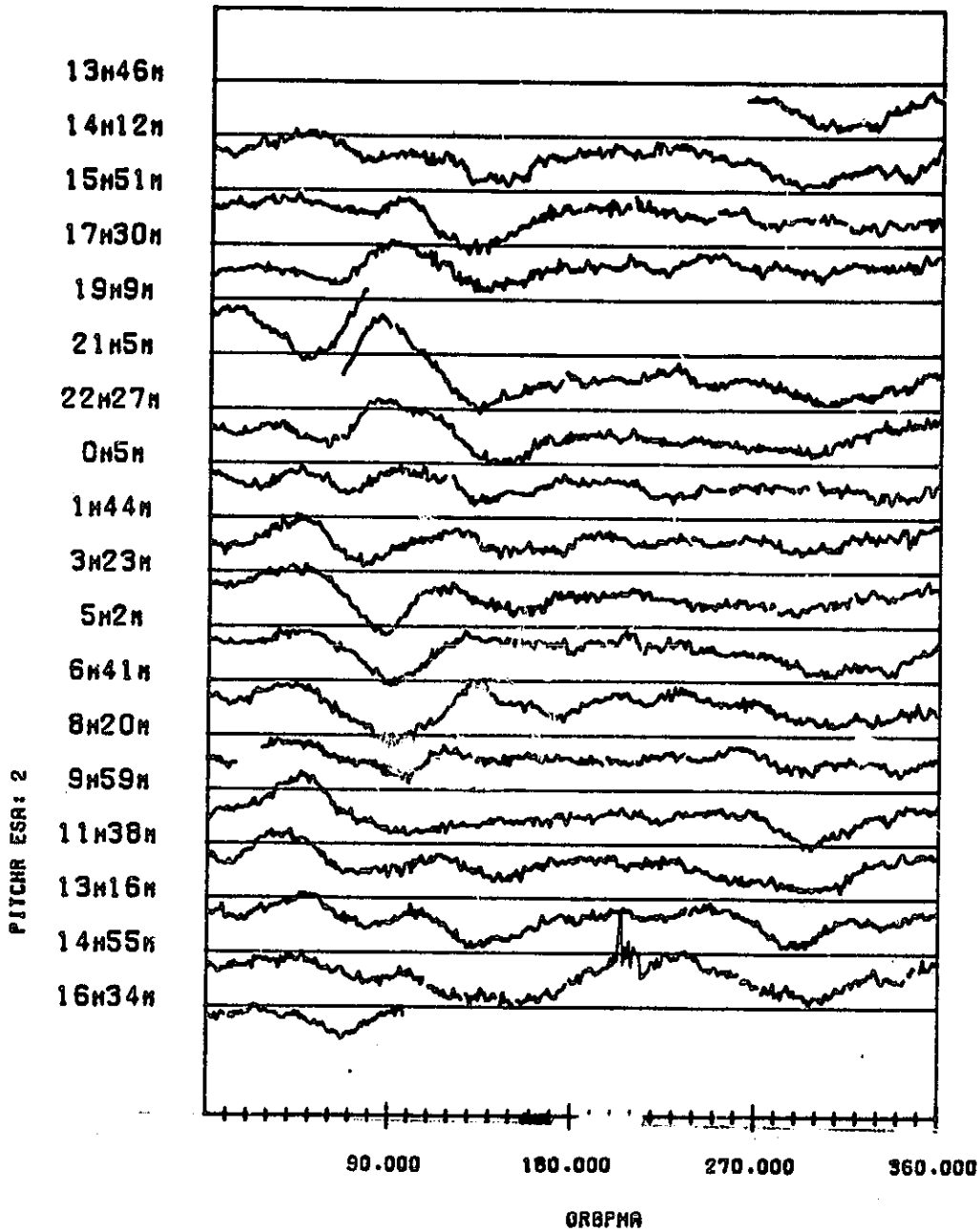

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:890314.134603442
END TIME:890316.170127216

FIGURE B-14. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-14. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830314.134603442	0.26427E+03,	-0.46263E-01,	1	0.35955E+03,	-0.46000E-01,	97	-0.80648D-01	0.86385D-01	97
	830314.141232690	0.30790E+03,	-0.13334E+00,	45	0.35458E+03,	-0.21016E-01,	92		0.31117D-01	
2	830314.141232690	0.54192E+00,	-0.33272E-01,	98	0.35941E+03,	-0.21972E-01,	459	-0.64115D-01	0.73823D-01	362
	830314.155123698	0.29090E+03,	-0.14795E+00,	390	0.40348E+02,	0.19039E-01,	138		0.36645D-01	
3	830314.155123698	0.40570E+00,	-0.50047E-01,	460	0.35927E+03,	-0.88024E-01,	812	-0.70324D-01	0.77952D-01	353
	830314.173014706	0.12788E+03,	-0.17437E+00,	588	0.42203E+02,	-0.69837E-02,	502		0.33678D-01	
4	830314.173014706	0.26854E+00,	-0.83193E-01,	813	0.35914E+03,	-0.27176E-01,	1172	-0.61057D-01	0.66713D-01	360
	830314.190905714	0.13073E+03,	-0.12205E+00,	942	0.88888E+02,	0.15014E-01,	900		0.26918D-01	
5	830314.190905714	0.13303E+00,	-0.41422E-01,	1173	0.76798E+02,	0.23887E-01,	1250	-0.78460D-01	0.94696D-01	78
	830314.210541682	0.44919E+02,	-0.16[illegible]25E+00,	1218	0.75801E+02,	0.29576E-01,	1249		0.53366D-01	
6	830314.210541682	0.64711E+02,	-0.84[illegible]63E-01,	1251	0.35987E+03,	-0.48671E-01,	1544	-0.67260D-01	0.86332D-01	294
	830314.222704114	0.13346E+03,	-0.16[illegible]78E+00,	1318	0.84639E+02,	0.10857E+00,	1271		0.54216D-01	
7	830314.222704114	0.86924E+00,	-0.83387[illegible]-01,	1545	0.35975E+03,	-0.22008E-01,	1905	-0.71910D-01	0.81386D-01	361
	830315.000555122	0.14329E+03,	-0.15117E+00,	1687	0.82521E+02,	0.27549E-01,	1626		0.38166D-01	
8	830315.000555122	0.74404E+00,	-0.23767E-01,	1936	0.35962E+03,	-0.53214E-01,	2257	-0.61790D-01	0.65818D-01	352
	830315.014446130	0.13121E+03,	-0.[illegible]524E+00,	2034	0.94349E+02,	0.21890E-02,	1999		0.22704D-01	
9	830315.014446130	0.61526E+00,	-0.63584E-01,	2258	0.35949E+03,	-0.23219E-01,	2617	-0.65078D-01	0.69959D-01	360
	830315.032337138	0.75286E+02,	-0.13885E+00,	2333	0.42413E+02,	0.96901E-02,	2300		0.26710D-01	
10	830315.032337138	0.48243E+00,	-0.33068E-01,	2618	0.35935E+03,	-0.42211E-01,	2969	-0.68705D-01	0.77917D-01	352
	830315.050228146	0.87111E+02,	-0.17454E+00,	2705	0.47260E+02,	0.21837E-01,	2665		0.36805D-01	
11	830315.050228146	0.34457E+00,	-0.39441E-01,	2970	0.35922E+03,	-0.40893E-01,	3328	-0.67956D-01	0.76981D-01	359
	830315.064119154	0.89966E+02,	-0.16312E+00,	3060	0.34178E+02,	-0.33203E-02,	3004		0.36218D-01	
12	830315.064119154	0.20992E+00,	-0.41382E-01,	3329	0.35908E+03,	-0.90862E-01,	3690	-0.72999D-01	0.82426D-01	362
	830315.082010162	0.92822E+02,	-0.17877E+00,	3422	0.13566E+03,	0.41836E-02,	3465		0.38331D-01	
13	830315.082010162	0.79209E-01,	-0.65530E-01,	3691	0.35995E+03,	-0.61146E-01,	4037	-0.64955D-01	0.68408D-01	347
	830315.095917554	0.99665E+02,	-0.13279E+00,	3779	0.33914E+02,	-0.66329E-02,	3713		0.21488D-01	
14	830315.095917554	0.9[illegible]436E+00,	-0.79183E-01,	4038	0.35982E+03,	-0.38045E-01,	4399	-0.73518D-01	0.82490D-01	362
	830315.113808562	0.29726E+03,	-0.16391E+00,	4336	0.45734E+02,	0.50638E-01,	4083		0.37466D-01	
15	830315.113808562	0.81660E+00,	-0.26549E-01,	4400	0.35969E+03,	-0.30465E-01,	4761	-0.58916D-01	0.68615D-01	362
	830315.131659570	0.31201E+03,	-0.13254E+00,	4713	0.40626E+02,	0.41510E-01,	4440		0.35219D-01	
16	830315.131659570	0.68762E+00,	-0.40800E-01,	4762	0.35956E+03,	-0.37288E-01,	5122	-0.59595D-01	0.67817D-01	361
	830315.145550578	0.12916E+03,	-0.13673E+00,	4891	0.45474E+02,	0.15330E-01,	4807		0.32413D-01	
17	830315.145550578	0.55461E+00,	-0.40970E-01,	5123	0.35942E+03,	-0.21258E-01,	5470	-0.65538D-01	0.77441D-01	348
	830315.163441586	0.15093E+03,	-0.14817E+00,	5269	0.20462E+03,	0.11639E+00,	5321		0.41313D-01	
18	830315.163441586	0.41741E+00,	-0.23634E-01,	5471	0.98003E+02,	-0.22971E-01,	5568	-0.32765D-01	0.39824D-01	98
	830315.170127218	0.66120E+02,	-0.89010E-01,	5536	0.23299E+02,	0.82691E-02,	5493		0.22752D-01	

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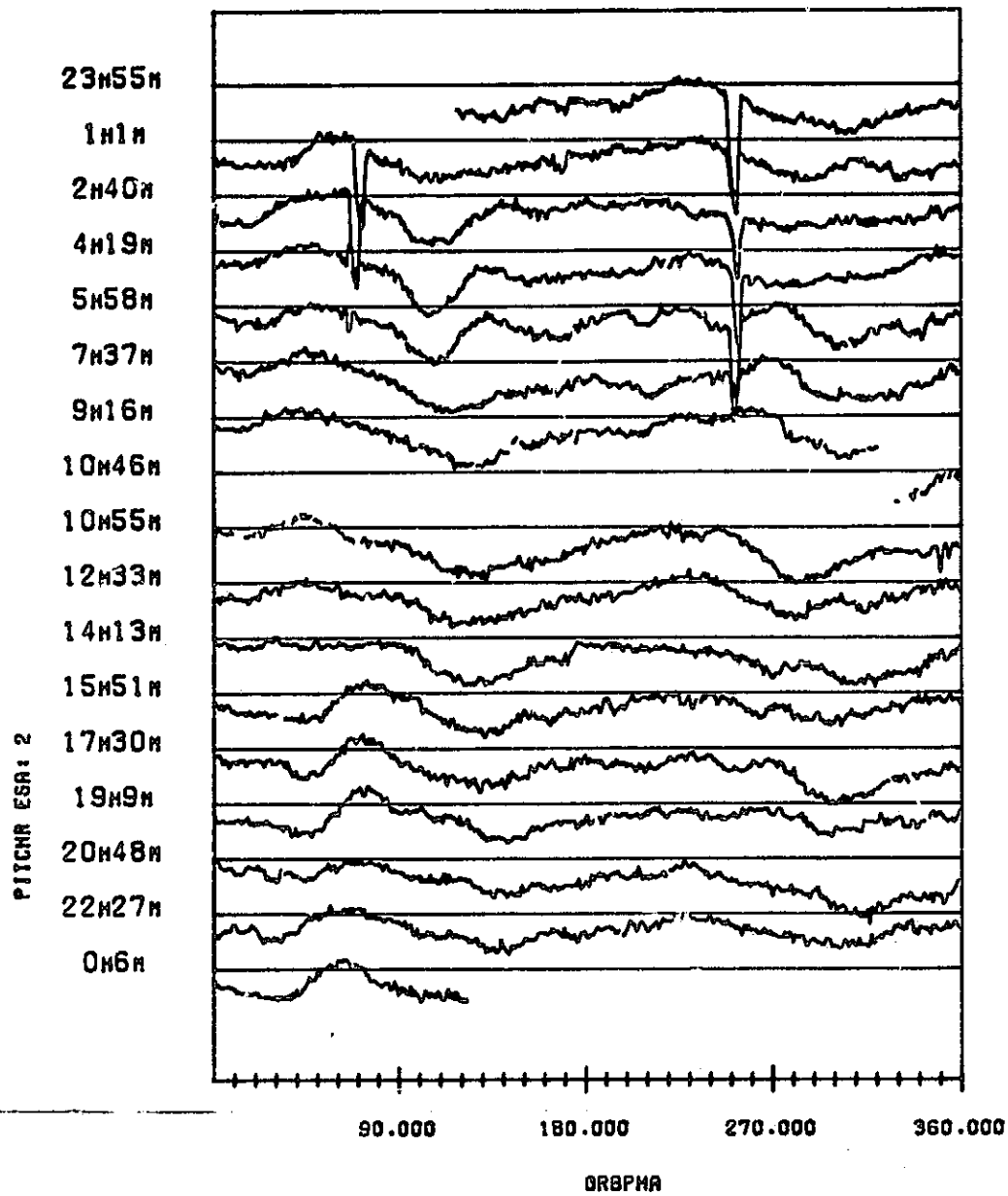

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830329.235506990
END TIME:830331.003946798

FIGURE B-15. Sensor Two Pitch Residuals for Consecutive Orbits

C-2

TABLE B-15. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830329.235506990	0.11764E+03,	-0.63715E-01,	1	0.35901E+03,	-0.50901E-01,	244	-0.69103D-01	0.83071D-01	244
	830330.010144686	0.25182E+03,	-0.30000E+00,	136	0.22503E+03,	0.19207E-01,	109		0.46198D-01	
2	830330.010144686	0.15801E-02,	-0.46681E-01,	245	0.35987E+03,	-0.72709E-01,	607	-0.62581D-01	0.73344D-01	363
	830330.024052078	0.71680E+02,	-0.23808E+00,	317	0.63710E+02,	0.24070E-01,	309		0.38301D-01	
3	830330.024052078	0.86833E+00,	-0.71660E-01,	608	0.35974E+03,	-0.41834E-01,	967	-0.56885D-01	0.68868D-01	360
	830330.041943086	0.69560E+02,	-0.25007E+00,	676	0.63583E+02,	0.20350E-01,	670		0.38873D-01	
4	830330.041943086	0.73464E+00,	-0.42646E-01,	968	0.35961E+03,	-0.18133E-01,	1335	-0.58471D-01	0.72270D-01	353
	830330.055834094	0.25340E+03,	-0.25415E+00,	1218	0.47514E+02,	0.22805E-01,	1014		0.42534D-01	
5	830330.055834094	0.60100E+00,	-0.20904E-01,	1326	0.35948E+03,	-0.28208E-01,	1686	-0.51938D-01	0.65456D-01	361
	830330.073725102	0.25228E+03,	-0.25044E+00,	1579	0.46386E+02,	0.13024E-01,	1372		0.39892D-01	
6	830330.073725102	0.47052E+00,	-0.12540E-01,	1687	0.35935E+03,	-0.29996E-01,	2048	-0.57019D-01	0.70266D-01	362
	830330.091616110	0.25116E+03,	-0.16578E+00,	1939	0.44264E+02,	0.43660E-01,	1731		0.41120D-01	
7	830330.091616110	0.34306E+00,	-0.33739E-01,	2049	0.34062E+03,	-0.90054E-01,	2362	-0.43754D-01	0.61208D-01	314
	830330.104639214	0.11686E+03,	-0.14376E+00,	2164	0.42144E+02,	0.28666E-01,	2091		0.42870D-01	
8	830330.104639214	0.32941E+03,	-0.81612E-01,	2363	0.35922E+03,	-0.25407E-01,	2386	-0.41125D-01	0.48683D-01	24
	830330.105507118	0.33040E+03,	-0.85966E-01,	2364	0.35529E+03,	-0.17378E-02,	2383		0.26614D-01	
9	830330.105507118	0.21767E+00,	-0.28004E-01,	2387	0.35910E+03,	-0.56894E-01,	2734	-0.59533D-01	0.74655D-01	348
	830330.123358126	0.28165E+03,	-0.11118E+00,	2656	0.44010E+02,	0.38406E-01,	2423		0.45110D-01	
10	830330.123358126	0.92321E-01,	-0.41378E-01,	2735	0.35996E+03,	-0.25758E-01,	3097	-0.43145D-01	0.54394D-01	363
	830330.141305518	0.11561E+03,	-0.12177E+00,	2851	0.22996E+03,	0.36614E-01,	2969		0.33171D-01	
11	830330.141305518	0.95849E+00,	-0.12432E-01,	3098	0.35983E+03,	-0.21056E-01,	3459	-0.55943D-01	0.67170D-01	362
	830330.155156526	0.31909E+03,	-0.13645E+00,	3418	0.29814E+02,	0.55325E-02,	3127		0.37229D-01	
12	830330.155156526	0.82515E+00,	-0.28043E-01,	3460	0.35970E+03,	-0.31071E-01,	3816	-0.43419D-01	0.53211D-01	357
	830330.173047534	0.13127E+03,	-0.12086E+00,	3588	0.74497E+02,	0.36949E-01,	3531		0.30803D-01	
13	830330.173047534	0.69087E+00,	-0.20529E-01,	3817	0.35956E+03,	-0.53953E-01,	4176	-0.57407D-01	0.68452D-01	360
	830330.190938542	0.30095E+03,	-0.15449E+00,	4119	0.72371E+02,	0.41109E-01,	3869		0.37336D-01	
14	830330.190938542	0.55823E+00,	-0.34525E-01,	4177	0.35944E+03,	-0.18976E-01,	4534	-0.42721D-01	0.51565D-01	358
	830330.204829550	0.14196E+03,	-0.10725E+00,	4319	0.75229E+02,	0.50740E-01,	4252		0.28918D-01	
15	830330.204829550	0.43032E+00,	-0.52639E-02,	4535	0.35932E+03,	-0.63370E-01,	4895	-0.65047D-01	0.74629D-01	361
	830330.222720558	0.31659E+03,	-0.17969E+00,	4852	0.71116E+02,	0.26872E-02,	4605		0.36635D-01	
16	830330.222720558	0.31033E+00,	-0.58366E-01,	4896	0.35919E+03,	-0.39110E-01,	5256	-0.45931D-01	0.53546D-01	361
	830331.000611566	0.14272E+03,	-0.11114E+00,	5039	0.56053E+02,	0.24922E-01,	4952		0.27962D-01	
17	830331.000611566	0.18571E+00,	-0.28646E-01,	5257	0.12267E+03,	-0.88358E-01,	5379	-0.46057D-01	0.56392D-01	123
	830331.003946798	0.10076E+03,	-0.90180E-01,	5357	0.62901E+02,	0.28030E-01,	5319		0.32672D-01	

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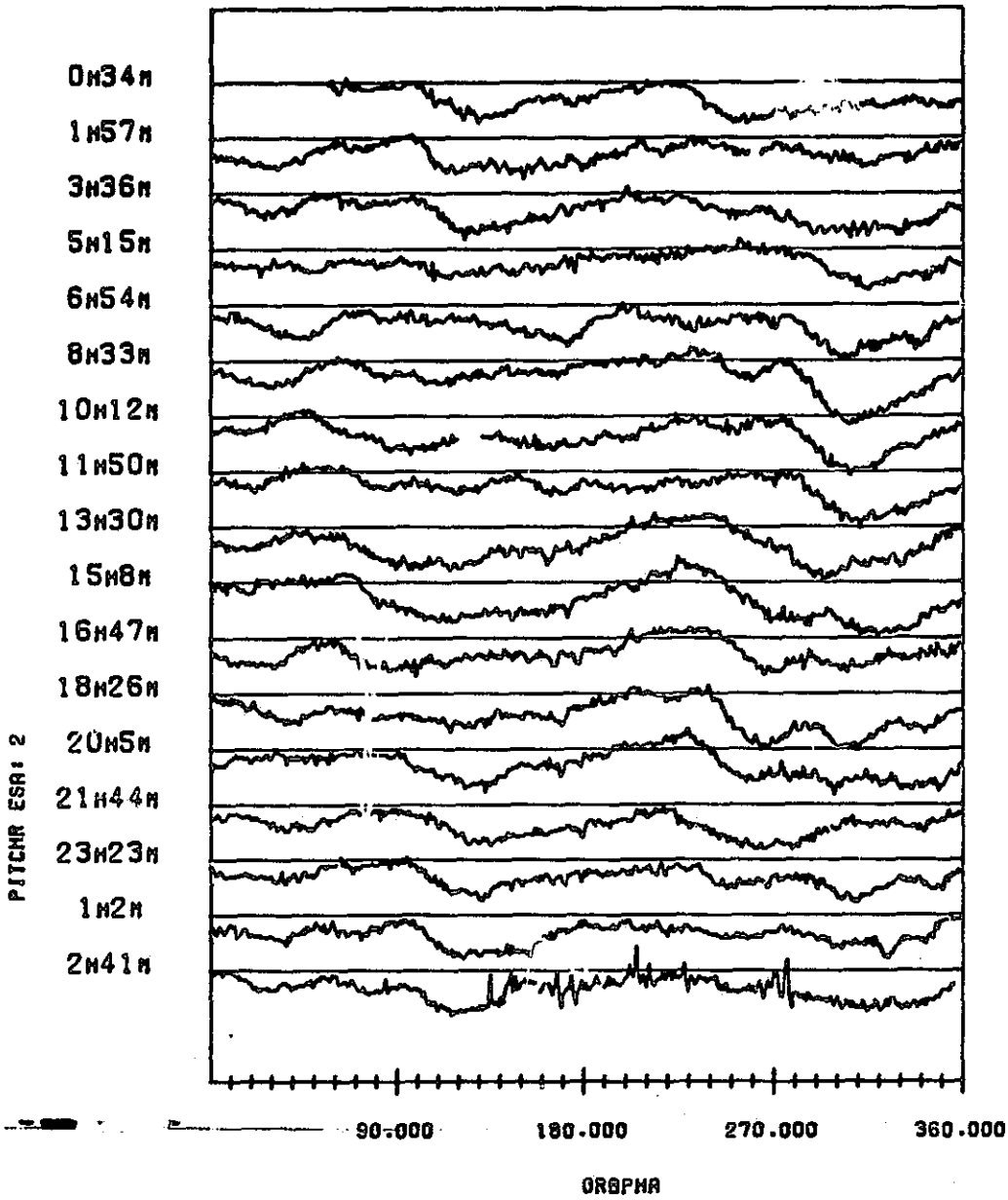

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
TIME SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830415.003417145
END TIME:830415.041837625

FIGURE B-16. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-16. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830414.003417145	0.56736E-02,	-0.43681E-02,	1	0.35988E+03,	-0.54812E-01,	306	-0.50642D-01	0.59159D-01	306
	830414.015750649	0.25764E+03,	-0.11267E+00,	203	0.64704E-02,	0.12407E-01,	9		0.30631D-01	
2	830414.015750649	0.87437E+00,	-0.48855E-01,	307	0.35975E+03,	-0.16508E-01,	662	-0.46361D-01	0.52919D-01	356
	830414.033641657	0.15122E+03,	-0.11103E+00,	458	0.97451E+02,	0.98931E-02,	404		0.25552D-01	
3	830414.033641657	0.74581E+00,	-0.20705E-01,	663	0.35962E+03,	-0.50488E-01,	1024	-0.50565D-01	0.60000D-01	362
	830414.051532665	0.12322E+03,	-0.12457E+00,	785	0.20081E+03,	0.19727E-01,	864		0.32343D-01	
4	830414.051532665	0.61327E+00,	-0.44274E-01,	1025	0.35949E+03,	-0.43569E-01,	1386	-0.40044D-01	0.47951D-01	362
	830414.065423673	0.31577E+03,	-0.11019E+00,	1342	0.25427E+03,	0.26853E-01,	1280		0.26413D-01	
5	830414.065423673	0.48404E+00,	-0.28395E-01,	1387	0.35936E+03,	-0.36783E-01,	1748	-0.56818D-01	0.64686D-01	362
	830414.083314681	0.30572E+03,	-0.14833E+00,	1694	0.19857E+03,	0.52540E-02,	1586		0.30961D-01	
6	830414.083314681	0.35859E+00,	-0.25555E-01,	1749	0.35924E+03,	-0.25153E-01,	2110	-0.41956D-01	0.60464D-01	362
	830414.101205689	0.30659E+03,	-0.17344E+00,	2057	0.23120E+03,	0.34538E-01,	1981		0.43599D-01	
7	830414.101205689	0.23455E+00,	-0.37927E-01,	2111	0.35912E+03,	-0.27533E-01,	2460	-0.54674D-01	0.66137D-01	350
	830414.115056697	0.30547E+03,	-0.16242E+00,	2407	0.48007E+02,	0.19445E-01,	2159		0.37268D-01	
8	830414.115056697	0.11182E+00,	-0.26763E-01,	2461	0.35999E+03,	-0.41051E-01,	2823	-0.41107D-01	0.53693D-01	363
	830414.133004089	0.31131E+03,	-0.15630E+00,	2774	0.44896E+02,	0.25095E-01,	2506		0.34589D-01	
9	830414.133004089	0.98198E+00,	-0.47184E-01,	2824	0.35986E+03,	-0.62531E-02,	3185	-0.53658D-01	0.68198D-01	362
	830414.150855097	0.29431E+03,	-0.15138E+00,	3119	0.21396E+03,	0.37337E-01,	3038		0.42151D-01	
10	830414.150855097	0.85310E+00,	-0.11608E-01,	3186	0.35973E+03,	-0.58289E-01,	3547	-0.49612D-01	0.70875D-01	362
	830414.164746105	0.31998E+03,	-0.14625E+00,	3507	0.22475E+03,	0.70243E-01,	3411		0.50686D-01	
11	830414.164746105	0.72063E+00,	-0.44878E-01,	3548	0.35959E+03,	-0.12919E-01,	3910	-0.44355D-01	0.53561D-01	363
	830414.182637113	0.99287E+02,	-0.10258E+00,	3648	0.21667E+03,	0.26496E-01,	3766		0.30064D-01	
12	830414.182637113	0.58902E+00,	-0.14475E-01,	3911	0.35947E+03,	-0.44544E-01,	4271	-0.61698D-01	0.72991D-01	361
	830414.200528121	0.30980E+03,	-0.15530E+00,	4222	0.23937E+03,	0.23257E-01,	4151		0.39055D-01	
13	830414.200528121	0.46132E+00,	-0.51683E-01,	4272	0.35934E+03,	-0.38598E-01,	4633	-0.44079D-01	0.57944D-01	362
	830414.214419129	0.29876E+03,	-0.12410E+00,	4572	0.22933E+03,	0.55378E-01,	4502		0.37662D-01	
14	830414.214419129	0.33837E+00,	-0.33744E-01,	4634	0.35923E+03,	-0.26311E-01,	4994	-0.57199D-01	0.63861D-01	361
	830414.232310137	0.27880E+03,	-0.12310E+00,	4914	0.21829E+03,	0.18199E-02,	4853		0.28438D-01	
15	830414.232310137	0.21960E+00,	-0.21250E-01,	4995	0.35910E+03,	-0.35122E-01,	5355	-0.49181D-01	0.55429D-01	361
	830415.010201145	0.30944E+03,	-0.11735E+00,	5305	0.94805E+02,	0.89304E-02,	5089		0.25601D-01	
16	830415.010201145	0.95876E-01,	-0.46116E-01,	5356	0.35997E+03,	-0.61179E-02,	5718	-0.54297D-01	0.60177D-01	363
	830415.024108537	0.12257E+03,	-0.12039E+00,	5479	0.35401E+03,	0.54427E-02,	5712		0.25580D-01	
17	830415.024108537	0.96617E+00,	-0.98146E-02,	5719	0.35586E+03,	-0.40892E-01,	6071	-0.52111D-01	0.61038D-01	353
	830415.041837623	0.11647E+03,	-0.12072E+00,	5834	0.20500E+03,	0.68098E-01,	5920		0.31828D-01	

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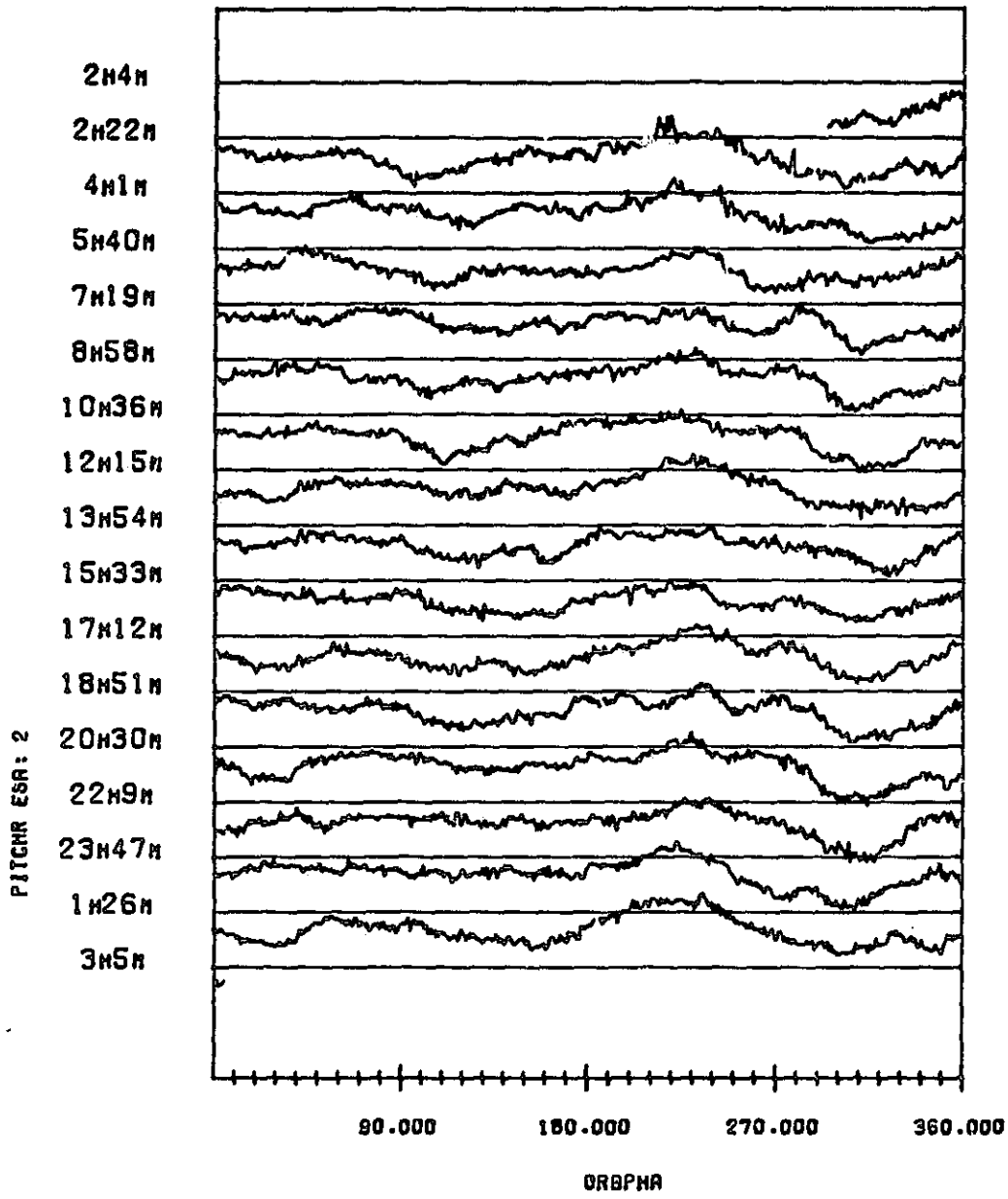

FIGURE B-17. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-17. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830426.020419829	0.29430E-03,	-0.11867E+00,	1	0.35984E+03,	-0.29959E-01,	67	-0.81359D-01	0.86208D-01	67
	830426.022237557	0.30124E+03,	-0.12532E+00,	8	0.35327E+03,	-0.22646E-01,	61		0.28720D-01	
2	830426.022237557	0.83217E+00,	-0.24431E-01,	68	0.35971E+03,	-0.35862E-01,	426	-0.55547D-01	0.66781D-01	359
	830426.040128565	0.30210E+03,	-0.14331E+00,	368	0.21877E+03,	0.56935E-01,	287		0.37122D-01	
3	830426.040128565	0.70482E+00,	-0.30066E-01,	427	0.35958E+03,	-0.64201E-01,	788	-0.55761D-01	0.65847D-01	362
	830426.054019573	0.31587E+03,	-0.13780E+00,	744	0.22063E+03,	0.40814E-01,	648		0.35070D-01	
4	830426.054019573	0.57591E+00,	-0.54841E-01,	789	0.35946E+03,	-0.20071E-01,	1149	-0.57478D-01	0.63772D-01	361
	830426.071910581	0.29911E+03,	-0.11937E+00,	1058	0.43364E+02,	0.91843E-02,	832		0.27663D-01	
5	830426.071910581	0.45038E+00,	-0.18552E-01,	1150	0.35933E+03,	-0.46295E-01,	1511	-0.50822D-01	0.57511D-01	362
	830426.085801589	0.31066E+03,	-0.13484E+00,	1462	0.77101E+02,	-0.29510E-02,	1227		0.26956D-01	
6	830426.085801589	0.32813E+00,	-0.48164E-01,	1512	0.35921E+03,	-0.41781E-01,	1872	-0.48830D-01	0.58833D-01	361
	830426.103652597	0.30756E+03,	-0.14086E+00,	1821	0.23117E+03,	0.31475E-01,	1744		0.32863D-01	
7	830426.103652597	0.20760E+00,	-0.56166E-01,	1873	0.35909E+03,	-0.74283E-01,	2234	-0.59592D-01	0.70230D-01	362
	830426.121543605	0.30943E+03,	-0.15532E+00,	2184	0.22411E+03,	0.15744E-01,	2098		0.37214D-01	
8	830426.121543605	0.87651E-01,	-0.85394E-01,	2235	0.35997E+03,	-0.59127E-01,	2597	-0.50521D-01	0.61218D-01	363
	830426.135450997	0.31030E+03,	-0.13262E+00,	2547	0.22995E+03,	0.43814E-01,	2466		0.34621D-01	
9	830426.135450997	0.95956E+00,	-0.41334E-01,	2598	0.35984E+03,	-0.33162E-01,	2959	-0.55725D-01	0.62377D-01	362
	830426.153342005	0.32407E+03,	-0.14033E+00,	2923	0.18512E+03,	0.67839E-03,	2783		0.28069D-01	
10	830426.153342005	0.83226E+00,	-0.28600E-01,	2960	0.35971E+03,	-0.49084E-01,	3321	-0.56096D-01	0.61932D-01	362
	830426.171233013	0.30806E+03,	-0.11273E+00,	3269	0.22870E+03,	-0.11244E-02,	3189		0.26282D-01	
11	830426.171233013	0.70300E+00,	-0.40169E-01,	3322	0.35859E+03,	-0.22630E-01,	3682	-0.57185D-01	0.66383D-01	361
	830426.185124021	0.30892E+03,	-0.12842E+00,	3632	0.23155E+03,	0.31280E-01,	3554		0.33760D-01	
12	830426.185124021	0.57497E-00,	-0.28464E-01,	3683	0.35946E+03,	-0.41834E-01,	4043	-0.53368D-01	0.63200D-01	361
	830426.203015029	0.30781E+03,	-0.13974E+00,	3991	0.23440E+03,	0.24544E-01,	3917		0.33901D-01	
13	830426.203015029	0.45158E+00,	-0.63287E-01,	4044	0.35934E+03,	-0.78088E-01,	4404	-0.52815D-01	0.65151D-01	361
	830426.220906037	0.31364E+03,	-0.15999E+00,	4359	0.22932E+03,	0.40605E-01,	4274		0.38201D-01	
14	830426.220906037	0.33305E+00,	-0.77014E-01,	4405	0.35922E+03,	-0.46072E-01,	4765	-0.56734D-01	0.65766D-01	361
	830426.234757045	0.30559E+03,	-0.16523E+00,	4712	0.22623E+03,	0.12970E-01,	4632		0.33309D-01	
15	830426.234757045	0.21331E+00,	-0.44761E-01,	4766	0.35910E+03,	-0.69435E-01,	5127	-0.46325D-01	0.58509D-01	362
	830427.012648053	0.30150E+03,	-0.14492E+00,	5069	0.22214E+03,	0.41257E-01,	4989		0.35790D-01	
16	830427.012648053	0.93092E-01,	-0.43034E-01,	5128	0.35997E+03,	-0.61034E-01,	5488	-0.50904D-01	0.64227D-01	361
	830427.030555445	0.30038E+03,	-0.11604E+00,	5428	0.23491E+03,	0.53187E-01,	5362		0.39220D-01	
17	830427.030555445	0.96401E+00,	-0.36451E-01,	5489	0.49416E+01,	-0.34628E-01,	5493	-0.42423D-01	0.42840D-01	5
	830427.030700981	0.19584E+01,	-0.50529E-01,	5490	0.49416E-01,	-0.34628E-01,	5493		0.66741D-02	

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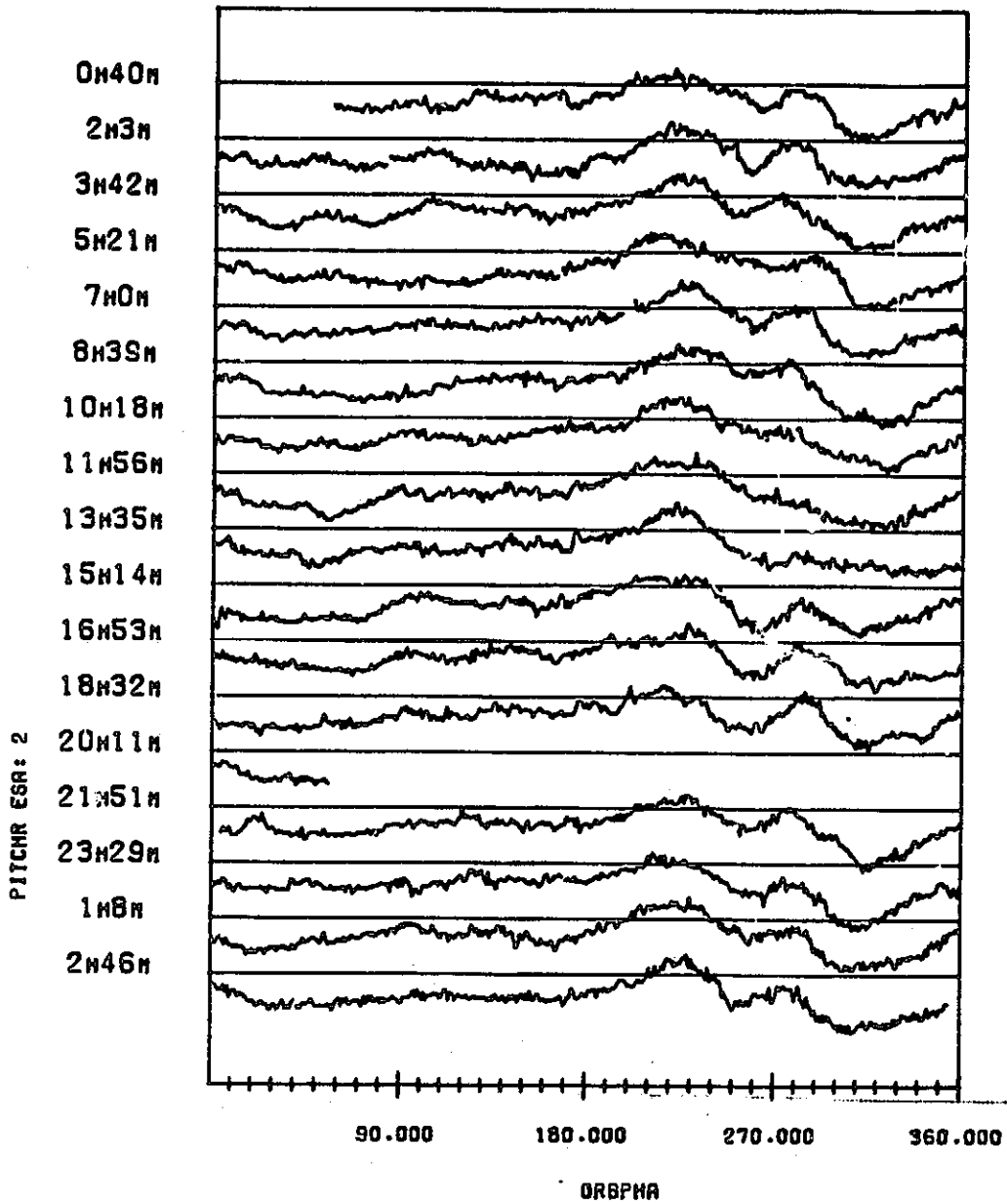

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830523.004000365
END TIME:830524.042404476

FIGURE B-18. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-18. Data Statistics by Orbit

ORBIT	TIME START/END	(F,V,REC) AT MIN F/V			(F,V,REC) AT MAX F/V			MEAN V	V-RMS/STDV	POINTS
1	830523.004000365	0.56024E+02,	-0.58978E-01,	1	0.35919E+03,	-0.47860E-01,	306	-0.48106D-01	0.62602D-01	306
	830523.020333869	0.31251E+03,	-0.14774E+00,	259	0.22026E+03,	0.44592E-01,	166		0.40127D-01	
2	830523.020333869	0.18354E+00,	-0.55922E-01,	307	0.35907E+03,	-0.37045E-01,	667	-0.56015D-01	0.66461D-01	361
	830523.034224877	0.31239E+03,	-0.12640E+00,	620	0.21815E+03,	0.50273E-01,	525		0.35818D-01	
3	830523.034224877	0.63375E-01,	-0.31676E-01,	668	0.35994E+03,	-0.60261E-01,	1029	-0.47210D-01	0.62492D-01	362
	830523.052132269	0.30731E+03,	-0.15089E+00,	976	0.22399E+03,	0.60792E-01,	892		0.41002D-01	
4	830523.052132269	0.93404E+00,	-0.38094E-01,	1030	0.35982E+03,	-0.62293E-01,	1390	-0.55461D-01	0.70293D-01	361
	830523.070023277	0.31611E+03,	-0.15261E+00,	1346	0.20897E+03,	0.52528E-01,	1238		0.43248D-01	
5	830523.070023277	0.81416E+00,	-0.63065E-01,	1391	0.35970E+03,	-0.50994E-01,	1748	-0.45812D-01	0.60861D-01	358
	830523.083914285	0.31401E+03,	-0.13220E+00,	1702	0.22375E+03,	0.75953E-01,	1611		0.40123D-01	
6	830523.083914285	0.69796E+00,	-0.53772E-01,	1749	0.35959E+03,	-0.74094E-01,	2110	-0.58777D-01	0.75532D-01	362
	830523.101805293	0.32085E+03,	-0.17147E+00,	2071	0.22264E+03,	0.54272E-01,	1972		0.47504D-01	
7	830523.101805293	0.58298E+00,	-0.73039E-01,	2111	0.35947E+03,	-0.53998E-01,	2471	-0.48975D-01	0.63527D-01	361
	830523.115656301	0.32371E+03,	-0.14793E+00,	2435	0.22352E+03,	0.60605E-01,	2335		0.40518D-01	
8	830523.115656301	0.46914E+00,	-0.40673E-01,	2472	0.35936E+03,	-0.41913E-01,	2832	-0.59712D-01	0.74428D-01	361
	830523.133547309	0.32757E+03,	-0.15025E+00,	2800	0.23135E+03,	0.58293E-01,	2703		0.44492D-01	
9	830523.133547309	0.35346E+00,	-0.41351E-01,	2833	0.35924E+03,	-0.95277E-01,	3194	-0.53369D-01	0.66848D-01	362
	830523.151438317	0.34433E+03,	-0.12166E+00,	3179	0.22229E+03,	0.76399E-01,	3056		0.40310D-01	
10	830523.151438317	0.23325E+00,	-0.89438E-01,	3195	0.35912E+03,	-0.41042E-01,	3555	-0.57692D-01	0.69632D-01	361
	830523.165329325	0.31145E+03,	-0.13440E+00,	3507	0.22614E+03,	0.30380E-01,	3422		0.39045D-01	
11	830523.165329325	0.10984E+00,	-0.34488E-01,	3556	0.35999E+03,	-0.80507E-01,	3918	-0.48511D-01	0.60011D-01	363
	830523.183236717	0.31827E+03,	-0.13371E+00,	3876	0.22800E+03,	0.50480E-01,	3785		0.35377D-01	
12	830523.183236717	0.98137E+00,	-0.67155E-01,	3919	0.35987E+03,	-0.42202E-01,	4280	-0.55592D-01	0.65875D-01	362
	830523.201127726	0.31517E+03,	-0.14726E+00,	4235	0.21796E+03,	0.33753E-01,	4137		0.35392D-01	
13	830523.201127725	0.86293E+00,	-0.39334E-01,	4281	0.55595E+02,	-0.87589E-01,	4336	-0.66132D-01	0.68294D-01	56
	830523.215124269	0.40659E+02,	-0.90778E-01,	4321	0.58343E+01,	-0.28944E-01,	4286		0.17203D-01	
14	830523.215124259	0.47262E+01,	-0.68649E-01,	4337	0.35965E+03,	-0.35698E-01,	4693	-0.50695D-01	0.63438D-01	357
	830523.232909741	0.31297E+03,	-0.16950E+00,	4646	0.22767E+03,	0.38100E-01,	4560		0.38191D-01	
15	830523.232909741	0.64148E+00,	-0.53979E-01,	4694	0.35953E+03,	-0.59203E-01,	5054	-0.61607D-01	0.72734D-01	361
	830524.010800749	0.30790E+03,	-0.17796E+00,	5002	0.21167E+03,	0.31249E-01,	4905		0.38717D-01	
16	830524.010800749	0.52793E+00,	-0.54162E-01,	5058	0.35942E+03,	-0.32441E-01,	5416	-0.48626D-01	0.63850D-01	362
	830524.024651757	0.30282E+03,	-0.14030E+00,	5359	0.22942E+03,	0.61171E-01,	5285		0.41438D-01	
17	830524.024651757	0.41204E+00,	-0.26290E-01,	5417	0.35433E+03,	-0.76955E-01,	5772	-0.65000D-01	0.76458D-01	356
	830524.042404476	0.30766E+03,	-0.15609E+00,	5725	0.22831E+03,	0.55107E-01,	5645		0.40315D-01	

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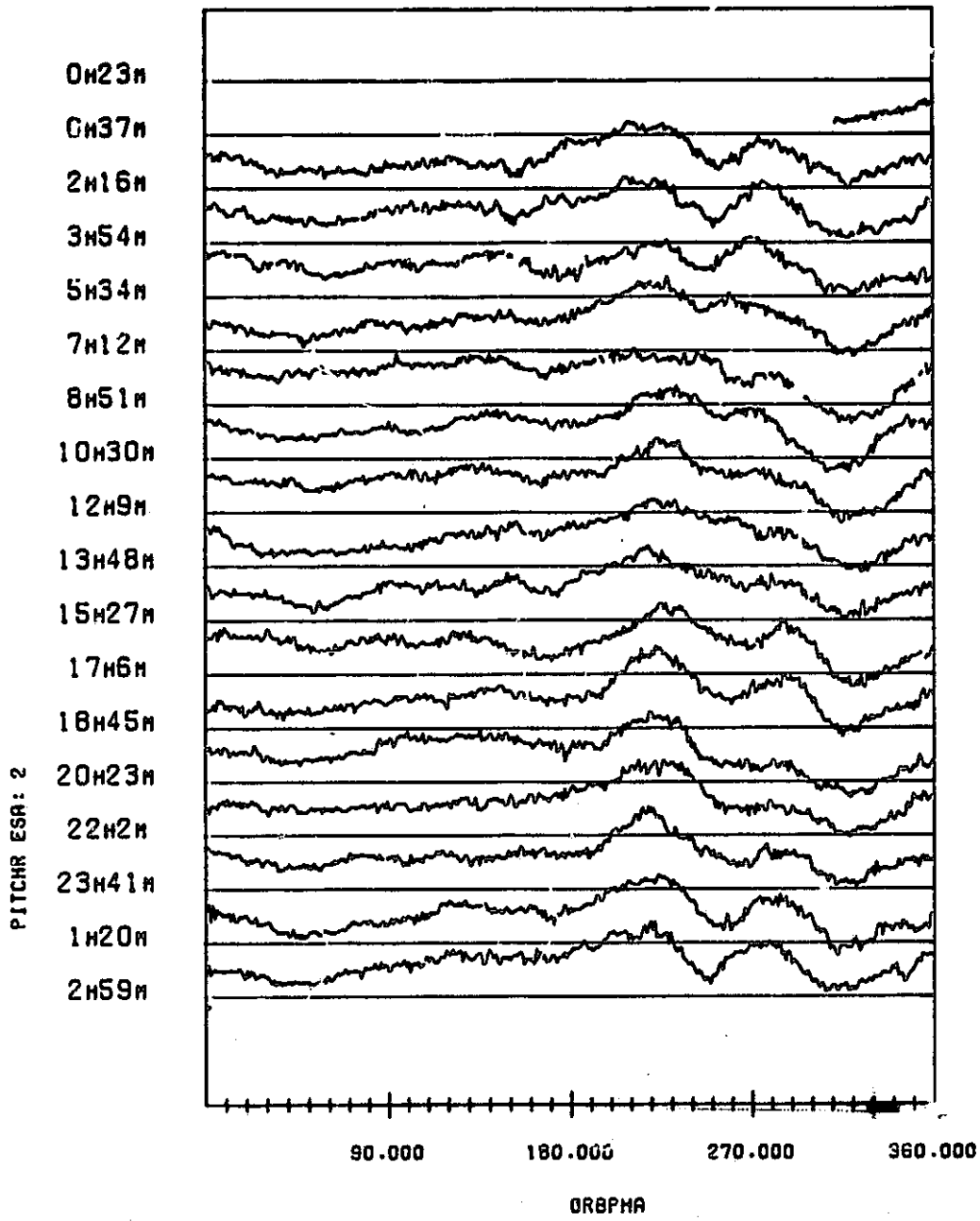

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830606.002351736
END TIME:830607.025956216

FIGURE B-19. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-19. Data Statistics by Orbit

ORBIT	TIME START END	(F,V,REC) AT MIN F/V			(F,V,REC) AT MAX F/V			MEAN V	V-RMS/STDV	POINTS
1	830606.002351736	0.31167E+03.	-0.12058E+00.	1	0.35934E+03.	-0.62296E-01.	49	-0.92715D-01	0.94325D-01	49
	830606.003714552	0.31167E+03.	-0.12058E+00.	1	0.35635E+03.	-0.54431E-01.	46		0.17536D-01	
2	830606.003714552	0.33127E+00.	-0.57408E-01.	50	0.35921E+03.	-0.62191E-01.	411	-0.66430D-01	0.77532D-01	362
	830606.021605560	0.31849E+03.	-0.15274E+00.	370	0.20937E+03.	0.37416E-01.	260		0.40034D-01	
3	830606.021605560	0.20545E+00.	-0.54273E-01.	412	0.35908E+03.	-0.44644E-01.	769	-0.57878D-01	0.69162D-01	358
	830606.035456568	0.31836E+03.	-0.14118E+00.	729	0.20726E+03.	0.53306E-01.	617		0.37915D-01	
4	830606.035456568	0.74377E-01.	-0.41957E-01.	770	0.35994E+03.	-0.10265E-00.	1124	-0.61483D-01	0.70471D-01	355
	830606.053403960	0.32120E+03.	-0.14909E+00.	1085	0.26963E+03.	0.16284E-01.	1034		0.34487D-01	
5	830606.053403960	0.93524E+00.	-0.74501E-01.	1125	0.35981E+03.	-0.43328E-01.	1486	-0.63894D-01	0.77587D-01	362
	830606.071254968	0.32107E+03.	-0.16437E+00.	1447	0.22784E+03.	0.95958E-01.	1353		0.44076D-01	
6	830606.071254968	0.80523E+00.	-0.32316E-01.	1487	0.35968E+03.	-0.42134E-01.	1837	-0.63675D-01	0.79357D-01	351
	830606.085145976	0.31995E+03.	-0.20172E+00.	1800	0.21183E+03.	0.83461E-02.	1695		0.47429D-01	
7	830606.085145976	0.67887E+00.	-0.41579E-01.	1838	0.35956E+03.	-0.58144E-01.	2197	-0.58514D-01	0.75497D-01	360
	830606.103036984	0.30792E+03.	-0.18879E+00.	2146	0.23255E+03.	0.51966E-01.	2070		0.47773D-01	
8	830606.103036984	0.55405E+00.	-0.48636E-01.	2198	0.35944E+03.	-0.55914E-01.	2559	-0.55543D-01	0.70625D-01	362
	830606.120927992	0.31474E+03.	-0.17985E+00.	2514	0.22349E+03.	0.57979E-01.	2422		0.43682D-01	
9	830606.120927992	0.43003E+00.	-0.42990E-01.	2560	0.35931E+03.	-0.66531E-01.	2920	-0.68000D-01	0.81602D-01	361
	830606.134819000	0.32454E+03.	-0.16593E+00.	2885	0.22039E+03.	0.37330E-01.	2780		0.45172D-01	
10	830606.134819000	0.30366E+00.	-0.71221E-01.	2921	0.35918E+03.	-0.59685E-01.	3281	-0.58492D-01	0.71099D-01	361
	830606.152710008	0.31746E+03.	-0.14744E+00.	3239	0.21828E+03.	0.58013E-01.	3140		0.40475D-01	
11	830606.152710008	0.17238E+00.	-0.52171E-01.	3282	0.35904E+03.	-0.77699E-01.	3642	-0.63788D-01	0.77921D-01	361
	830606.170601016	0.32626E+03.	-0.18976E+00.	3610	0.22509E+03.	0.47672E-01.	3508		0.44816D-01	
12	830606.170601016	0.38814E-01.	-0.98817E-01.	3643	0.35991E+03.	-0.61376E-01.	4005	-0.63692D-01	0.78890D-01	363
	830606.184508408	0.31521E+03.	-0.17495E+00.	3960	0.22198E+03.	0.76137E-01.	3866		0.46616D-01	
13	830606.184508408	0.90063E+00.	-0.58177E-01.	4006	0.35978E+03.	-0.89131E-01.	4367	-0.69572D-01	0.86852D-01	362
	830606.202359416	0.31905E+03.	-0.19538E+00.	4326	0.21987E+03.	0.46211E-01.	4226		0.52062D-01	
14	830606.202359416	0.77[illegible]02E+00.	-0.[illegible]4611E-01.	4368	0.35965E+03.	-0.40451E-01.	4729	-0.56931D-01	0.71834D-01	362
	830606.220250424	0.3[illegible]893E+03.	-0.[illegible]5519E+00.	4688	0.21379E+03.	0.61546E-01.	4582		0.43866D-01	
15	830606.220250424	0.64919E+00.	-0.32858E-01.	4730	0.35953E+03.	-0.67269E-01.	5090	-0.56992D-01	0.69083D-01	361
	830606.234141432	0.32179E+03.	-0.14462E+00.	5052	0.21863E+03.	0.81206E-01.	4948		0.39097D-01	
16	830606.234141432	0.52700E+00.	-0.60978E-01.	5091	0.35941E+03.	-0.78039E-01.	5451	-0.72543D-01	0.85569D-01	361
	830607.012032440	0.31273E+03.	-0.18615E+00.	5404	0.22347E+03.	0.48059E-01.	5314		0.45446D-01	
17	830607.012032440	0.40288E+00.	-0.87686E-01.	5452	0.35928E+03.	-0.36571E-01.	5813	-0.55884D-01	0.70257D-01	362
	830607.025923448	0.30665E+03.	-0.13795E+00.	5760	0.21937E+03.	0.58811E-01.	5672		0.42638D-01	
18	830607.025923448	0.27588E+00.	-0.29168E-01.	5814	0.22643E+01.	-0.26421E-01.	5816	-0.30107D-01	0.35305D-01	3
	830607.025956216	0.12701E+01.	-0.34732E-01.	5815	0.22643E+01.	-0.26421E-01.	5816		0.42343D-02	

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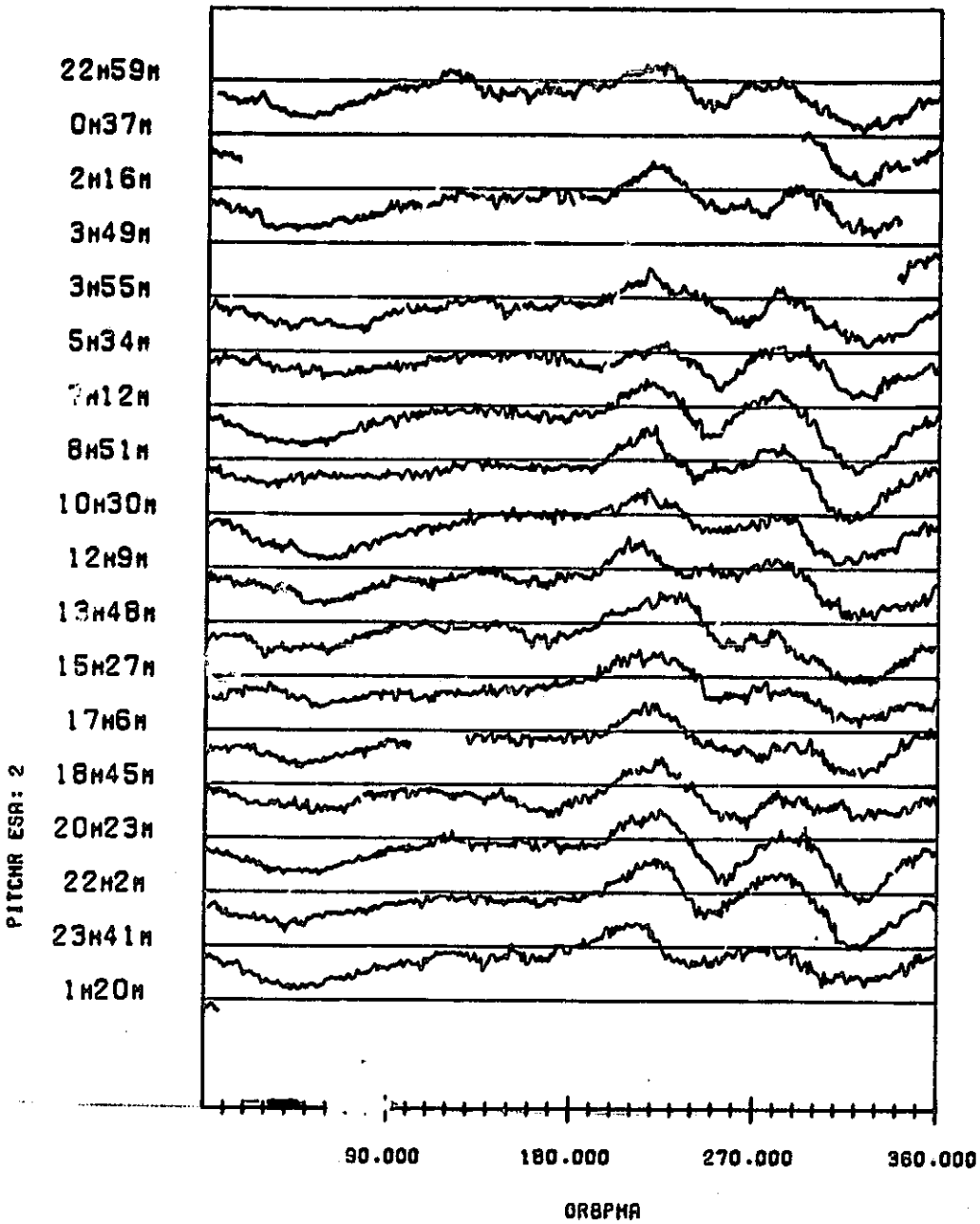

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830621.225929155
END TIME:830623.012243667

FIGURE B-20. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-20. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830621.225929155	0.37950E+01,	-0.39259E-01,	1	0.35970E+03,	-0.46025E-01,	359	-0.41761D-01	0.58618D-01	359
	830622.003731011	0.32195E+03,	-0.14206E+00,	321	0.21582E+03,	0.49905E-01,	214		0.41192D-01	
2	830622.003731011	0.69377E+00,	-0.41798E-01,	360	0.35958E+03,	-0.27199E-01,	443	-0.70914D-01	0.79326D-01	84
	830622.021622019	0.32183E+03,	-0.13719E+00,	406	0.29504E+03,	0.10096E-01,	379		0.35762D-01	
3	830622.021622019	0.57116E+00,	-0.45352E-01,	444	0.34057E+03,	-0.82844E-01,	782	-0.43665D-01	0.60835D-01	339
	830622.034928963	0.32766E+03,	-0.12999E+00,	769	0.21855E+03,	0.77958E-01,	659		0.42422D-01	
4	830622.034928963	0.33957E+03,	-0.92890E-01,	783	0.35945E+03,	-0.29120E-01,	803	-0.54041D-01	0.58649D-01	21
	830622.035513027	0.34156E+03,	-0.10484E+00,	785	0.35746E+03,	-0.22604E-01,	801		0.23349D-01	
5	830622.035513027	0.44334E+00,	-0.32907E-01,	804	0.35932E+03,	-0.27820E-01,	1163	-0.37670D-01	0.55679D-01	360
	830622.053404035	0.32455E+03,	-0.13409E+00,	1128	0.21743E+03,	0.82890E-01,	1020		0.41059D-01	
6	830622.053404035	0.31323E+00,	-0.30153E-01,	1164	0.35919E+03,	-0.40188E-01,	1524	-0.36186D-01	0.47932D-01	361
	830622.071255043	0.32839E+03,	-0.12946E+00,	1493	0.22623E+03,	0.29837E-01,	1391		0.31477D-01	
7	830622.071255043	0.18647E+00,	-0.39347E-01,	1525	0.35907E+03,	-0.25096E-01,	1886	-0.43058D-01	0.67851D-01	362
	830622.085146051	0.31933E+03,	-0.18484E+00,	1846	0.21618E+03,	0.75468E-01,	1742		0.52511D-01	
8	830622.085146051	0.63380E-01,	-0.24667E-01,	1887	0.35994E+03,	-0.25842E-01,	2249	-0.33170D-01	0.56649D-01	363
	830622.103053443	0.31623E+03,	-0.16910E+00,	2205	0.22102E+03,	0.95644E-01,	2109		0.45985D-01	
9	830622.103053443	0.93621E+00,	-0.32627E-01,	2250	0.35982E+03,	-0.41893E-01,	2611	-0.42274D-01	0.63536D-01	362
	830622.120944451	0.31115E+03,	-0.13790E+00,	2562	0.21693E+03,	0.70584E-01,	2467		0.47497D-01	
10	830622.120944451	0.81547E-00,	-0.38914E-01,	2612	0.35970E+03,	-0.49246E-01,	2973	-0.36709D-01	0.58004D-01	362
	830622.134835459	0.32096E+03,	-0.14164E+00,	2934	0.20787E+03,	0.88773E-01,	2820		0.44973D-01	
11	830622.134835459	0.69240E+00,	-0.51815E-01,	2974	0.35957E+03,	-0.58342E-01,	3335	-0.41732D-01	0.68684D-01	362
	830622.152726467	0.32678E+03,	-0.16959E+00,	3302	0.22363E+03,	0.86906E-01,	3198		0.54627D-01	
12	830622.152726467	0.56441E+00,	-0.57571E-01,	3336	0.35944E+03,	-0.57575E-01,	3695	-0.41587D-01	0.58750D-01	360
	830622.170617475	0.32169E+03,	-0.13620E+00,	3657	0.21357E+03,	0.76776E-01,	3549		0.41556D-01	
13	830622.170617475	0.43417E+00,	-0.63785E-01,	3696	0.35931E+03,	-0.68395E-02,	4027	-0.38902D-01	0.56376D-01	332
	830622.184508483	0.32355E+03,	-0.12[illegible]07E+00,	3991	0.21642E+03,	0.60724E-01,	3885		0.40865D-01	
14	830622.184508483	0.30516E+00,	-0.24[illegible]46E-01,	4028	0.35919E+03,	-0.47707E-01,	4385	-0.40619D-01	0.52988D-01	358
	830622.202359491	0.26689E+03,	-0.11801E+00,	4292	0.22523E+03,	0.77506E-01,	4251		0.34074D-01	
15	830622.202359491	0.18062E+00,	-0.34 28E-01,	4386	0.35907E+03,	-0.31995E-01,	4744	-0.39164D-01	0.63337D-01	359
	830622.220250499	0.32231E+03,	-0.17 24E+00,	4708	0.22412E+03,	0.82146E-01,	4610		0.49847D-01	
16	830622.220250499	0.60458E-01,	-0.32[illegible]66E-01,	4745	0.35994E+03,	-0.27693E-01,	5106	-0.29720D-01	0.58662D-01	362
	830622.234157891	0.32318E+03,	-0.15646E+00,	5069	0.22201E+03,	0.96782E-01,	4967		0.50530D-01	
17	830622.234157891	0.33039E+00,	-0.26166E-01,	5107	0.35981E+03,	-0.16895E-01,	5468	-0.41119D-01	0.58766D-01	362
	830623.012048899	0.42726E-02,	-0.12247E+00,	5149	0.21296E+03,	0.68265E-01,	5320		0.42043D-01	
18	830623.012048899	0.80906E+00,	-0.18017E-01,	5469	0.77702E+01,	-0.31833E-01,	5476	-0.21710D-01	0.22932D-01	8
	830623.012243587	0.77702E+01,	-0.31833E-01,	5476	0.37922E+01,	-0.71568E-02,	5472		0.78944D-02	

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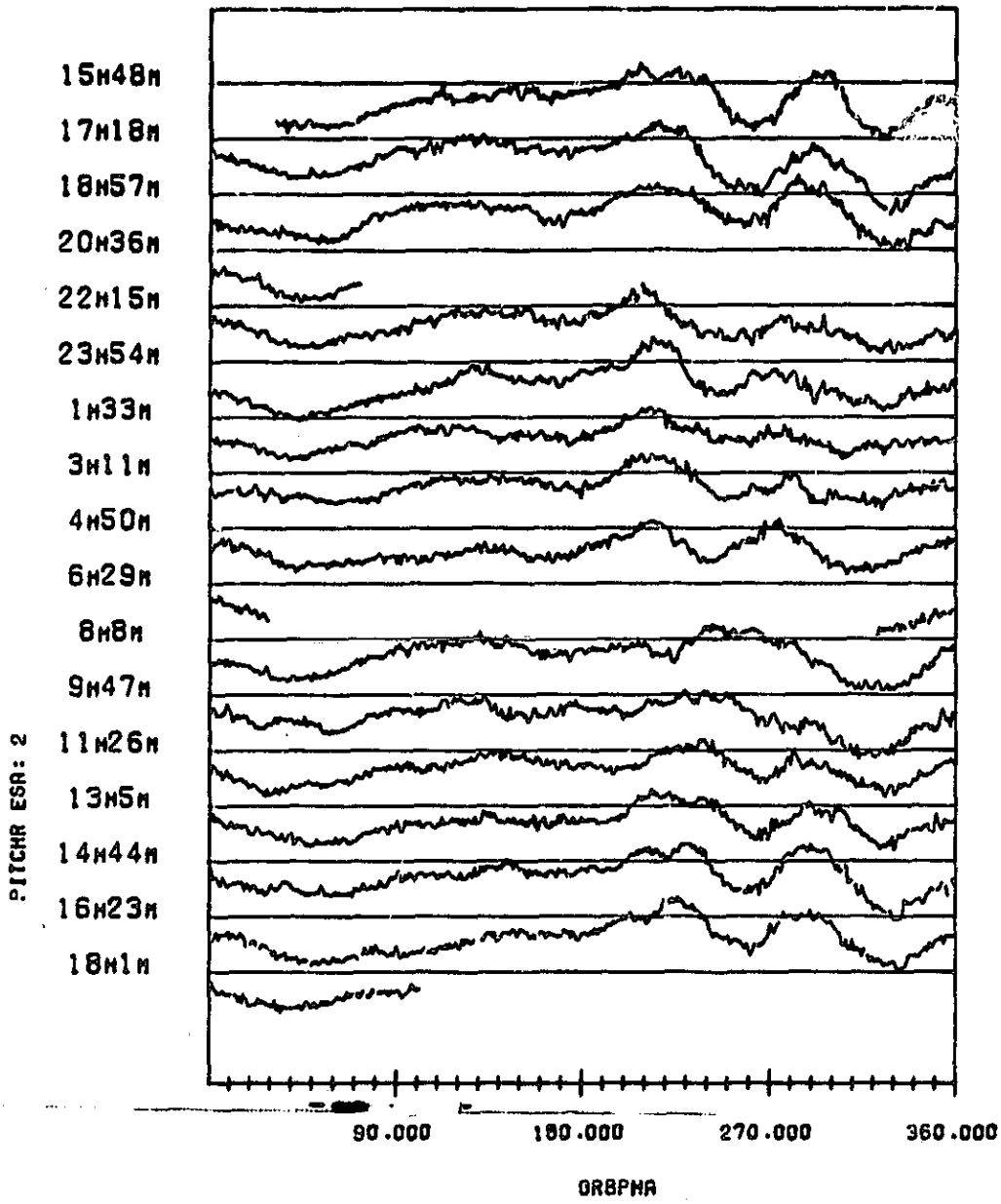

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830706.154825062
END TIME:830707.182940838

FIGURE B-21. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-21. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	830705.154825062	0.32076E+02.	-0.11237E+00.	1	0.35911E+03.	-0.57525E-01.	326	-0.50692D-01	0.70313D-01	326
	830705.171848166	0.32335E+03.	-0.11196E+00.	291	0.20728E+03.	0.54235E-01.	175		0.48800D-01	
2	830705.171848166	0.11023E+01.	-0.31141E-01.	327	0.35998E+03.	-0.74837E-01.	688	-0.60769D-01	0.80492D-01	362
	830705.185739174	0.32818E+03.	-0.20261E+00.	656	0.21708E+03.	0.46534E-01.	545		0.52857D-01	
3	830705.185739174	0.97611E+00.	-0.71304E-01.	689	0.35986E+03.	-0.72663E-01.	1050	-0.55904D-01	0.71512D-01	362
	830705.203630182	0.33700E+03.	-0.15445E+00.	1027	0.28341E+03.	0.50682E-01.	973		0.44656D-01	
4	830706.203630182	0.85451E+00.	-0.69373E-01.	1051	0.72540E+02.	-0.92158E-01.	1123	-0.98652D-01	0.10187D+00	73
	830706.221521190	0.44646E+02.	-0.14197E+00.	1095	0.68219E+01.	-0.45100E-01.	1057		0.25587D-01	
5	830706.221521190	0.73685E+00.	-0.44394E-01.	1124	0.35962E+03.	-0.74734E-01.	1484	-0.57108D-01	0.67830D-01	361
	830706.235412198	0.32386E+03.	-0.13011E+00.	1448	0.20879E+03.	0.57146E-01.	1332		0.36652D-01	
6	830706.235412198	0.61879E+00.	-0.85464E-01.	1485	0.35950E+03.	-0.70528E-01.	1846	-0.68104D-01	0.82374D-01	362
	830707.013303206	0.43414E+02.	-0.15886E+00.	1528	0.21363E+03.	0.66438E-01.	1699		0.46403D-01	
7	830707.013303206	0.49560E+00.	-0.59516E-01.	1847	0.35938E+03.	-0.58762E-01.	2208	-0.56434D-01	0.63083D-01	362
	830707.031154214	0.39306E+02.	-0.11729E+00.	1886	0.21251E+03.	0.29576E-01.	2060		0.28228D-01	
8	830707.031154214	0.37296E+00.	-0.43361E-01.	2209	0.35925E+03.	-0.42425E-01.	2570	-0.39544D-01	0.50262D-01	362
	830707.049045222	0.32447E+03.	-0.98966E-01.	2535	0.21338E+03.	0.52019E-01.	2423		0.31068D-01	
9	830707.049045222	0.24459E+00.	-0.59244E-01.	2571	0.35912E+03.	-0.34501E-01.	2932	-0.63174D-01	0.70756D-01	362
	830707.062936230	0.30747E+03.	-0.12556E+00.	2880	0.27475E+03.	0.25138E-01.	2847		0.31912D-01	
10	830707.062936230	0.11891E+00.	-0.43008E-01.	2933	0.36000E+03.	-0.73886E-01.	2998	-0.85859D-01	0.89890D-01	66
	830707.080843622	0.32224E+03.	-0.13796E+00.	2963	0.50916E+01.	-0.31035E-01.	2938		0.26820D-01	
11	830707.080843622	0.99142E+00.	-0.64962E-01.	2999	0.35988E+03.	-0.29193E-01.	3360	-0.46438D-01	0.63838D-01	362
	830707.094734630	0.32510E+03.	-0.14256E+00.	3325	0.24277E+03.	0.41156E-01.	3242		0.43865D-01	
12	830707.094734630	0.87127E-00.	-0.44562E-01.	3361	0.35976E+03.	-0.53259E-01.	3722	-0.61414D-01	0.73206D-01	362
	830707.112525638	0.31307E+03.	-0.17533E+00.	3675	0.22976E+03.	0.12916E-01.	3591		0.39897D-01	
13	830707.112525638	0.75295E+00.	-0.60301E-01.	3723	0.35964E+03.	-0.37942E-01.	4084	-0.51529D-01	0.61307D-01	362
	830707.130516646	0.32585E+03.	-0.12603E+00.	4050	0.23659E+03.	0.30995E-01.	3960		0.33263D-01	
14	830707.130516646	0.63379E+00.	-0.36137E-01.	4085	0.35952E+03.	-0.38565E-01.	4446	-0.47195D-01	0.58400D-01	362
	830707.144407654	0.33070E+03.	-0.12102E+00.	4417	0.21364E+03.	0.46212E-01.	4299		0.34445D-01	
15	830707.144407654	0.51099E+00.	-0.23422E-01.	4447	0.35939E+03.	-0.63090E-01.	4801	-0.42766D-01	0.61869D-01	355
	830707.162315046	0.33256E+03.	-0.16221E+00.	4777	0.23039E+03.	0.49724E-01.	4678		0.44772D-01	
16	830707.162315046	0.13780E+01.	-0.64351E-01.	4802	0.35926E+03.	-0.51239E-01.	5149	-0.61058D-01	0.75156D-01	348
	830707.180149670	0.33342E+03.	-0.14904E+00.	5123	0.22629E+03.	0.52199E-01.	5018		0.43884D-01	
17	830707.180149670	0.25622E+00.	-0.48796E-01.	5150	0.10183E+03.	-0.45849E-01.	5248	-0.71174D-01	0.73477D-01	99
	830707.182940838	0.35084E+02.	-0.10761E+00.	5184	0.12507E+01.	-0.27887E-01.	5151		0.18346D-01	

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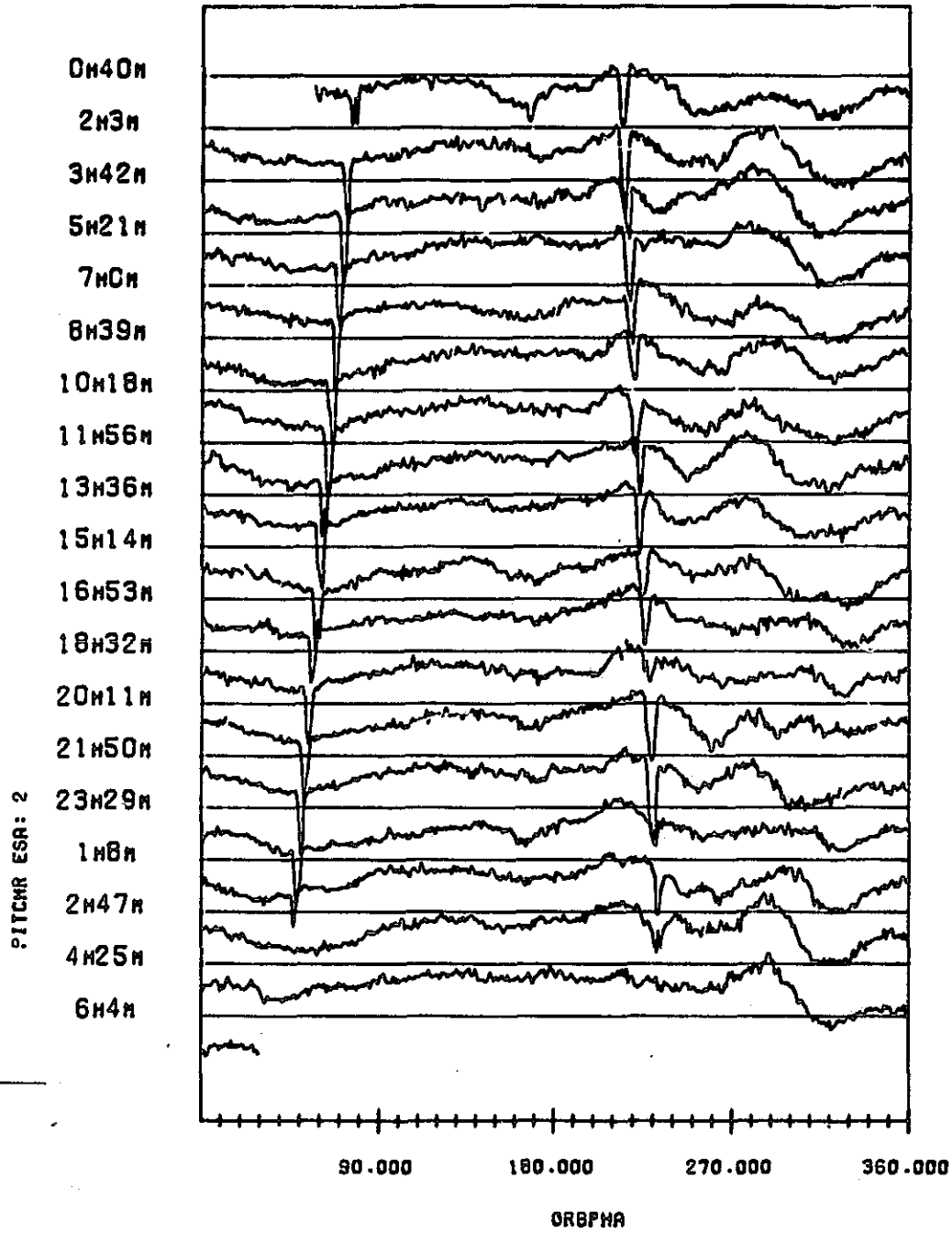

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830726.004016064
END TIME:830727.061244608

FIGURE B-22. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-2[illegible]. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	830726.004016064	0.56601E+02,	-0.30654E-01,	1	0.35975E+03,	-0.59898E-01,	306	-0.52313D-01	0.64217D-01	306
	830726.020349568	0.21385E+03,	-0.14395E+00,	159	0.21783E+03,	0.30971E-01,	163		0.37306D-01	
2	830726.020349568	0.74253E+00,	-0.50807E-01,	307	0.35963E+03,	-0.98415E-01,	668	-0.77943D-01	0.87570D-01	362
	830726.034240576	0.73418E+02,	-0.26949E+00,	380	0.29111E+03,	0.83711E-02,	599		0.39971D-01	
3	830726.034240576	0.62044E+00,	-0.86493E-01,	669	0.35950E+03,	-0.60730E-01,	1030	-0.68145D-01	0.81726D-01	362
	830726.052131584	0.71305E-02,	-0.29302E+00,	740	0.28007E+03,	0.45407E-01,	950		0.45178D-01	
4	830726.052131584	0.49501E+00,	-0.53835E-01,	1031	0.35938E+03,	-0.78931E-01,	1392	-0.55700D-01	0.70555D-01	362
	830726.070022592	0.69189E+02,	-0.26595E+00,	1100	0.27895E+03,	0.33145E-01,	1311		0.43367D-01	
5	830726.070022592	0.37318E+00,	-0.67124E-01,	1393	0.35926E+03,	-0.77094E-01,	1753	-0.79941D-01	0.87721D-01	361
	830726.083913600	0.67076E+02,	-0.29941E+00,	1460	0.22329E+03,	0.17453E-01,	1616		0.36168D-01	
6	830726.083913600	0.25503E+00,	-0.61588E-01,	1754	0.35914E+03,	-0.47035E-01,	2114	-0.69709D-01	0.80740D-01	361
	830726.101804608	0.66957E+02,	-0.30000E+00,	1821	0.21424E+03,	0.17122E-01,	1968		0.40794D-01	
7	830726.101804608	0.13812E+00,	-0.34967E-01,	2115	0.35903E+03,	-0.64632E-01,	2476	-0.75780D-01	0.85639D-01	362
	830726.115655616	0.63851E+02,	-0.30000E+00,	2179	0.21313E+03,	0.14221E-01,	2329		0.39947D-01	
8	830726.115655616	0.22354E-01,	-0.72856E-01,	2477	0.35990E+03,	-0.61344E-01,	2839	-0.64711D-01	0.77066D-01	363
	830726.133603008	0.60745E+02,	-0.27023E+00,	2538	0.27750E+03,	0.28844E-01,	2756		0.41911D-01	
9	830726.133603008	0.89922E+00,	-0.33887E-01,	2840	0.35978E+03,	-0.67785E-01,	3201	-0.53824D-01	0.66588D-01	362
	830726.151454016	0.60625E+02,	-0.27172E+00,	2900	0.21588E+03,	0.36672E-01,	3056		0.39258D-01	
10	830726.151454016	0.77704E+00,	-0.66204E-01,	3202	0.35966E+03,	-0.61799E-01,	3562	-0.83409D-01	0.92752D-01	361
	830726.165345024	0.57513E+02,	-0.29298E+00,	3258	0.22964E+03,	-0.33246E-02,	3431		0.40626D-01	
11	830726.165345024	0.65170E+00,	-0.60866E-01,	3563	0.35953E+03,	-0.81393E-01,	3924	-0.64381D-01	0.73527D-01	362
	830726.183236032	0.55395E+02,	-0.23956E+00,	3618	0.21959E+03,	0.43458E-01,	3783		0.35564D-01	
12	830726.183236032	0.52717E+00,	-0.64539E-01,	3925	0.35941E+03,	-0.51655E-01,	4285	-0.67209D-01	0.74064D-01	361
	830726.201127040	0.54276E+02,	-0.26530E+00,	3979	0.21650E+03,	0.27768E-01,	4141		0.31162D-01	
13	830726.201127040	0.40681E+00,	-0.53274E-01,	4286	0.35930E+03,	-0.56422E-01,	4646	-0.57617D-01	0.69262D-01	361
	830726.215018048	0.52164E+02,	-0.28965E+00,	4337	0.22432E+03,	0.35104E-01,	4510		0.38491D-01	
14	830726.215018048	0.29117E+00,	-0.42757E-01,	4647	0.35918E+03,	-0.99038E-01,	5007	-0.68412D-01	0.79916D-01	361
	830726.232909056	0.50056E+02,	-0.23360E+00,	4697	0.21627E+03,	0.24684E-01,	4864		0.41366D-01	
15	830726.232909056	0.17577E+00,	-0.99736E-01,	5008	0.35907E+03,	-0.63927E-01,	5369	-0.73309D-01	0.81603D-01	362
	830727.010800064	0.47949E+02,	-0.28510E+00,	5056	0.21417E+03,	0.28506E-01,	5223		0.35895D-01	
16	830727.010800064	0.59891E-01,	-0.47442E-01,	5370	0.35994E+03,	-0.54001E-01,	5732	-0.64159D-01	0.74582D-01	363
	830727.024707456	0.46835E+02,	-0.19045E-00,	5417	0.20809E+03,	0.20733E-01,	5579		0.38081D-01	
17	830727.024707456	0.93606E+00,	-0.49425E-01,	5733	0.35982E+03,	-0.67227E-01,	6093	-0.51937D-01	0.68239D-01	361
	830727.042558464	0.33000E+03,	-0.15267E+00,	6063	0.28634E+03,	0.54055E-01,	6019		0.44324D-01	
18	830727.042558464	0.81160E+00,	-0.75791E-01,	6094	0.35969E+03,	-0.12127E-00,	6455	-0.65076D-01	0.77166D-01	362
	830727.060449472	0.32094E+03,	-0.18925E+00,	6416	0.28919E+03,	0.32592E-01,	6384		0.41526D-01	
19	830727.060449472	0.68754E+00,	-0.10653E+00,	6456	0.29544E+02,	-0.10910E+00,	6485	-0.89912D-01	0.90504D-01	30
	830727.061244608	0.26767E+01,	-0.11533E+00,	6458	0.15610E+02,	-0.69818E-01,	6471		0.10509D-01	

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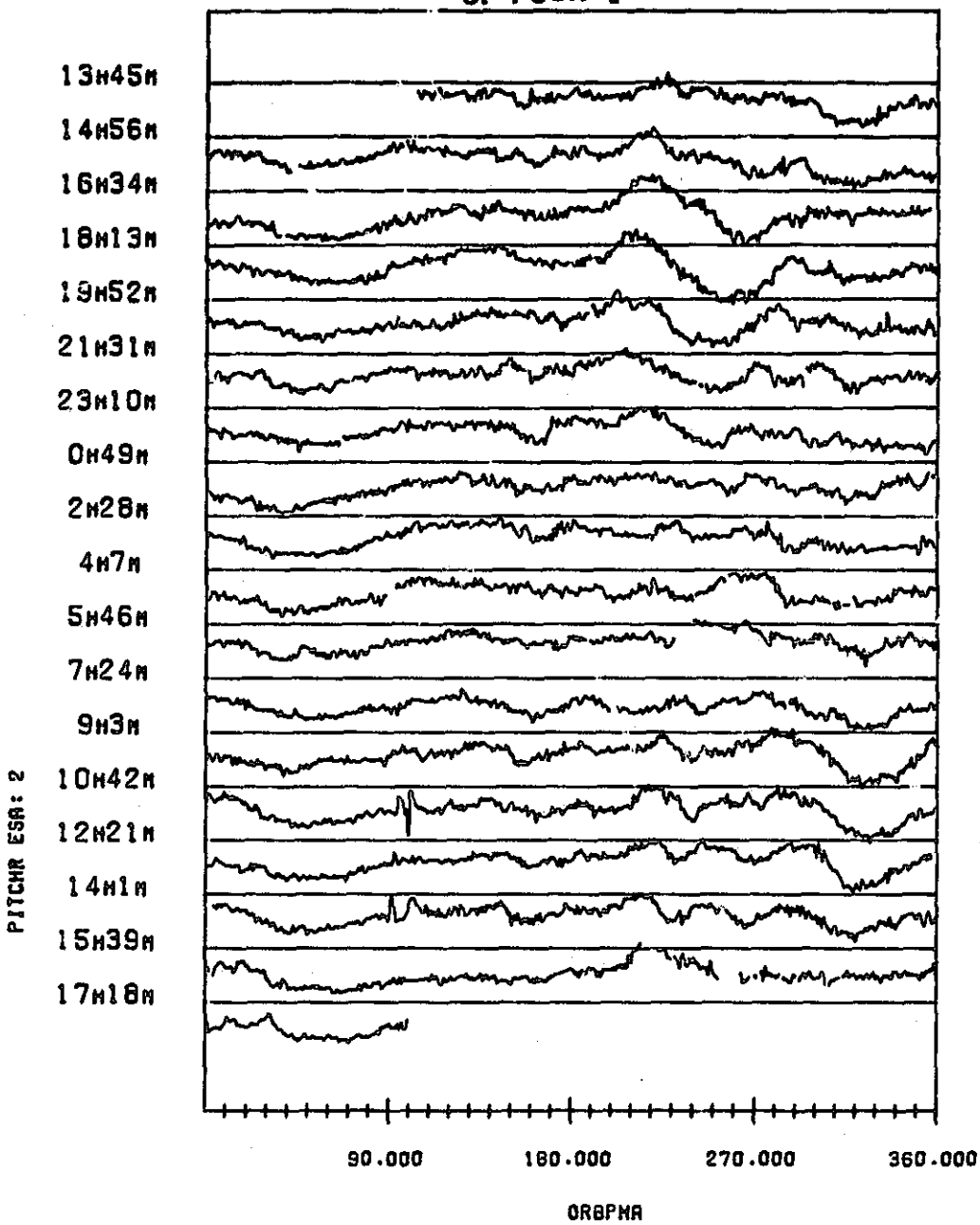

SENSOR 2 PITCH RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830806.134523196
END TIME:830807.174517564

FIGURE B-23. Sensor Two Pitch Residuals for Consecutive Orbits

TABLE B-23. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830806.134523196	0.10331E+03,	-0.23493E-01,	1	0.35964E+03,	-0.65589E-01,	259	-0.46109D-01	0.53652D-01	259
	830806.145606652	0.32287E+03,	-0.12264E+00,	221	0.22664E+03,	0.27213E-01,	125		0.27486D-01	
2	830806.145606652	0.63222E+00,	-0.56798E-01,	260	0.35951E+03,	-0.10256E-00,	619	-0.65242D-01	0.72804D-01	360
	830806.163457660	0.31878E+03,	-0.14650E+00,	578	0.21957E+03,	0.24529E-01,	478		0.32354D-01	
3	830806.163457660	0.50848E+00,	-0.95950E-01,	620	0.35939E+03,	-0.27228E-01,	979	-0.70419D-01	0.80461D-01	360
	830806.181348668	0.26409E+03,	-0.15251E+00,	885	0.21945E+03,	0.44310E-01,	840		0.38980D-01	
4	830806.181348668	0.38517E+00,	-0.39486E-01,	980	0.35927E+03,	-0.79983E-01,	1341	-0.63367D-01	0.74546D-01	362
	830806.195239676	0.25901E+03,	-0.16300E+00,	1240	0.21138E+03,	0.43350E-01,	1192		0.39320D-01	
5	830806.195239676	0.26517E+00,	-0.61956E-01,	1342	0.35916E+03,	-0.90826E-01,	1702	-0.66570D-01	0.72737D-01	361
	830806.213130684	0.24898E+03,	-0.13295E+00,	1591	0.20233E+03,	0.24747E-01,	1544		0.29352D-01	
6	830806.213130684	0.15048E+00,	-0.77778E-01,	1703	0.35904E+03,	-0.54609E-01,	2060	-0.38055D-01	0.63319D-01	358
	830806.231021692	0.32029E+03,	-0.11097E+00,	2021	0.20718E+03,	0.17376E-01,	1910		0.25312D-01	
7	830806.231021692	0.36017E-01,	-0.64743E-01,	2061	0.35992E+03,	-0.90397E-01,	2422	-0.68352D-01	0.73651D-01	362
	830807.004929084	0.35495E+03,	-0.12717E+00,	2417	0.22197E+03,	0.56790E-02,	2283		0.27470D-01	
8	830807.004929084	0.91605E+00,	-0.82037E-01,	2423	0.35981E+03,	-0.38483E-01,	2783	-0.71575D-01	0.76444D-01	361
	830807.022820092	0.36737E+02,	-0.14658E+00,	2459	0.12439E+03,	-0.26757E-01,	2547		0.26885D-01	
9	830807.022820092	0.79971E+00,	-0.52319E-01,	2784	0.35968E+03,	-0.77469E-01,	3145	-0.60885D-01	0.66944D-01	362
	830807.040711100	0.32638E+03,	-0.11857E+00,	2916	0.14418E+03,	-0.38719E-02,	2928		0.27869D-01	
10	830807.040711100	0.67772E+00,	-0.78229E-01,	3146	0.35956E+03,	-0.48204E-01,	3498	-0.64979D-01	0.70290D-01	353
	830807.054602108	0.36500E+02,	-0.12733E+00,	3182	0.27517E+03,	-0.32599E-02,	3416		0.26841D-01	
11	830807.054602108	0.55453E+00,	-0.56456E-01,	3499	0.35944E+03,	-0.49653E-01,	3847	-0.49592D-01	0.54850D-01	349
	830807.072453116	0.32466E+03,	-0.11784E+00,	3812	0.24033E+03,	0.12115E-01,	3731		0.23468D-01	
12	830807.072453116	0.43448E+00,	-0.54009E-01,	3848	0.35932E+03,	-0.74838E-01,	4208	-0.82402D-01	0.85412D-01	361
	830807.090344124	0.32752E+03,	-0.14639E+00,	4176	0.12590E+03,	-0.28616E-01,	3974		0.22507D-01	
13	830807.090344124	0.31784E+00,	-0.74012E-01,	4209	0.35921E+03,	-0.34157E-01,	4570	-0.62984D-01	0.70228D-01	362
	830807.104235132	0.32344E+03,	-0.15528E+00,	4534	0.27878E+03,	0.14213E-01,	4489		0.31108D-01	
14	830807.104235132	0.20308E+00,	-0.38026E-01,	4571	0.35909E+03,	-0.60232E-01,	4932	-0.65613D-01	0.72928D-01	362
	830807.122126140	0.32729E+03,	-0.15624E+00,	4900	0.21617E+03,	0.57313E-02,	4788		0.31879D-01	
15	830807.122126140	0.88791E-01,	-0.72552E-01,	4933	0.35699E+03,	-0.49845E-01,	5292	-0.60264D-01	0.67655D-01	360
	830807.140122684	0.31924E+03,	-0.14533E+00,	5254	0.24484E+03,	0.44169E-02,	5179		0.30790D-01	
16	830807.140122684	0.39497E+01,	-0.32141E-01,	5293	0.35985E+03,	-0.60752E-01,	5651	-0.59808D-01	0.65266D-01	359
	830807.153924540	0.32011E+03,	-0.13181E+00,	5511	0.21494E+03,	0.60441E-02,	5505		0.26164D-01	
17	830807.153924540	0.84416E+00,	-0.53739E-01,	5652	0.35973E+03,	-0.72760E-01,	5986	-0.75895D-01	0.79896D-01	337
	830807.171815548	0.66540E+02,	-0.12476E+00,	5717	0.21482E+03,	0.15566E-01,	5866		0.25002D-01	
18	830807.171815548	0.72057E+00,	-0.56103E-01,	5989	0.99289E+02,	-0.48673E-01,	6088	-0.77955D-01	0.80380D-01	100
	830807.174517564	0.70401E+02,	-0.11163E+00,	6059	0.31564E+02,	-0.28803E-01,	6020		0.19694D-01	

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TABLE B-24. Summary Statistics for the Period from 8/10/82 to 8/6/83

PITCHR ESA: 2

SEGMENT NUMBER	SEGMENT[1] DATE	MEAN FULL ORBIT AVERAGE	p-p	σ	NO. OF ORBITS
1	8/10/82	-0.0590	0.0295	0.0128	8
2	9/8/82	-0.0292	0.0080	0.0024	11
3	9/22/82	-0.0776	0.0196	0.0061	8
4	10/5/82	-0.0898	0.0188	0.0058	8
5	10/20/82	-0.0615	0.0240	0.0078	11
6	11/2/82	-0.0612	0.0169	0.0064	9
7	11/16/82	-0.0387	0.0380	0.0136	8
8	12/1/82	-0.0296	0.0618	0.0203	13
9	12/14/82	-0.0588	0.0146	0.0055	6
10	12/28/82	-0.0115	0.0415	0.0168	8
11	1/19/83	-0.0581	0.0224	0.0070	12
12	2/2/83	-0.0504	0.0195	0.0051	14
13	3/3/83	-0.0562	0.0161	0.0042	13
14	3/14/83	-0.0663	0.0146	0.0053	12
15	3/29/83	-0.0534	0.0223	0.0078	12
16	4/14/83	-0.0499	0.0217	0.0064	16
17	4/26/83	-0.0538	0.0133	0.0037	15
18	5/23/83	-0.0542	0.0192	0.0058	15
19	6/6/83	-0.0621	0.0170	0.0052	16
20	6/21/83	-0.0388	0.0133	0.0040	13
21	7/6/83	-0.0542	0.0286	0.0088	12
22	7/26/83	-0.0671	0.0315	0.0091	17
23	8/6/83	-0.0658	0.0243	0.0062	14

1 Segment date refers to the start date of each segment. Each segment is approximately 24 hours in length.

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APPENDIX C

This appendix contains plots and statistics for sensor 1 roll residual versus orbit phase from the ascending node for all orbits in 23 data segments. The 23 segments are presented in sequence from the earliest segment to the most recent. Figures C-1 through C-23 provide plots and Tables C-1 through C-23 provide tables of statistics computed by orbit for each segment. Tables C-1 through C-23 are organized vertically by orbit number and horizontally into the following six columns:

(1)	ORBIT TIME START/END:	Orbit start and end times in the format YYMMDD.HHMMSSMMM, where: YY... Year MM... Month DD... Day HH... Hours MM... Minutes SS... Seconds MMM... Milliseconds
(2)	(X,Y,REC) AT MIN X/Y:	Provides the coordinates — orbit phase (X), residual value (Y), and record number (REC) — at which the minimum values occur. The upper line gives the minimum orbit phase (X) coordinates and the lower line gives the minimum residual value (Y) coordinates for each orbit.
(3)	(X,Y,REC) AT MAX X/Y:	Same as (2) except maximum rather than minimum values
(4)	MEAN Y:	Full-orbit average of roll residual.
(5)	Y-RMS/STDV:	For each orbit, the upper value is the root mean square of roll residual and the lower value, the standard deviation.
(6)	POINTS:	The number of points contained in each orbit.

Table C-24 provides mean, peak-to-peak and standard deviation of full orbit average roll residual for each segment. Note that only orbits with at least 350 data points were used in compiling these statistics for each segment. The number of orbits used is provided.

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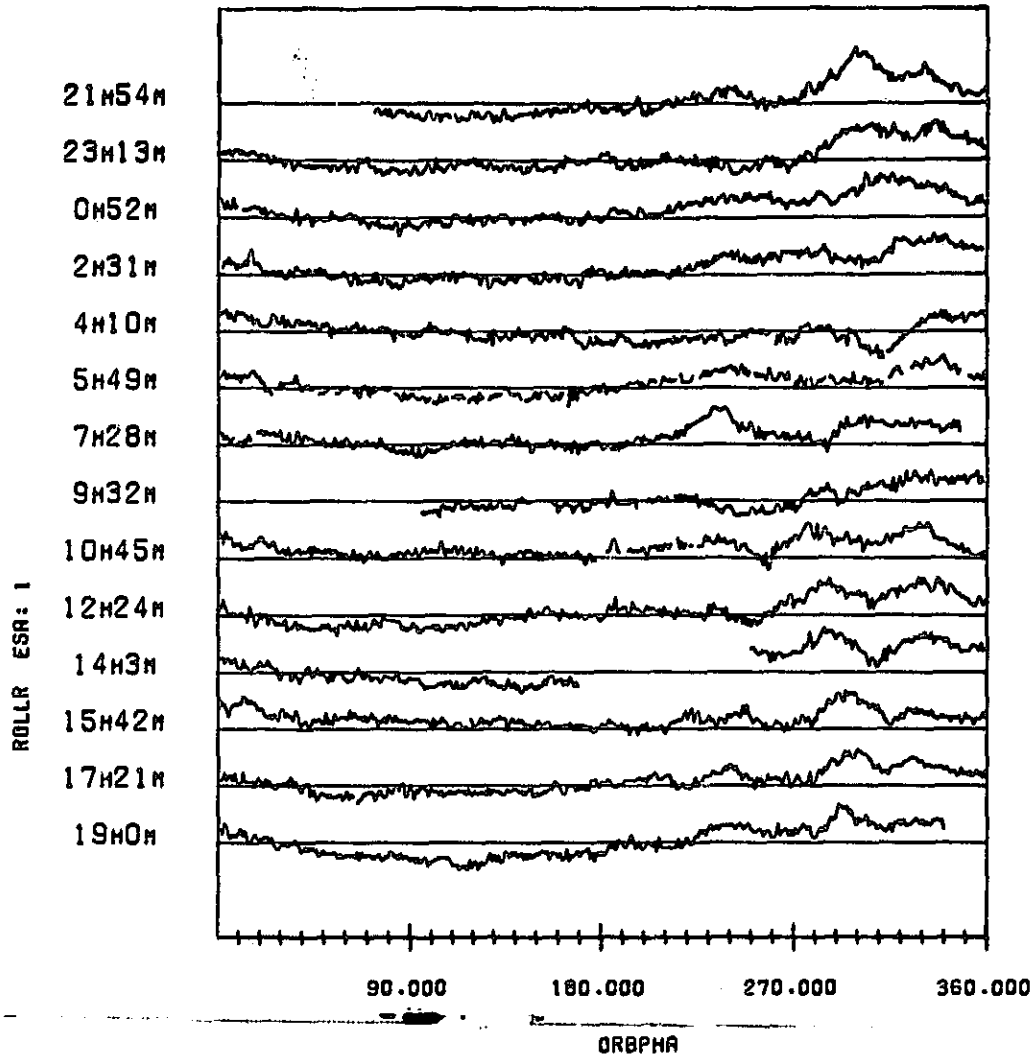

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820810.215426522
END TIME:820811.203329690

FIGURE C-1. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-1. Data Statistics by Orbit

ORBIT	TIME START/END	(F,V,REC) AT MIN R/V			(F,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	820810.215426522	0.72118E+02,	-0.27452E+00,	1	0.35933E+03,	-0.21258E+00,	289	-0.23797D+00	0.24219D+00	289
	820810.231337882	0.12890E+03,	-0.30102E+00,	57	0.29874E+03,	-0.10146E+00,	228		0.45070D-01	
2	820810.231337882	0.32249E+00,	-0.23106E-00,	290	0.35921E+03,	-0.21922E+00,	651	-0.24148D+00	0.24399D+00	362
	820811.005228890	0.93932E+02,	-0.28778E+00,	384	0.33635E+03,	-0.14571E+00,	628		0.34904D-01	
3	820811.005228890	0.20319E+00,	-0.20316E+00,	652	0.35909E+03,	-0.21676E+00,	1011	-0.22464D+00	0.22719D+00	360
	820811.023119898	0.83847E+02,	-0.29626E+00,	734	0.30346E+03,	-0.13260E+00,	955		0.34036D-01	
4	820811.023119898	0.81257E-01,	-0.20859E+00,	1012	0.35995E+03,	-0.18974E+00,	1372	-0.22833D+00	0.23073D+00	361
	820811.041027290	0.83724E-02,	-0.28536E+00,	1095	0.33510E+03,	-0.14423E+00,	1348		0.33189D-01	
5	820811.041027290	0.94867E+00,	-0.20305E+00,	1373	0.35983E+03,	-0.21695E-00,	1730	-0.25223D+00	0.25352D+00	358
	820811.054918298	0.31213E+03,	-0.22306E+00,	1683	0.39328E+01,	-0.19174E+00,	1376		0.25540D-01	
6	820811.054918298	0.82069E+00,	-0.21913E+00,	1731	0.35970E+03,	-0.22848E+00,	2059	-0.23934D+00	0.24097D+00	329
	820811.072809306	0.16413E+03,	-0.29644E+00,	1878	0.33982E+03,	-0.16296E+00,	2042		0.27960D-01	
7	820811.072809306	0.69661E+00,	-0. 2553E+00,	2060	0.34765E+03,	-0.21675E+00,	2404	-0.23016D+00	0.23181D+00	345
	820811.093256794	0.92317E+02,	-0. 8403E+00,	2149	0.23750E+03,	-0.15178E+00,	2293		0.27639D-01	
8	820811.093256794	0.95184E+02,	-0.27758E+00,	2405	0.35847E+03,	-0.19939E+00,	2657	-0.24375D+00	0.24565D+00	253
	820811.104551322	0.10315E+03,	-0.29219E+00,	2413	0.35548E+03,	-0.16912E+00,	2654		0.30486D-01	
9	820811.104551322	0.45643E+00,	-0.19022E+00,	2658	0.35934E+03,	-0.23863E+00,	3007	-0.22235D+00	0.22354D+00	350
	820811.122442330	0.25809E+03,	-0.28232E+00,	2905	0.33250E+03,	-0.15545E+00,	2980		0.23103D-01	
10	820811.122442330	0.33782E+00,	-0.23833E+00,	3008	0.35922E+03,	-0.20865E+00,	3369	-0.24055D+00	0.24313D+00	362
	820811.140333338	0.56088E+02,	-0.30235E+00,	3064	0.32841E+03,	-0.14962E+00,	3338		0.35370D-01	
11	820811.140333338	0.21582E+00,	-0.21166E+00,	3370	0.35909E+03,	-0.18629E+00,	3651	-0.23173D+00	0.23615D+00	282
	820811.154224346	0.14362E+03,	-0.30514E+00,	3514	0.28462E+03,	-0.13170E+00,	3576		0.45550D-01	
12	820811.154224346	0.89517E-01,	-0.19213E+00,	3652	0.35996E+03,	-0.19920E+00,	4013	-0.22278D+00	0.22392D+00	362
	820811.172131738	0.19718E+03,	-0.26631E+00,	3849	0.29441E+03,	-0.15006E+00,	3947		0.22646D-01	
13	820811.172131738	0.95609E+00,	-0.23449E+00,	4014	0.35983E+03,	-0.22801E+00,	4374	-0.23808D+00	0.23991D+00	361
	820811.190022746	0.65671E+02,	-0.29315E+00,	4078	0.30023E+03,	-0.15434E+00,	4314		0.29625D-01	
14	820811.190022746	0.82974E+00,	-0.21571E-00,	4375	0.33983E+03,	-0.21434E+00,	4716	-0.24945D+00	0.25245D+00	342
	820811.203329690	0.11337E+03,	-0.32216E-00,	4488	0.29119E+03,	-0.14877E+00,	4667		0.38860D-01	

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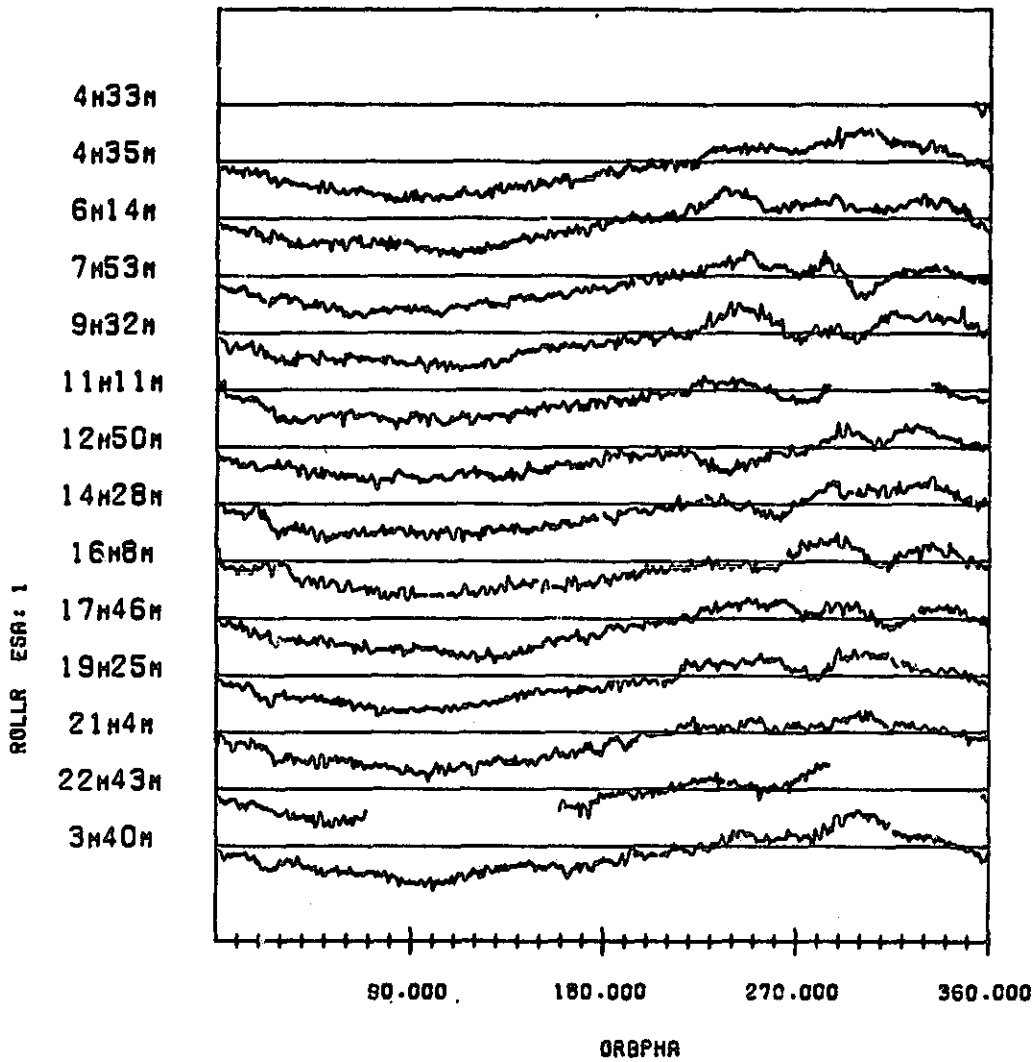

SENSOR 1 ROLL REGIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820908.043319559
END TIME:820909.051848519

FIGURE C-2. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-2. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	820908.043319559	0.35183E+03,	-0.24754E+00,	1	0.35979E+03,	-0.26546E+00,	9	-0.25887D+00	0.25911D+00	9
	820908.043547015	0.35581E+03,	-0.28120E+00,	5	0.35283E+03,	-0.24243E+00,	2		0.12029D-01	
2	820908.043547015	0.78028E+00,	-0.27161E+00,	10	0.35965E+03,	-0.27476E+00,	370	-0.27043D+00	0.27557D+00	361
	820908.061439023	0.81408E-02,	-0.35728E+00,	91	0.28915E+03,	-0.15897E+00,	300		0.53087D-01	
3	820908.061438023	0.64770E+00,	-0.26004E+00,	371	0.35952E+03,	-0.28406E+00,	731	-0.26417D+00	0.26861D+00	361
	820908.075329031	0.11215E+03,	-0.35339E+00,	482	0.23545E+03,	-0.16728E+00,	606		0.48679D-01	
4	820908.075329031	0.51890E+00,	-0.27413E+00,	732	0.35940E+03,	-0.26490E+00,	1090	-0.28130D+00	0.28479D+00	359
	820908.093220039	0.67206E+02,	-0.36018E+00,	798	0.24624E+03,	-0.18221E+00,	977		0.44512D-01	
5	820908.093220039	0.39327E+00,	-0.26117E+00,	1091	0.35927E+03,	-0.24357E+00,	1452	-0.27257D+00	0.27650D+00	362
	820908.111111047	0.96959E+02,	-0.35426E+00,	1188	0.23917E+03,	-0.16939E+00,	1331		0.46559D-01	
6	820908.111111047	0.26878E+00,	-0.25586E+00,	1453	0.35915E+03,	-0.27672E+00,	1767	-0.28690D+00	0.28886D+00	315
	820908.125002055	0.82889E+02,	-0.35315E+00,	1536	0.22615E+03,	-0.21241E+00,	1680		0.33652D-01	
7	820908.125002055	0.14426E+00,	-0.27217E+00,	1768	0.35902E+03,	-0.25103E+00,	2129	-0.28359D+00	0.28646D+00	362
	820908.142853063	0.73798E+02,	-0.36233E+00,	1842	0.28951E+03,	-0.18600E+00,	2059		0.40496D-01	
8	820908.142853063	0.15521E-01,	-0.25720E+00,	2130	0.35988E+03,	-0.24600E+00,	2488	-0.27596D+00	0.27948D+00	359
	820908.160800455	0.11450E+03,	-0.35146E+00,	2245	0.33404E+03,	-0.17647E+00,	2462		0.44260D-01	
9	820908.160800455	0.87682E+00,	-0.21983E+00,	2489	0.35975E+03,	-0.24953E+00,	2845	-0.27761D+00	0.28074D+00	357
	820908.174651463	0.88472E+02,	-0.35443E+00,	2576	0.28924E+03,	-0.17583E+00	2774		0.41832D-01	
10	820908.174651463	0.74347E+00,	-0.25208E+00,	2846	0.35962E+03,	-0.26091E+00,	3206	-0.27746D+00	0.28129D+00	361
	820908.192542471	0.12917E+03,	-0.36708E+00,	2975	0.24745E+03,	-0.19281E+00,	3094		0.46321D-01	
11	820908.192542471	0.61234E+00,	-0.25955E+00,	3207	0.35949E+03,	-0.27573E+00,	3564	-0.27250D+00	0.27650D+00	358
	820908.210433479	0.74267E+02,	-0.35714E+00,	3281	0.28998E+03,	-0.17657E+00,	3496		0.46972D-01	
12	820908.210433479	0.48423E+00,	-0.28064E+00,	3565	0.35937E+03,	-0.25337E+00,	3924	-0.28129D+00	0.28516D+00	360
	820908.224324487	0.98044E+02,	-0.38094E+00,	3663	0.30275E+03,	-0.19085E+00,	3867		0.46884D-01	
13	820908.224324487	0.35983E+00,	-0.27395E+00,	3925	0.35998E+03,	-0.27738E+00,	4126	-0.27014D+00	0.27318D+00	202
	820909.034013895	0.54097E+02,	-0.35076E+00,	3979	0.28365E+03,	-0.18070E+00,	4120		0.40765D-01	
14	820909.034013895	0.97464E+00,	-0.26341E+00,	4127	0.35985E+03,	-0.26823E+00,	4486	-0.27262D+00	0.27698D+00	360
	820909.051848519	0.10053E+03,	-0.36770E+00,	4227	0.29926E+03,	-0.15246E+00,	4426		0.49067D-01	

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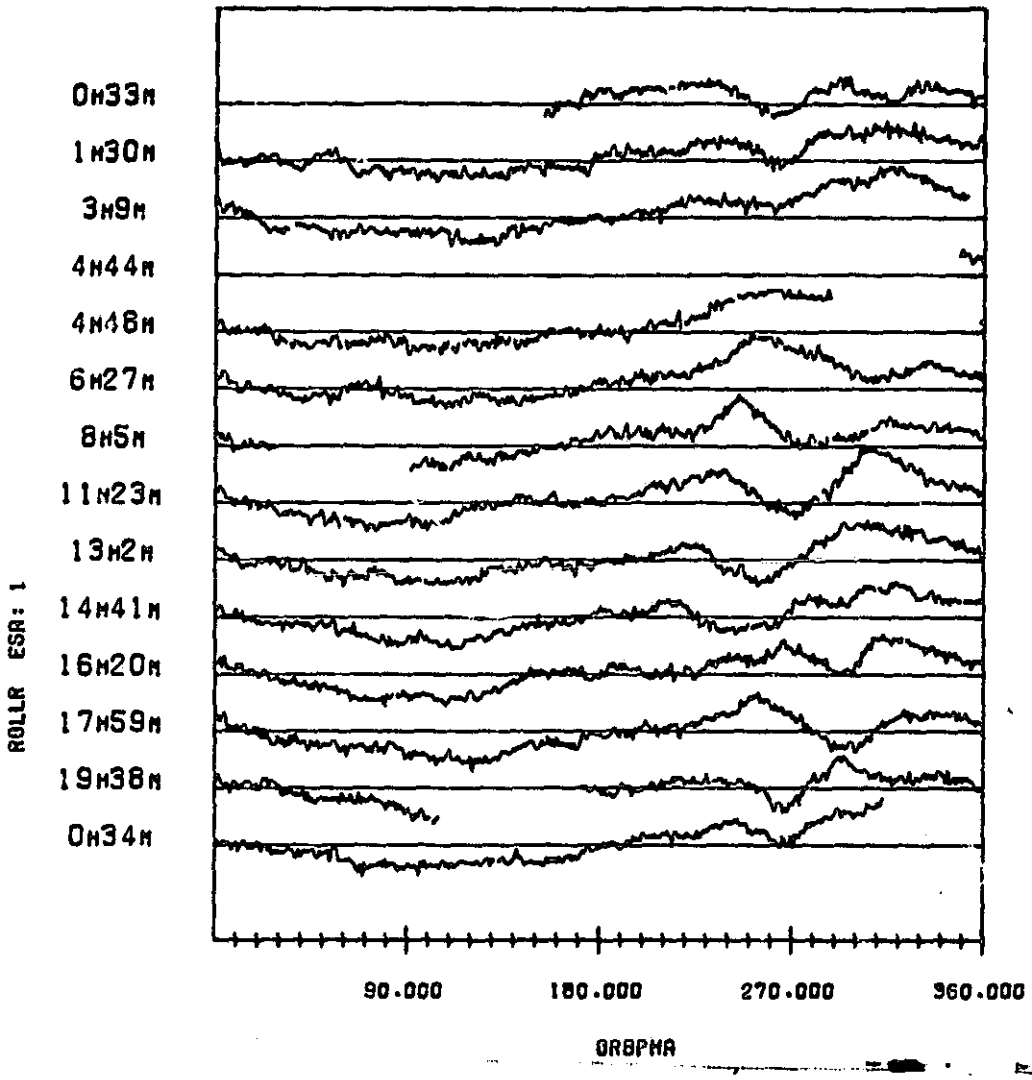

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820922.003327689
END TIME:820923.020043395

FIGURE C-3. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-3. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	820922.003327683	0.15319E+03.	-0.27963E+00.	1	0.35975E+03.	-0.22949E+00.	206	-0.22388D+00	0.22514D+00	206
	820922.013031939	0.26049E+03.	-0.28795E+00.	106	0.29520E+03.	-0.17702E+00.	142		0.23813D-01	
2	820922.013031939	0.74076E+00.	-0.22402E+00.	207	0.35962E+03.	-0.22989E+00.	558	-0.23587D+00	0.23904D+00	362
	820922.030922947	0.10327E+03.	-0.30669E+00.	3[illegible]0	0.31393E+03.	-0.14364E+00.	522		0.38896D-01	
3	820922.030922947	0.61617E+00.	-0.20061E+00.	569	0.35253E+03.	-0.18905E+00.	921	-0.23469D+00	0.24060D+00	353
	820922.044457347	0.11012E+03.	-0.32440E+00.	677	0.32075E+03.	-0.11152E+00.	889		0.53131D-01	
4	820922.044457347	0.34856E+03.	-0.19816E+00.	922	0.35949E+03.	-0.21409E+00.	933	-0.20067D+00	0.20092D+00	12
	820922.044813955	0.35462E+03.	-0.21815E+00.	928	0.34955E+03.	-0.19155E+00.	923		0.10407D-01	
5	820922.044813955	0.48643E+00.	-0.23130E+00.	934	0.35936E+03.	-0.21942E+00.	1214	-0.23976D+00	0.24439D+00	281
	820922.062704963	0.91068E+02.	-0.31008E+00.	1021	0.26407E+03.	-0.13768E+00.	1188		0.47464D-01	
6	820922.062704963	0.35881E+00.	-0.22556E+00.	1215	0.35924E+03.	-0.22761E+00.	1576	-0.22592D+00	0.23060D+00	362
	820922.080555971	0.10788E+03.	-0.30066E+00.	1323	0.25105E+03.	-0.10067E+00.	1467		0.46289D-01	
7	820922.080555971	0.23474E+00.	-0.21799E+00.	1577	0.35999E+03.	-0.22687E+00.	1870	-0.22781D+00	0.23123D+00	294
	820922.112354971	0.91693E+02.	-0.31557E+00.	1605	0.24486E+03.	-0.11372E+00.	1758		0.39716D-01	
8	820922.112354371	0.98759E+00.	-0.22150E+00.	1871	0.35987E+03.	-0.21784E+00.	2228	-0.23495D+00	0.24038D+00	358
	820922.130245379	0.70654E+02.	-0.32355E+00.	1940	0.30227E+03.	-0.99786E-01.	2170		0.50887D-01	
9	820922.130245379	0.86686E+00.	-0.22117E+00.	2229	0.35975E+03.	-0.24655E+00.	2589	-0.24979D+00	0.25358D+00	361
	820922.144136387	0.59577E+02.	-0.31660E+00.	2288	0.30513E+03.	-0.14488E+00.	2534		0.43773D-01	
10	820922.144136387	0.74189E+00.	-0.22777E+00.	2590	0.35962E+03.	-0.20041E+00.	2948	-0.25219D+00	0.25577D+00	359
	820922.162027395	0.11124E+03.	-0.33344E+00.	2701	0.31889E+03.	-0.15535E+00.	2908		0.42730D-01	
11	820922.162027395	0.61279E+00.	-0.21720E+00.	2949	0.35949E+03.	-0.21742E+00.	3309	-0.24405D+00	0.24821D+00	361
	820922.175918403	0.79237E+02.	-0.33439E+00.	3028	0.31281E+03.	-0.14230E+00.	3262		0.45311D-01	
12	820922.175918403	0.48375E+00.	-0.21623E+00.	3310	0.35936E+03.	-0.22947E+00.	3671	-0.25786D+00	0.26138D+00	362
	820922.193809411	0.12094E+03.	-0.35395E+00.	3431	0.25415E+03.	-0.14669E+00.	3565		0.42849D-01	
13	820922.193809411	0.35724E+00.	-0.23026E+00.	3672	0.35999E+03.	-0.24218E+00.	3967	-0.24935D+00	0.25156D+00	296
	820923.003458819	0.10289E+03.	-0.33858E+00.	3774	0.29446E+03.	-0.16466E+00.	3901		0.33313D-01	
14	820923.003458819	0.98536E+00.	-0.23903E+00.	3968	0.31319E+03.	-0.12481E+00.	4281	-0.25070D+00	0.25483D+00	314
	820923.020043395	0.68656E+02.	-0.33079E+00.	4036	0.31319E+03.	-0.12481E+00.	4281		0.45733D-01	

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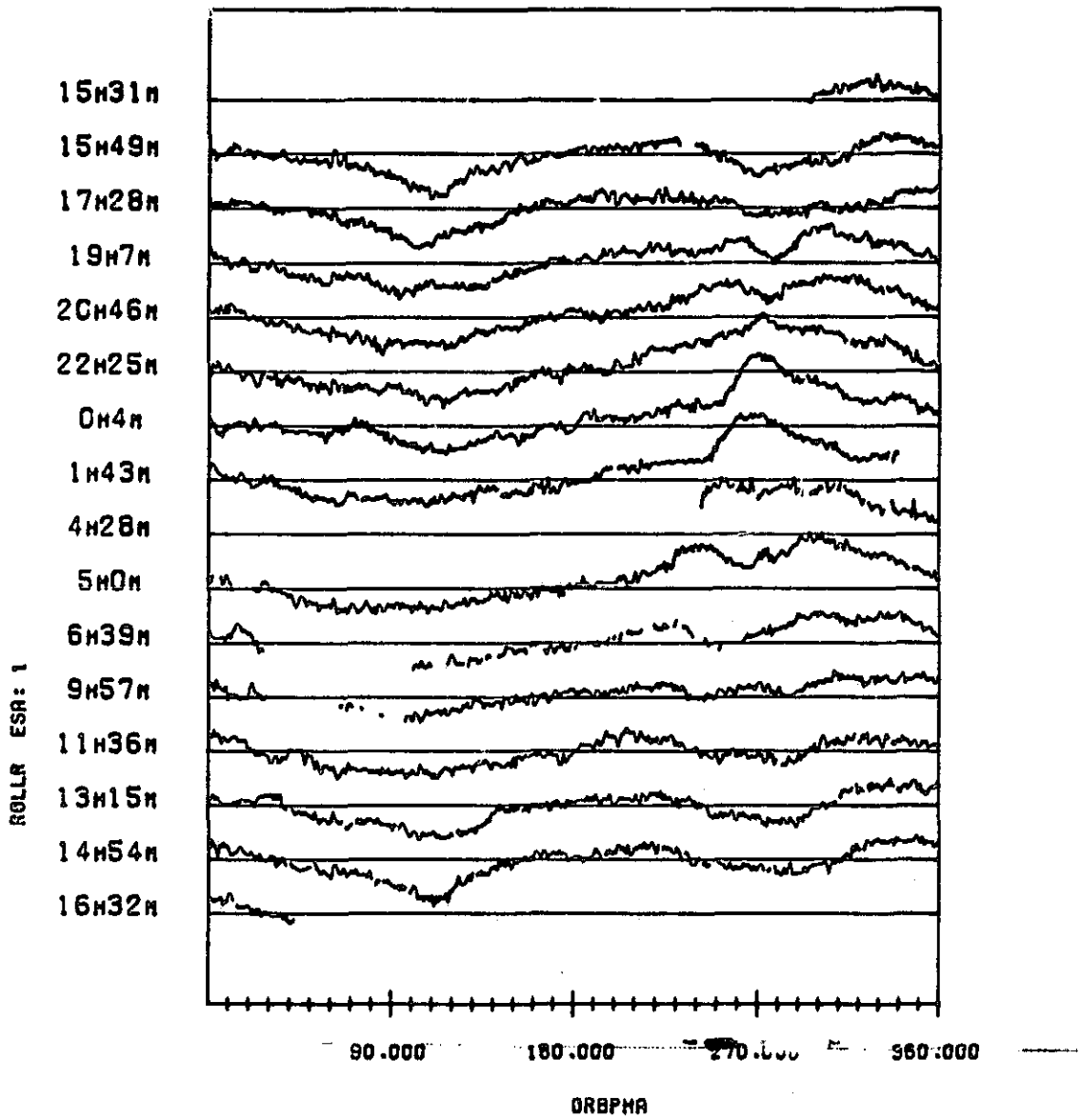

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821005.153129436
END TIME:821006.164427184

FIGURE C-4. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-4. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821005.153123435	0.29399E+03.	-0.24938E+00.	1	0.35952E+03.	-0.25127E-00.	67	-0.21943D+00	0.22003D+00	67
	821005.154941163	0.29598E+03.	-0.25829E-00.	3	0.32872E+03.	-0.17816E-00.	36		0.16365D-01	
2	821005.154941163	0.50978E+00.	-0.25869E+00.	58	0.35938E+03.	-0.22864E-00.	421	-0.26412D+00	0.26687D+00	354
	821005.172832171	0.10902E+03.	-0.37280E+00.	176	0.33156E+03.	-0.19085E-00.	393		0.38289D-01	
3	821005.172832171	0.37226E+00.	-0.2[illegible]729E+00.	422	0.35924E+03.	-0.19001E-00.	782	-0.25465D+00	0.25739D+00	361
	821005.190723179	0.10391E+03.	-0.3[illegible]721E-00.	526	0.35924E+03.	-0.19001E+00.	782		0.37516D-01	
4	821005.190723179	0.23648E+00.	-0.2[illegible]316E+00.	783	0.35911E+03.	-0.24825E+00.	1142	-0.24505D+00	0.24954D+00	360
	821005.204614202	0.93811E+02.	-0.3[illegible]031E+00.	877	0.30549E+03.	-0.14265E+00.	1088		0.47177D-01	
5	821005.204614202	0.10634E+00.	-0.2[illegible]589E+00.	1143	0.35997E+03.	-0.22277E-00.	1504	-0.23631D+00	0.24306D+00	362
	821005.222521594	0.85712E+02.	-0.3[illegible]370E+00.	1229	0.31726E+03.	-0.13175E-00.	1462		0.56956D-01	
6	821005.222521594	0.96360E+00.	-0.25605E+00.	1505	0.35984E+03.	-0.24778E+00.	1866	-0.22974D+00	0.23845D+00	362
	821006.000412602	0.11546E+03.	-0.35118E+00.	1620	0.27250E+03.	-0.89556E-01.	1778		0.63922D-01	
7	821006.000412602	0.83518E+00.	-0.23245E+00.	1867	0.35971E+03.	-0.22340E+00.	2227	-0.22188D+00	0.23090D+00	361
	821006.014303610	0.11733E+03.	-0.32761E+00.	1984	0.27039E+03.	-0.51278E-01.	2138		0.64000D-01	
8	821006.014303610	0.70559E+00.	-0.21437E+00.	2228	0.33971E+03.	-0.17701E+00.	2564	-0.22876D+00	0.23890D+00	337
	821006.042815930	0.10823E+03.	-0.32283E+00.	2335	0.26133E+03.	-0.65943E-01.	2486		0.68963D-01	
9	821006.042815930	0.24235E+03.	-0.17277E+00.	2565	0.35944E+03.	-0.21046E+00.	2673	-0.14473D+00	0.14846D+00	109
	821006.050045626	0.35845E+03.	-0.21831E+00.	2672	0.28796E+03.	-0.89887E-01.	2609		0.33242D-01	
10	821006.050045626	0.43342E+00.	-0.21840E+00.	2674	0.35930E+03.	-0.22679E+00.	3022	-0.22336D+00	0.23183D+00	349
	821006.063936634	0.82056E+02.	-0.31917E+00.	2744	0.29576E+03.	-0.93518E-01.	2959		0.62196D-01	
11	821006.063936634	0.29822E+00.	-0.22230E+00.	3023	0.35904E+03.	-0.23167E+00.	3262	-0.22993D+00	0.23375D+00	240
	821006.095718650	0.98727E+02.	-0.32408E+00.	3051	0.30046E+03.	-0.16217E+00.	3203		0.42158D-01	
12	821006.095718650	0.36834E-01.	-0.21172E+00.	3263	0.35991E+03.	-0.19319E+00.	3576	-0.23838D+00	0.24025D+00	314
	821006.113626042	0.10457E+03.	-0.31920E+00.	3319	0.30728E+03.	-0.17520E+00.	3523		0.30018D-01	
13	821006.113626042	0.90263E+00.	-0.20362E+00.	3577	0.35978E+03.	-0.24609E+00.	3934	-0.25646D+00	0.25875D+00	358
	821006.131517050	0.97470E+02.	-0.32535E+00.	3674	0.20596E+03.	-0.18330E+00.	3783		0.34355D-01	
14	821006.131517050	0.77314E+00.	-0.23782E+00.	3935	0.35965E+03.	-0.18451E+00.	4285	-0.25936D+00	0.26231D+00	351
	821006.145408058	0.10332E+03.	-0.34453E+00.	4034	0.33580E+03.	-0.17392E+00.	4262		0.39289D-01	
15	821006.145408058	0.63970E+00.	-0.21511E+00.	4286	0.35951E+03.	-0.19944E+00.	4632	-0.25798D+00	0.26124D+00	347
	821006.163259066	0.11115E+03.	-0.38962E+00.	4392	0.34858E+03.	-0.18166E+00.	4621		0.41185D-01	
16	821006.163259066	0.50209E+00.	-0.20530E+00.	4633	0.42284E+02.	-0.26437E+00.	4673	-0.23629D+00	0.23730D+00	41
	821006.164427194	0.41289E+02.	-0.27526E+00.	4672	0.10445E+02.	-0.19429E+00.	4643		0.22094D-01	

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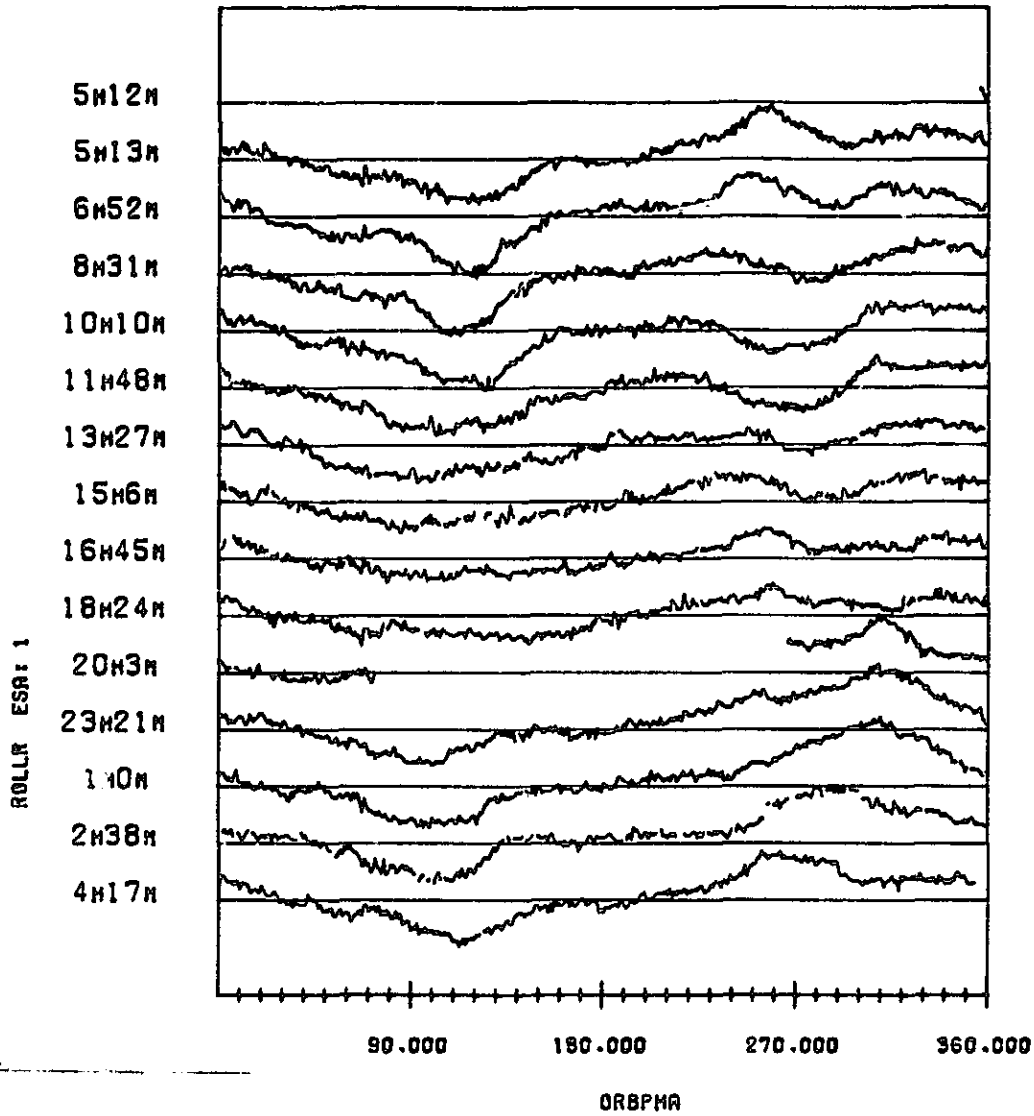

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821020.051211751
END TIME:821021.055456871

FIGURE C-5. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-5. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821020.051211751	0.35601E+03,	-0.21507E+00,	1	0.35998E+03,	-0.22715E+00,	5	-0.22508D+00	0.22534D+00	5
	821020.051333671	0.35899E+03,	-0.24111E+00,	4	0.35700E+03,	-0.21155E+00,	2		0.11981D-01	
2	821020.051333671	0.97820E+00,	-0.21916E+00,	6	0.35986E+03,	-0.20419E+00,	367	-0.23840D+00	0.24612D+00	362
	821020.065224679	0.10653E+03,	-0.[illegible]6707E+00,	112	0.25863E+03,	-0.10542E+00,	265		0.61262D-01	
3	821020.065224679	0.84988E+00,	-0.[illegible]9231E+00,	368	0.35973E+03,	-0.22475E+00,	729	-0.24472D+00	0.25260D+00	362
	821020.083115687	0.12035E+03,	-0.[illegible]1332E+00,	488	0.24760E+03,	-0.13523E+00,	616		0.62698D-01	
4	821020.083115687	0.72543E+00,	-0.24002E+00,	730	0.35961E+03,	-0.18454E+00,	1090	-0.25789D+00	0.26443D+00	361
	821020.101006695	0.10827E+03,	-0.41231E+00,	838	0.32682E+03,	-0.15678E+00,	1058		0.58513D-01	
5	821020.101006695	0.60228E+00,	-0.20144E+00,	1091	0.35949E+03,	-0.19714E+00,	1450	-0.26699D+00	0.27279D+00	360
	821020.114857703	0.12408E+03,	-0.40621E+00,	1213	0.31479E+03,	-0.17165E+00,	1405		0.56031D-01	
6	821020.114857703	0.48044E+00,	-0.20108E+00,	1451	0.35936E+03,	-0.18295E+00,	1812	-0.26691D+00	0.27184D+00	362
	821020.132748711	0.10204E+03,	-0.37724E+00,	1553	0.30872E+03,	-0.16586E+00,	1761		0.51612D-01	
7	821020.132748711	0.35697E+00,	-0.19770E+00,	1813	0.35824E+03,	-0.21039E+00,	2166	-0.25544D+00	0.25930D+00	354
	821020.150639719	0.92948E+02,	-0.35033E+00,	1905	0.32745E+03,	-0.18324E+00,	2135		0.44612D-01	
8	821020.150639719	0.22905E+00,	-0.20349E+00,	2167	0.35910E+03,	-0.19697E+00,	2504	-0.24321D+00	0.24706D+00	338
	821020.164530727	0.84846E+02,	-0.33069E+00,	2248	0.33029E+03,	-0.16473E+00,	2477		0.43477D-01	
9	821020.164530727	0.97600E-01,	-0.22040E+00,	2505	0.35997E+03,	-0.20922E+00,	2860	-0.24409D+00	0.24677D+00	356
	821020.182438119	0.78736E+02,	-0.31351E+00,	2579	0.25577E+03,	-0.16739E+00,	2756		0.36313D-01	
10	821020.182438119	0.96106E+00,	-0.20928E+00,	2861	0.35984E+03,	-0.22920E+00,	3216	-0.24772D+00	0.25089D+00	356
	821020.200329127	0.66652E+02,	-0.32780E+00,	2927	0.25961E+03,	-0.16464E+00,	3117		0.39770D-01	
11	821020.200329127	0.83428E+00,	-0.22196E+00,	3217	0.35960E+03,	-0.21949E+00,	3383	-0.20691D+00	0.21260D+00	167
	821020.232111143	0.71507E+02,	-0.27683E+00,	3287	0.30896E+03,	-0.93735E-01,	3332		0.48980D-01	
12	821020.232111143	0.59568E+00,	-0.21073E+00,	3384	0.35948E+03,	-0.23738E+00,	3744	-0.22296D+00	0.23207D+00	361
	821021.010002151	0.10016E+03,	-0.34428E+00,	3484	0.30884E+03,	-0.75451E-01,	3693		0.64480D-01	
13	821021.010002151	0.47406E+00,	-0.21544E+00,	3745	0.35936E+03,	-0.21136E+00,	4105	-0.22889D+00	0.23990D+00	361
	821021.023853159	0.99042E+02,	-0.35994E+00,	3844	0.30970E+03,	-0.66227E-01,	4056		0.71963D-01	
14	821021.023853159	0.35028E+00,	-0.20668E+00,	4106	0.35923E+03,	-0.20322E+00,	4440	-0.22509D+00	0.23331D+00	335
	821021.041744167	0.10091E+03,	-0.35318E+00,	4199	0.28974E+03,	-0.93327E-01,	4373		0.61480D-01	
15	821021.041744167	0.22048E+00,	-0.21013E+00,	4441	0.35413E+03,	-0.20302E+00,	4796	-0.23822D+00	0.24527D+00	356
	821021.055456871	0.11274E+03,	-0.37194E+00,	4554	0.25391E+03,	-0.11945E+00,	4695		0.58477D-01	

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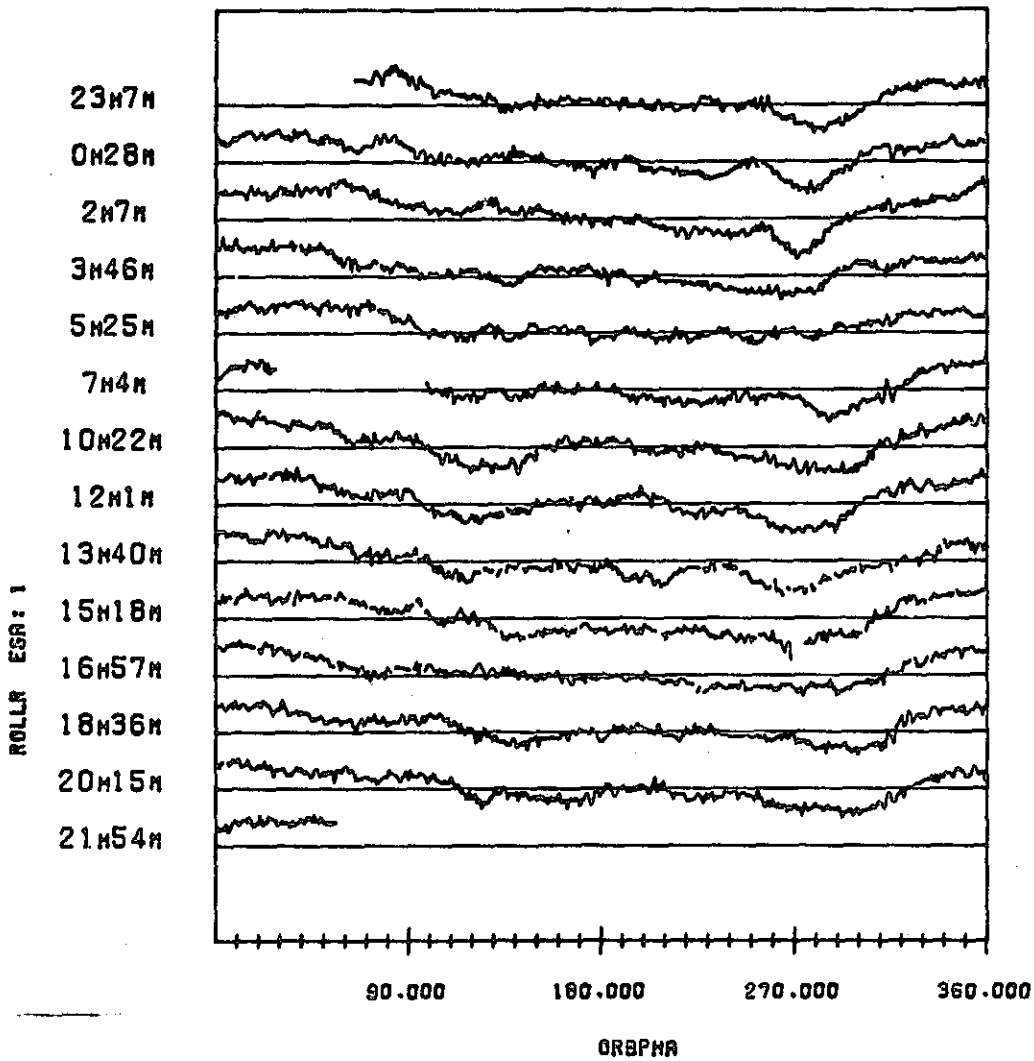

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821102.230736644
END TIME:821103.220936128

FIGURE C-6. Sensor One Roll Residuals for Consecutive Orbits

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TABLE C-6. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821102.230736644	0.54203E+02,	-0.18549E+00,	1	0.35939E+03,	-0.20688E+00,	298	-0.23591D+00	0.23867D+00	298
	821103.002859076	0.27900E+03,	-0.32509E+00,	217	0.83136E+02,	-0.14570E+00,	20		0.36217D-01	
2	821103.002859076	0.38859E+00,	-0.18960E+00,	299	0.35928E+03,	-0.19885E+00,	658	-0.23631D+00	0.23951D+00	360
	821103.020750084	0.27591E+03,	-0.33542E+00,	574	0.36208E+02,	-0.16142E+00,	335		0.39056D-01	
3	821103.020750084	0.27494E+00,	-0.19131E+00,	659	0.35916E+03,	-0.16757E+00,	1020	-0.23017D+00	0.23469D+00	362
	821103.034641092	0.27083E+03,	-0.35731E+00,	931	0.35817E+03,	-0.14126E+00,	1019		0.45936D-01	
4	821103.034641092	0.15641E+00,	-0.15839E+00,	1021	0.35904E+03,	-0.20448E+00,	1380	-0.23407D+00	0.23688D+00	360
	821103.052532115	0.26377E+03,	-0.31316E+00,	1284	0.31395E+01,	-0.14425E+00,	1024		0.36388D-01	
5	821103.052532115	0.35927E+01,	-0.19605E+00,	1381	0.35992E+03,	-0.19385E+00,	1742	-0.22739D+00	0.22968D+00	362
	821103.070439522	0.17530E+03,	-0.28257E+00,	1556	0.39841E+02,	-0.15993E+00,	1421		0.32354D-01	
6	821103.070439522	0.91320E+00,	-0.21886E+00,	1743	0.35969E+03,	-0.16643E+00,	2032	-0.25191D+00	0.25469D+00	290
	821103.102221538	0.28623E+03,	-0.33628E+00,	1958	0.35969E+03,	-0.16643E+00,	2032		0.37597D-01	
7	821103.102221538	0.68613E+00,	-0.16217E+00,	2033	0.35958E+03,	-0.17855E+00,	2394	-0.24531D+00	0.24905D+00	362
	821103.120112546	0.27620E+03,	-0.32549E+00,	2310	0.19587E+02,	-0.15164E+00,	2052		0.43070D-01	
8	821103.120112546	0.57445E+00,	-0.18239E+00,	2395	0.35947E+03,	-0.17705E+00,	2753	-0.24061D+00	0.24419D+00	359
	821103.134003569	0.26915E+03,	-0.32828E+00,	2662	0.37393E+02,	-0.15164E+00,	2431		0.41709D-01	
9	821103.134003569	0.46172E+00,	-0.20063E+00,	2754	0.35935E+03,	-0.20723E+00,	3097	-0.25231D+00	0.25571D+00	344
	821103.151854577	0.26507E+03,	-0.34069E+00,	3010	0.24337E+02,	-0.16192E+00,	2778		0.41607D-01	
10	821103.151854577	0.34327E+00,	-0.20374E+00,	3098	0.35923E+03,	-0.17611E+00,	3439	-0.25050D+00	0.25449D+00	342
	821103.165745585	0.26891E+03,	-0.35967E+00,	3355	0.14267E+02,	-0.16828E+00,	3111		0.44971D-01	
11	821103.165745585	0.22206E+00,	-0.17210E+00,	3440	0.35911E+03,	-0.18611E+00,	3789	-0.24088D+00	0.24354D+00	350
	821103.183636608	0.27375E+03,	-0.30807E+00,	3706	0.11162E+02,	-0.15523E+00,	3451		0.35905D-01	
12	821103.183636608	0.10293E+00,	-0.17756E+00,	3790	0.35999E+03,	-0.18311E+00,	4152	-0.23839D+00	0.24093D+00	363
	821103.201544000	0.29942E+03,	-0.31129E+00,	4091	0.30946E+02,	-0.16370E+00,	3821		0.34975D-01	
13	821103.201544000	0.98156E+00,	-0.18445E+00,	4153	0.35988E+03,	-0.20195E+00,	4513	-0.24841D+00	0.25123D+00	361
	821103.215435008	0.29236E+03,	-0.32592E+00,	4445	0.10927E+02,	-0.16677E+00,	4162		0.37597D-01	
14	821103.215435008	0.87050E+00,	-0.20123E+00,	4514	0.55615E+02,	-0.18775E+00,	4569	-0.18789D+00	0.18816D+00	56
	821103.220936128	0.58426E+01,	-0.21247E+00,	4519	0.48655E+02,	-0.16577E+00,	4559		0.10197D-01	

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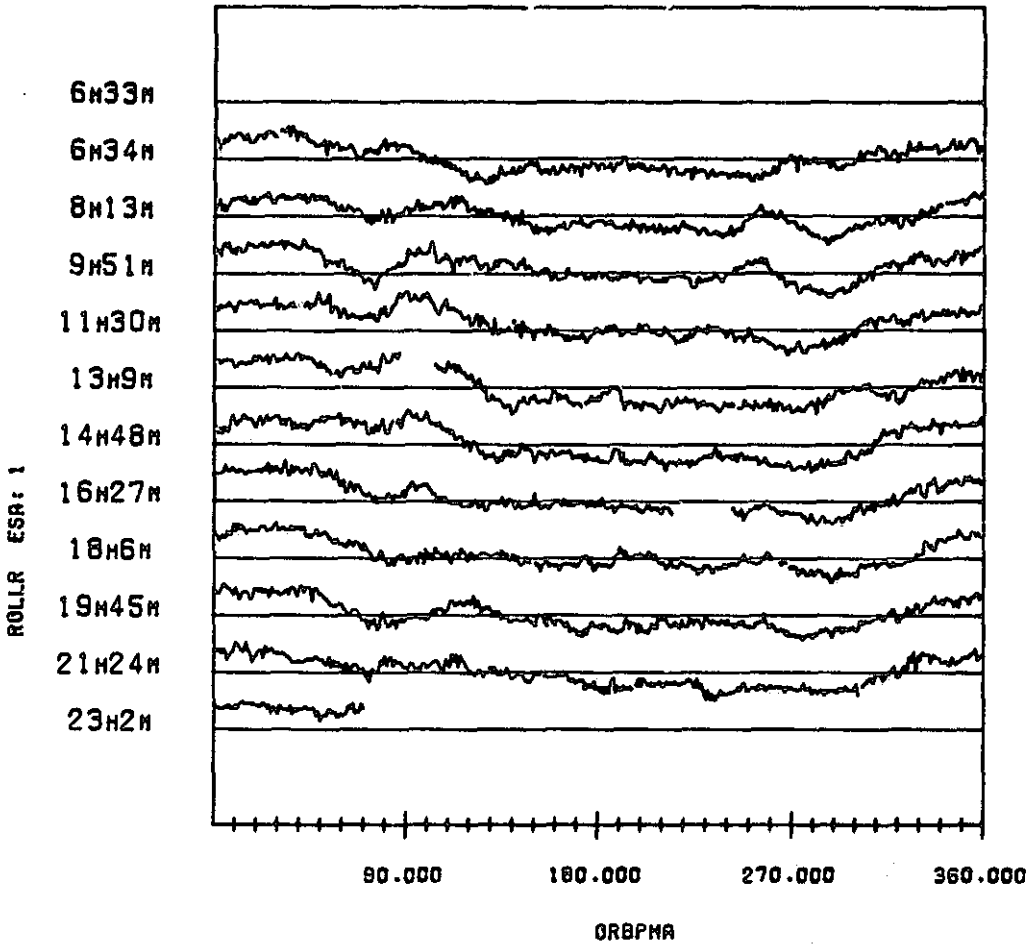

FIGURE C-7. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-7. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821116.063354045	0.35944E+03,	-0.19270E+00,	1	0.35944E+03,	-0.19270E+00,	1	-0.19270D+00	0.19270D+00	1
	821116.063410429	0.35944E+03,	-0.19270E+00,	1	0.35944E+03,	-0.19270E+00,	1		0.0	
2	821116.063410429	0.43162E+00,	-0.19683E+00,	2	0.35930E+03,	-0.22579E+00,	362	-0.24875D+00	0.25128D+00	361
	821116.081301452	0.12692E-03,	-0.31522E+00,	128	0.36261E+02,	-0.16322E+00,	37		0.35653D-01	
3	821116.081301452	0.20894E+00,	-0.22764E+00,	363	0.35917E+03,	-0.18640E+00,	722	-0.25009D+00	0.25223D+00	360
	821116.095152460	0.28669E+03,	-0.32357E+00,	650	0.35520E+03,	-0.18614E+00,	718		0.32855D-01	
4	821116.095152460	0.16715E+00,	-0.17935E+00,	723	0.35904E+03,	-0.17983E+00,	1084	-0.23322D+00	0.23586D+00	362
	821116.113043468	0.28854E+03,	-0.31330E+00,	1013	0.41971E+02,	-0.16025E+00,	765		0.35190D-01	
5	821116.113043468	0.37086E-01,	-0.20133E+00,	1085	0.35991E+03,	-0.19931E+00,	1446	-0.22828D+00	0.23159D+00	362
	821116.130950875	0.26759E+03,	-0.31475E+00,	1353	0.89662E+02,	-0.14689E+00,	1175		0.39034D-01	
6	821116.130950875	0.90151E+00,	-0.17787E+00,	1447	0.35977E+03,	-0.20149E+00,	1789	-0.24794D+00	0.25234D+00	343
	821116.144841883	0.13934E+03,	-0.32048E+00,	1569	0.86540E+02,	-0.15631E+00,	1532		0.46987D-01	
7	821116.144841883	0.76658E+00,	-0.20551E+00,	1790	0.35963E+03,	-0.20048E+00,	2150	-0.24419D+00	0.24859D+00	361
	821116.162732891	0.27922E+03,	-0.32056E+00,	2069	0.90387E+02,	-0.15893E+00,	1879		0.46636D-01	
8	821116.162732891	0.62713E+00,	-0.17670E+00,	2151	0.35949E+03,	-0.19444E+00,	2485	-0.23664D+00	0.24006D+00	335
	821116.180623899	0.28205E+03,	-0.31093E+00,	2407	0.33465E+02,	-0.14211E+00,	2184		0.40395D-01	
9	821116.180623999	0.48812E+00,	-0.18289E+00,	2486	0.35936E+03,	-0.19176E+00,	2844	-0.23994D+00	0.24264D+00	359
	821116.194514907	0.28886E+03,	-0.31407E+00,	2773	0.29344E+02,	-0.15621E+00,	2515		0.36127D-01	
10	821116.194514907	0.35214E+00,	-0.18839E+00,	2845	0.35923E+03,	-0.19437E+00,	3205	-0.24844D+00	0.25110D+00	361
	821116.212405915	0.27485E+03,	-0.31394E+00,	3120	0.43304E+01,	-0.16833E+00,	2849		0.36499D-01	
11	821116.212405915	0.22100E+00,	-0.[illegible]442E+00,	3206	0.35910E+03,	-0.20189E+00,	3564	-0.25177D+00	0.25436D+00	389
	821116.230256938	0.23407E+03,	-0.[illegible]472E+00,	3439	0.15143E+02,	-0.16841E+00,	3221		0.36279D-01	
12	821116.230256938	0.93636E-01,	-0.19579E+00,	3565	0.69787E+02,	-0.19595E+00,	3635	-0.19561D+00	0.19593D+00	71
	821116.232203818	0.49862E+02,	-0.[illegible]746E+00,	3615	0.14020E+02,	-0.17556E+00,	3579		0.11328D-01	

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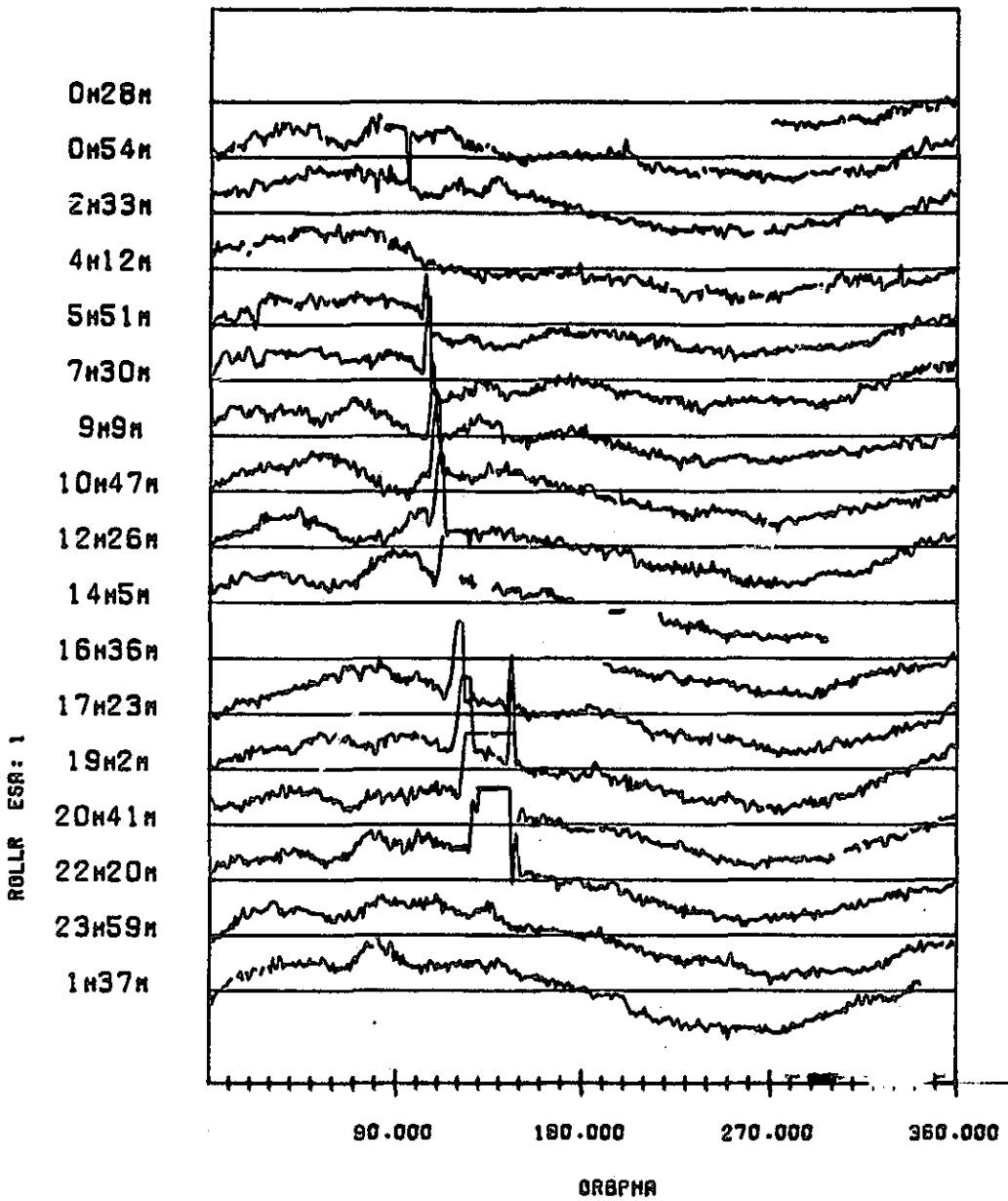

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821201.002856720
END TIME:821202.031150860

FIGURE C-8. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-8. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821201.002856720	0.26704E+03.	-0.32342E+00.	1	0.35936E+03.	-0.23989E+00.	89	-0.28825D+00	0.28914D+00	89
	821201.005436816	0.28192E+03.	-0.32456E+00.	14	0.35439E+03.	-0.23717E+00.	84		0.22878D-01	
2	821201.005436816	0.35852E+00.	-0.22754E+00.	90	0.35924E+03.	-0.19516E+00.	442	-0.23953D+00	0.24360D+00	353
	821201.023327824	0.26493E+03.	-0.31655E+00.	349	0.81007E+02.	-0.13231E+00.	169		0.44384D-01	
3	821201.023327824	0.23480E+00.	-0.20381E+00.	443	0.35911E+03.	-0.19926E+00.	799	-0.22290D+00	0.22904D+00	357
	821201.041218832	0.24695E+03.	-0.31582E+00.	691	0.69925E+02.	-0.11854E+00.	513		0.52731D-01	
4	821201.041218832	0.10528E+00.	-0.19641E+00.	800	0.35998E+03.	-0.24929E+00.	1149	-0.25155D+00	0.25756D+00	350
	821201.055126239	0.25079E+03.	-0.34588E+00.	1045	0.61828E+02.	-0.12803E+00.	859		0.55383D-01	
5	821201.055126239	0.97076E+00.	-0.25676E+00.	1150	0.35985E+03.	-0.22336E+00.	1509	-0.26445D+00	0.26926D+00	360
	821201.073017262	0.25265E+03.	-0.34825E+00.	1401	0.10354E+03.	-0.11446E+00.	1251		0.50716D-01	
6	821201.073017262	0.84504E+00.	-0.23504E+00.	1510	0.35973E+03.	-0.19272E+00.	1870	-0.25227D+00	0.25761D+00	361
	821201.090908270	0.23764E+03.	-0.34073E+00.	1748	0.10541E+03.	-0.26480E-01.	1615		0.52287D-01	
7	821201.090908270	0.72163E+00.	-0.20660E+00.	1871	0.35961E+03.	-0.22710E+00.	2232	-0.25152D+00	0.25644D+00	362
	821201.104759278	0.22661E+03.	-0.34101E+00.	2098	0.10728E+03.	-0.55078E-01.	1978		0.50081D-01	
8	821201.104759278	0.60016E+00.	-0.25088E+00.	2233	0.35949E+03.	-0.23863E+00.	2592	-0.24806D+00	0.25468D+00	360
	821201.122650301	0.27311E+03.	-0.35869E+00.	2505	0.10915E+03.	0.0	2342		0.57750D-01	
9	821201.122650301	0.47979E+00.	-0.25[illegible]28E+00.	2593	0.35936E+03.	-0.22130E+00.	2554	-0.25138D+00	0.25892D+00	362
	821201.140541309	0.25910E+03.	-0.36[illegible]22E+00.	2853	0.11002E+03.	0.0	2703		0.62120D-01	
10	821201.140541309	0.35569E+00.	-0.2[illegible]060E+00.	2955	0.29666E+03.	-0.35339E+00.	3203	-0.23620D+00	0.24728D+00	249
	821201.163641661	0.27782E+03.	-0.3[illegible]97E+00.	3185	0.11189E+03.	-0.72369E-01.	3067		0.73311D-01	
11	821201.163641661	0.19036E+03.	-0.26[illegible]53E+00.	3204	0.35910E+03.	-0.25190E+00.	3373	-0.30516D+00	0.30647D+00	170
	821201.172323325	0.29058E+03.	-0.35823E+00.	3305	0.35811E+03.	-0.23424E+00.	3372		0.28417D-01	
12	821201.172323325	0.96549E-01.	-0.25527E+00.	3374	0.35997E+03.	-0.24048E+00.	3734	-0.24626D+00	0.25688D+00	361
	821201.190230717	0.27359E+03.	-0.36735E+00.	3647	0.11959E+03.	0.0	3494		0.73200D-01	
13	821201.190230717	0.96248E+00.	-0.24243E+00.	3735	0.35984E+03.	-0.18326E+00.	4093	-0.24644D+00	0.25712D+00	359
	821201.204121740	0.27247E+03.	-0.37149E+00.	4005	0.12146E+03.	0.0	3855		0.73417D-01	
14	821201.204121740	0.83949E+00.	-0.18257E+00.	4094	0.35972E+03.	-0.23070E+00.	4443	-0.23301D+00	0.25046D+00	350
	821201.222012748	0.26244E+03.	-0.36946E+00.	4353	0.12333E+03.	0.0	4217		0.91998D-01	
15	821201.222012748	0.71926E+00.	-0.23030E+00.	4444	0.35960E+03.	-0.25086E+00.	4805	-0.24137D+00	0.25768D+00	362
	821201.235903756	0.25636E+03.	-0.37655E+00.	4701	0.13018E+03.	0.0	4574		0.90326D-01	
16	821201.235903756	0.59067E+00.	-0.25868E+00.	4806	0.35947E+03.	-0.27183E+00.	5166	-0.25543D+00	0.26407D+00	361
	821202.013754764	0.27013E+03.	-0.38248E+00.	5077	0.10914E+03.	-0.13925E+00.	4915		0.67093D-01	
17	821202.013754764	0.46864E+00.	-0.26535E+00.	5167	0.34245E+03.	-0.23507E+00.	5504	-0.24321D+00	0.25794D+00	338
	821202.031150860	0.25016E+03.	-0.37843E+00.	5411	0.81117E+02.	-0.10627E+00.	5241		0.70267D-01	

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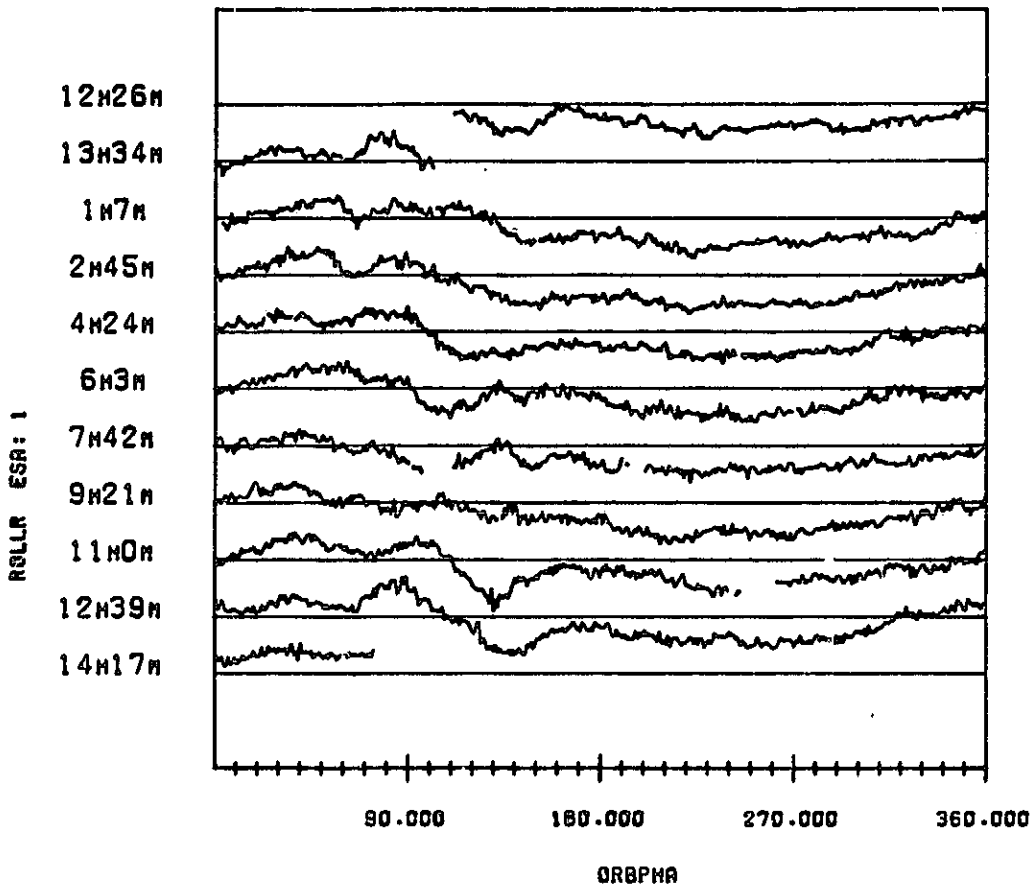

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821214.122607064
END TIME:821215.143809812

FIGURE C-9. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-9. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	821214.122607064	0.11096E+03,	-0.27558E+00,	1	0.35932E+03,	-0.26769E+00,	251	-0.29904D+00	0.29969D+00	251
	821214.133439448	0.23028E+03,	-0.34166E+00,	121	0.15974E+03,	-0.24977E+00,	50		0.19719D-01	
2	821214.133439448	0.31669E+00,	-0.24771E+00,	252	0.10187E+03,	-0.26921E+00,	353	-0.22955D+00	0.23069D+00	102
	821215.010742070	0.33003E+01,	-0.28746E+00,	255	0.82949E+02,	-0.16912E+00,	334		0.23100D-01	
3	821215.010742070	0.34892E+01,	-0.26113E+00,	354	0.35940E+03,	-0.24349E+00,	710	-0.27574D+00	0.27369D+00	357
	821215.024543926	0.22341E+03,	-0.35618E+00,	573	0.57239E+02,	-0.19016E+00,	408		0.40492D-01	
4	821215.024543926	0.39166E+00,	-0.23660E+00,	711	0.35928E+03,	-0.23431E+00,	1071	-0.28029D+00	0.28394D+00	361
	821215.042434934	0.22131E+03,	-0.35321E+00,	933	0.48162E+02,	-0.17431E+00,	759		0.45425D-01	
5	821215.042434934	0.27155E+00,	-0.25260E+00,	1072	0.35916E+03,	-0.23129E+00,	1429	-0.27023D+00	0.27304D+00	358
	821215.060325957	0.23707E+03,	-0.33454E+00,	1308	0.09879E+02,	-0.18263E+00,	1160		0.39089D-01	
6	821215.060325957	0.15280E+00,	-0.24218E+00,	1430	0.35904E+03,	-0.24301E+00,	1790	-0.27052D+00	0.27327D+00	361
	821215.074216965	0.25282E+03,	-0.33923E+00,	1684	0.61870E+02,	-0.17640E+00,	1492		0.36699D-01	
7	821215.074216965	0.36613E-01,	-0.24895E+00,	1791	0.35992E+03,	-0.24747E+00,	2130	-0.28252D+00	0.28406D+00	340
	821215.092124357	0.22195E+03,	-0.34715E+00,	1991	0.39844E+02,	-0.20759E+00,	1831		0.29638D-01	
8	821215.092124357	0.91805E+00,	-0.25063E+00,	2131	0.35981E+03,	-0.23036E+00,	2491	-0.28336D+00	0.28612D+00	361
	821215.110015380	0.20794E+03,	-0.35945E+00,	2338	0.37740E+02,	-0.19358E+00,	2168		0.39727D-01	
9	821215.110015380	0.80796E+00,	-0.26068E+00,	2492	0.35970E+03,	-0.22567E+00,	2833	-0.26898D+00	0.27231D+00	342
	821215.123906388	0.13025E+03,	-0.38603E+00,	2621	0.37629E+02,	-0.17753E+00,	2529		0.42552D-01	
10	821215.123906388	0.69683E+00,	-0.20827E+00,	2834	0.35959E+03,	-0.21347E+00,	3195	-0.26685D+00	0.27121D+00	362
	821215.141757396	0.14507E+03,	-0.35241E+00,	2979	0.89307E+02,	-0.14442E+00,	2923		0.48488D-01	
11	821215.141757396	0.58257E+00,	-0.20364E+00,	3196	0.74249E+02,	-0.18724E+00,	3269	-0.20092D+00	0.20129D+00	74
	821215.143809812	0.85555E+01,	-0.23063E+00,	3201	0.40388E+02,	-0.16917E+00,	3236		0.12194D-01	

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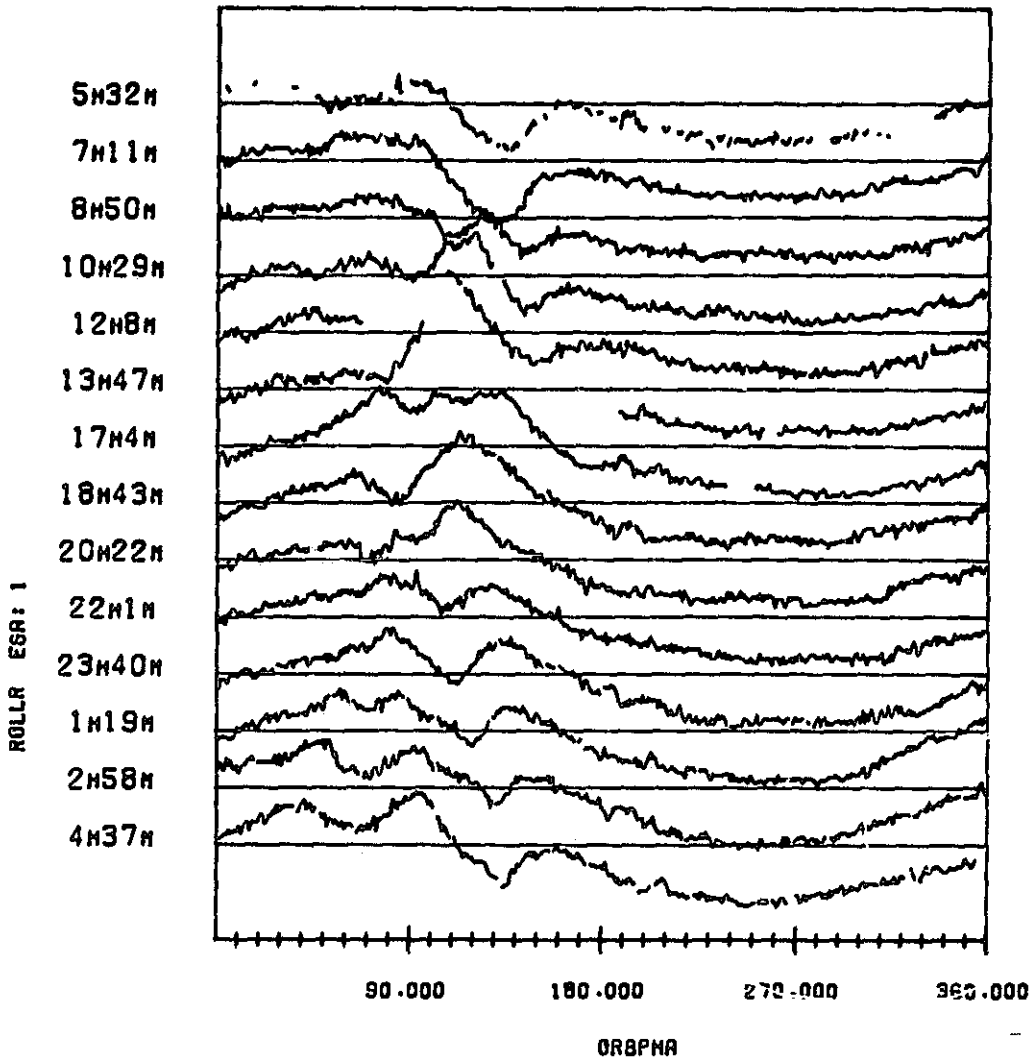

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821228.053240480
END TIME:821229.061420139

FIGURE C-10. Sensor One Roll Residuals for Consecutive Orbits

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TABLE C-10. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN R/V			(X,Y,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821228.053240480	0.54884E+00,	-0.23829E+00,	1	0.35942E+03,	-0.24320E+00,	261	-0.28742D+00	0.29195D+00	261
	821228.071131503	0.13695E+03,	-0.37207E+00,	98	0.83174E+02,	-0.17332E+00,	53		0.51345D-01	
2	821228.071131503	0.41262E+00,	-0.24391E+00,	262	0.35928E+03,	-0.23065E+00,	623	-0.29092D+00	0.29662D+00	362
	821228.085022511	0.13184E+03,	-0.41057E+00,	394	0.57141E+02,	-0.17330E+00,	319		0.57942D-01	
3	821228.085022511	0.27913E+00,	-0.24356E+00,	624	0.35915E+03,	-0.27720E+00,	985	-0.29407D+00	0.29856D+00	362
	821228.102913519	0.28766E+03,	-0.36859E+00,	913	0.7393[illegible]+02,	-0.18731E+00,	698		0.51653D-01	
4	821228.102913519	0.14712E+00,	-0.28831E+00,	986	0.359[illegible]E+03,	-0.29609E+00,	1343	-0.29527D+00	0.30139D+00	358
	821228.120804527	0.27364E+03,	-0.38067E+00,	1257	0.12062E+03,	-0.13578E+00,	1107		0.60534D-01	
5	821228.120804527	0.15908E-01,	-0.27251E+00,	1344	0.35988E+03,	-0.29033E+00,	1662	-0.28918D+00	0.29509D+00	319
	821228.134711934	0.26261E+03,	-0.36920E+00,	1566	0.10754E+03,	-0.90932E-01,	1412		0.58848D-01	
6	821228.134711934	0.87757E+00,	-0.27181E+00,	1663	0.35960E+03,	-0.28706E+00,	1926	-0.29726D+00	0.30444D+00	264
	821228.170453950	0.25241E+03,	-0.38091E+00,	1822	0.95451E+02,	-0.70700E-01,	1756		0.65875D-01	
7	821228.170453950	0.59855E+00,	-0.27242E+00,	1927	0.35946E+03,	-0.31951E+00,	2275	-0.26524D+00	0.28072D+00	349
	821228.184344958	0.27012E+03,	-0.39190E+00,	2185	0.75248E+02,	-0.92571E-01,	2002		0.92054D-01	
8	821228.184344958	0.45906E+00,	-0.29807E+00,	2276	0.35933E+03,	-0.25799E+00,	2634	-0.26743D+00	0.27828D+00	359
	821228.202235981	0.23825E-03,	-0.37444E+00,	2512	0.11296E+03,	-0.61990E-01,	2389		0.77051D-01	
9	821228.202235981	0.32495E+00,	-0.26533E+00,	2635	0.35920E+03,	-0.26514E+00,	2996	-0.27689D+00	0.28575D+00	362
	821228.220125989	0.25994E+03,	-0.37590E+00,	2896	0.11183E+03,	-0.93964E-01,	2747		0.70687D-01	
10	821228.220125989	0.19368E+00,	-0.26123E+00,	2997	0.35907E+03,	-0.28543E+00,	3359	-0.27379D+00	0.28295D+00	363
	821228.234017997	0.25882E+03,	-0.37652E+00,	3258	0.92776E+02,	-0.12753E+00,	3091		0.71501D-01	
11	821228.234017997	0.62472E-01,	-0.25853E+00,	3360	0.35993E+03,	-0.26861E+00,	3713	-0.28194D+00	0.29184D+00	354
	821229.011925389	0.24183E+03,	-0.39487E+00,	3597	0.81686E+02,	-0.12768E+00,	3441		0.75488D-01	
12	821229.011925389	0.92527E+00,	-0.26978E+00,	3714	0.35980E+03,	-0.22448E+00,	4065	-0.27782D+00	0.28712D+00	352
	821229.025816412	0.28037E+03,	-0.39741E+00,	3986	0.57650E+02,	-0.13743E+00,	3769		0.72582D-01	
13	821229.025816412	0.79197E+00,	-0.20009E+00,	4066	0.35966E+03,	-0.26532E+00,	4414	-0.27620D+00	0.28859D+00	349
	821229.043707420	0.25246E+03,	-0.41186E+00,	4313	0.52537E+02,	-0.12343E+00,	4117		0.83772D-01	
14	821229.043707420	0.65157E+00,	-0.23555E+00,	4415	0.35455E+03,	-0.28700E+00,	4751	-0.28800D+00	0.30079D+00	337
	821229.061420139	0.26125E+03,	-0.41329E+00,	4663	0.93236E+02,	-0.10681E+00,	4505		0.86927D-01	

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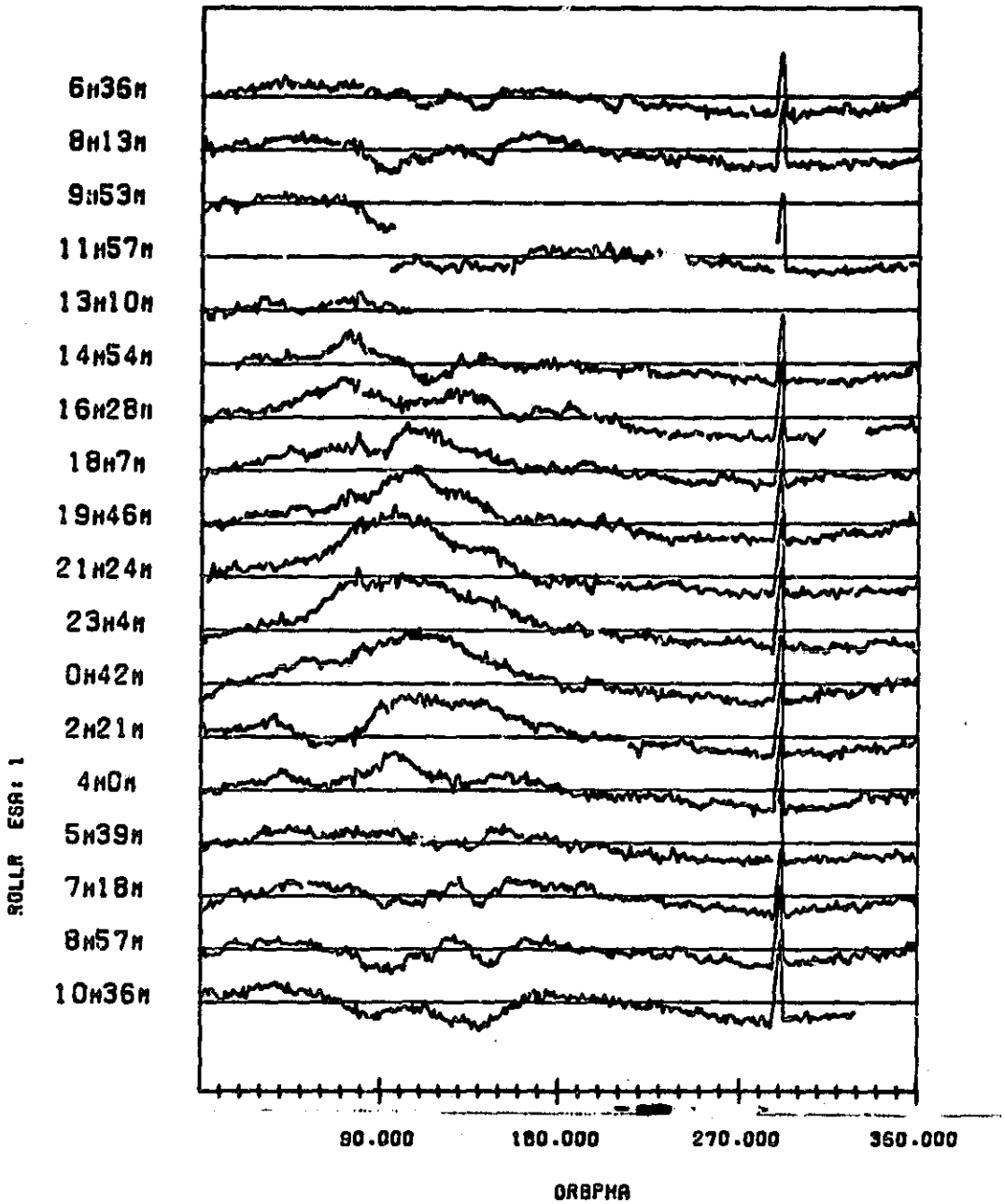

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830119.063608627
END TIME:830120.120626114

FIGURE C-11. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-11. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830119.063608627	0.41493E+01,	-0.24364E+00,	1	0.35905E+03,	-0.23290E+00,	356	-0.25846D+00	0.26013D+00	356
	830119.081354114	0.29650E+03,	-0.32313E+00,	293	0.29054E-03,	-0.12612E+00,	287		0.29443D-01	
2	830119.081354114	0.45614E-01,	-0.21178E+00,	357	0.35992E+03,	-0.25880E+00,	719	-0.26001D+00	0.26178D+00	363
	830119.095301506	0.93627E+02,	-0.31839E+00,	451	0.29042E+03,	-0.11235E+00,	649		0.30444D-01	
3	830119.095301506	0.91422E+00,	-0.27128E+00,	720	0.95492E+02,	-0.32064E+00,	815	-0.25610D+00	0.25760D+00	96
	830119.115732610	0.90511E+02,	-0.33417E+00,	810	0.40712E+02,	-0.21729E+00,	760		0.27900D-01	
4	830119.115732610	0.94371E+02,	-0.28951E+00,	816	0.35967E+03,	-0.26964E+00,	1080	-0.26355D+00	0.26502D+00	265
	830119.131043522	0.30704E+03,	-0.30555E+00,	1028	0.29017E+03,	-0.73418E-01,	1011		0.28011D-01	
5	830119.131043522	0.66545E+00,	-0.25566E+00,	1091	0.10421E+03,	-0.25648E+00,	1183	-0.23940D+00	0.23989D+00	103
	830119.145413058	0.56368E+01,	-0.27714E+00,	1086	0.78304E+02,	-0.19716E+00,	1157		0.15367D-01	
6	830119.145413058	0.17442E+02,	-0.26330E+00,	1184	0.35941E+03,	-0.26664E+00,	1525	-0.26038D+00	0.26234D+00	342
	830119.162825538	0.32563E+03,	-0.31626E+00,	1491	0.29091E+03,	-0.11006E+00,	1457		0.32104D-01	
7	830119.162825538	0.40334E+00,	-0.26762E+00,	1526	0.35928E+03,	-0.27546E+00,	1862	-0.24237D+00	0.24695D+00	337
	830119.180716546	0.30764E+03,	-0.32426E+00,	1831	0.29077E+03,	-0.82713E-01,	1814		0.47395D-01	
8	830119.180716546	0.27042E+00,	-0.27877E+00,	1863	0.35915E+03,	-0.25507E+00,	2222	-0.23349D+00	0.23725D+00	360
	830119.194607554	0.27775E+03,	-0.[illegible]045E+00,	2141	0.29064E+03,	-0.96964E-01,	2154		0.42116D-01	
9	830119.194607554	0.14053E+00,	-0.[illegible]4547E+00,	2223	0.35803E+03,	-0.24542E+00,	2580	-0.23481D+00	0.24085D+00	358
	830119.212458562	0.23498E+03,	-0.[illegible]1283E+00,	2457	0.10766E+03,	-0.84440E-01,	2330		0.53702D-01	
10	830119.212458562	0.15487E-01,	-0.24627E+00,	2581	0.35989E+03,	-0.25721E+00,	2939	-0.22913D+00	0.23901D+00	359
	830119.230405954	0.31917E-03,	-0.31014E+00,	2900	0.96581E+02,	-0.48765E-01,	2677		0.68099D-01	
11	830119.230405954	0.88570E+00,	-0.26174E+00,	2940	0.35977E+03,	-0.31095E+00,	3301	-0.22903D+00	0.23812D+00	362
	830120.004256962	0.28631E+03,	-0.31712E+00,	3227	0.77529E+02,	-0.72563E-01,	3017		0.65239D-01	
12	830120.004256962	0.76622E+00,	-0.29532E+00,	3302	0.35965E+03,	-0.23177E+00,	3663	-0.23024D+00	0.23721D+00	362
	830120.022147970	0.27726E+03,	-0.31263E+00,	3580	0.10929E+03,	-0.90366E-01,	3411		0.57157D-01	
13	830120.022147970	0.64051E+00,	-0.21787E+00,	3664	0.35952E+03,	-0.24310E+00,	4019	-0.23726D+00	0.24253D+00	356
	830120.040038978	0.31581E+03,	-0.31589E+00,	3977	0.29101E+03,	-0.10093E+00,	3952		0.50367D-01	
14	830120.040038978	0.50941E+00,	-0.25328E+00,	4020	0.35938E+03,	-0.25254E+00,	4380	-0.24583D+00	0.24902D+00	361
	830120.053929986	0.27699E+03,	-0.32410E+00,	4298	0.29088E+03,	-0.73450E-01,	4311		0.39781D-01	
15	830120.053929986	0.37675E+00,	-0.26808E+00,	4381	0.[illegible]3925E+03,	-0.30249E+00,	4740	-0.25860D+00	0.26074D+00	360
	830120.071820994	0.27190E+03,	-0.31556E+00,	4654	0.29075E+03,	-0.91116E-01,	4671		0.33343D-01	
16	830120.071820994	0.24739E+03,	-0.29411E+00,	4741	0.35913E+03,	-0.27476E+00,	5099	-0.25390D+00	0.25551D+00	359
	830120.085712002	0.28665E+03,	-0.31711E+00,	5026	0.29062E+03,	-0.11834E-00,	5030		0.28605D-01	
17	830120.085712002	0.12135E+00,	-0.26999E+00,	5100	0.36000E+03,	-0.22995E+00,	5462	-0.25985D+00	0.26125D+00	363
	830120.103619394	0.95694E+02,	-0.31985E+00,	5196	0.29050E+03,	-0.68031E-01,	5392		0.27032D-01	
18	830120.103619394	0.99127E+00,	-0.22856E+00,	5463	0.32907E+03,	-0.27937E+00,	5792	-0.26111D+00	0.26339D+00	330
	830120.120626114	0.14039E+03,	-0.33139E+00,	5603	0.29037E+03,	-0.73675E-01,	5753		0.34679D-01	

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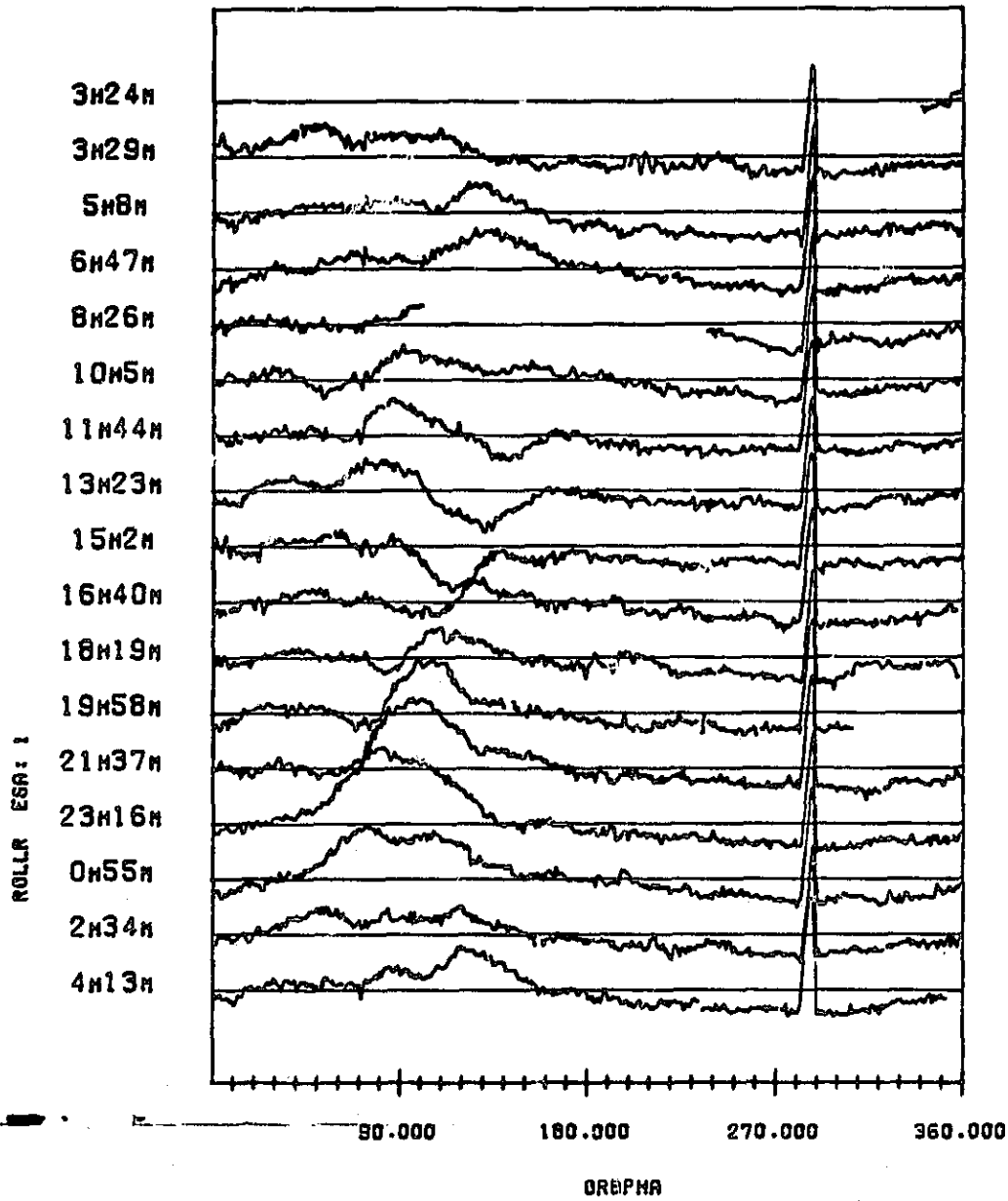

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830202.032425071
END TIME:830203.054950590

FIGURE C-12. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-12. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830202.032425071	0.34053E+03,	-0.25505E+00,	1	0.35941E+03,	-0.22679E+00,	20	-0.25449D+00	0.25504D+00	30
	830202.032952751	0.34153E+03,	-0.28175E+00,	2	0.35842E+03,	-0.22615E+00,	19		0.17176D-01	
2	830202.032952751	0.40758E+00,	-0.21321E+00,	21	0.35928E+03,	-0.27754E+00,	380	-0.24681D+00	0.25078D+00	360
	830202.050843759	0.29871E+03,	-0.31367E+00,	319	0.28781E+03,	-0.37216E-02,	308		0.44482D-01	
3	830202.050843759	0.27601E+00,	-0.27106E+00,	381	0.35915E+03,	-0.29833E+00,	742	-0.26734D+00	0.27101D+00	362
	830202.064734767	0.28272E+03,	-0.34512E+00,	665	0.28867E+03,	-0.18686E-03,	671		0.44477D-01	
4	830202.064734767	0.14781E+00,	-0.29553E+00,	743	0.35903E+03,	-0.26910E+00,	1102	-0.25265D+00	0.25742D+00	360
	830202.082625775	0.29846E+03,	-0.32899E+00,	1041	0.28854E+03,	0.0	, 1031		0.49385D-01	
5	830202.082625775	0.23231E-01,	-0.27186E+00,	1103	0.35990E+03,	-0.27284E+00,	1329	-0.26674D+00	0.26983D+00	227
	830202.100533167	0.27751E+03,	-0.33728E+00,	1246	0.28842E+03,	-0.19189E-02,	1257		0.40837D-01	
6	830202.100533167	0.89430E+00,	-0.25860E+00,	1330	0.35978E+03,	-0.25435E+00,	1690	-0.24898D+00	0.25218D+00	361
	830202.114424175	0.27045E+03,	-0.32191E+00,	1600	0.28830E+03,	0.0	, 1618		0.40118D-01	
7	830202.114424175	0.77258E+00,	-0.24543E+00,	1691	0.35966E+03,	-0.25872E+00,	2051	-0.25942D+00	0.26309D+00	361
	830202.132315183	0.14317E+03,	-0.31813E+00,	1833	0.28719E+03,	0.0	, 1978		0.43812D-01	
8	830202.132315183	0.64957E+00,	-0.26937E+00,	2052	0.35953E+03,	-0.25218E+00,	2413	-0.26341D+00	0.26718D+00	362
	830202.150206191	0.13110E+03,	-0.36406E+00,	2183	0.28805E+03,	0.0	, 2341		0.44748D-01	
9	830202.150206191	0.52232E+00,	-0.23491E+00,	2414	0.35940E+03,	-0.27717E+00,	2774	-0.27765D+00	0.28074D+00	361
	830202.164057199	0.11502E+03,	-0.37158E+00,	2529	0.28792E+03,	0.0	, 2702		0.41615D-01	
10	830202.164057199	0.39104E+00,	-0.28447E-00,	2775	0.35927E+03,	-0.27150E+00,	3132	-0.26395D+00	0.26682D+00	358
	830202.181948207	0.27391E+03,	-0.33287E+00,	3049	0.28779E+03,	0.0	, 3063		0.39093D-01	
11	830202.181948207	0.26029E+00,	-0.26702E+00,	3133	0.35815E+03,	-0.30425E+00,	3483	-0.25945D+00	0.26231D+00	351
	830202.195839215	0.29857E+03,	-0.33867E+00,	3426	0.28766E+03,	-0.17252E-01,	3415		0.38687D-01	
12	830202.195839215	0.13326E+00,	-0.29288E+00,	3484	0.35902E+03,	-0.25367E+00,	3787	-0.24645D+00	0.25263D+00	304
	830202.213730223	0.25482E+03,	-0.31326E+00,	3734	0.28754E+03,	0.0	, 3766		0.55635D-01	
13	830202.213730223	0.11103E-01,	-0.25222E+00,	3788	0.35989E+03,	-0.27613E+00,	4149	-0.24089D+00	0.24994D+00	362
	830202.231637615	0.31420E+03,	-0.33654E+00,	4104	0.28742E+03,	0.0	, 4077		0.66712D-01	
14	830202.231637615	0.88346E+00,	-0.27265E+00,	4150	0.35977E+03,	-0.28369E+00,	4511	-0.23843D+00	0.25076D+00	362
	830203.005528623	0.29028E+03,	-0.32876E+00,	4441	0.28830E+03,	0.0	, 4439		0.77746D-01	
15	830203.005528623	0.76823E+00,	-0.28132E+00,	4512	0.35965E+03,	-0.26667E+00,	4872	-0.24209D+00	0.25026D+00	361
	830203.023419631	0.28024E+03,	-0.32770E+00,	4792	0.28818E+03,	0.0	, 4800		0.63495D-01	
16	830203.023419631	0.64456E+00,	-0.26793E+00,	4873	0.35952E+03,	-0.25456E+00,	5233	-0.25250D+00	0.25600D+00	361
	830203.041310639	0.28210E+03,	-0.32650E+00,	5156	0.28804E+03,	-0.98992E-02,	5162		0.42218D-01	
17	830203.041310639	0.51504E+00,	-0.26316E+00,	5234	0.35243E+03,	-0.27530E+00,	5584	-0.25127D+00	0.25687D+00	351
	830203.054950590	0.29882E+03,	-0.32491E+00,	5530	0.28692E+03,	0.0	, 5518		0.53428D-01	

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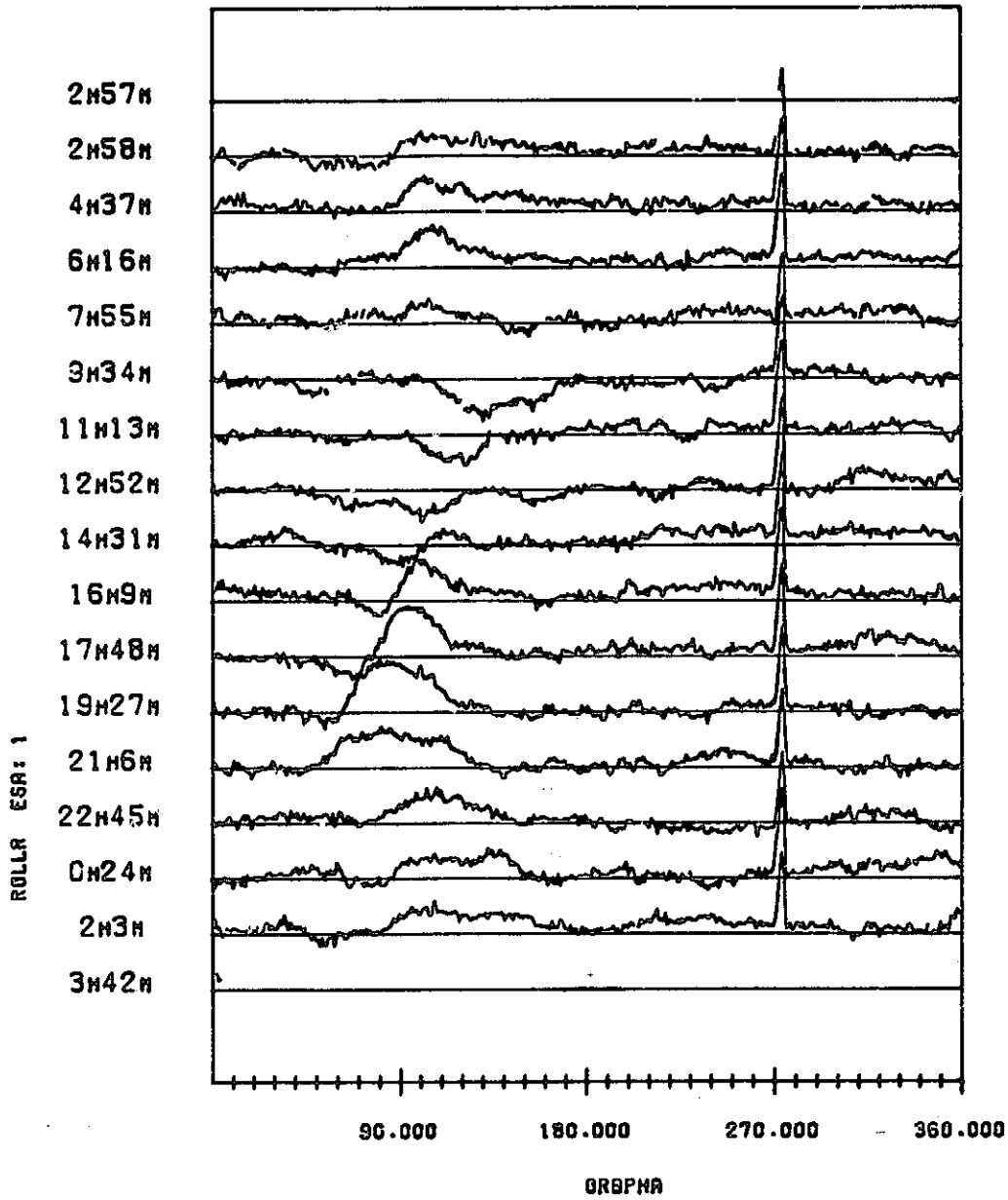

SENSOR 1 ROLL REGIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830303.025744694
END TIME:830304.034257270

FIGURE C-13. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-13. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830303.025744694	0.35661E+03,	-0.25525E+00,	1	0.35959E+03,	-0.24812E+00,	4	-0.25270D-00	0.25274D+00	4
	830303.025850230	0.35760E+03,	-0.25879E+00,	2	0.35959E+03,	-0.24812E+00,	4		0.51960D-02	
2	830303.025850230	0.58539E+00,	-0.25864E+00,	5	0.35947E+03,	-0.24697E+00,	348	-0.23449D+00	0.23594D+00	344
	830303.043741238	0.49353E+02,	-0.28690E+00,	51	0.27410E+03,	-0.15402E-01,	266		0.26177D-01	
3	830303.043741238	0.46040E+00,	-0.24749E+00,	349	0.35934E+03,	-0.24681E+00,	704	-0.22343D+00	0.22518D+00	356
	830303.061632246	0.59191E+02,	-0.26719E+00,	408	0.27398E+03,	0.0 ,	621		0.28086D-01	
4	830303.061632246	0.33694E+00,	-0.25753E+00,	705	0.35922E+03,	-0.20662E+00,	1066	-0.22263D+00	0.22486D+00	362
	830303.075523254	0.63042E+01,	-0.28160E+00,	711	0.27386E+03,	0.0 ,	980		0.31635D-01	
5	830303.075523254	0.21692E+00,	-0.20806E+00,	1067	0.35910E+03,	-0.24312E+00,	1415	-0.23124D+00	0.23236D+00	349
	830303.093430646	0.15259E+03,	-0.28632E+00,	1215	0.27473E+03,	-0.62984E-01,	1335		0.22863D-01	
6	830303.093430646	0.10939E+01,	-0.24479E+00,	1416	0.35998E+03,	-0.25534E+00,	1770	-0.25944D+00	0.26168D+00	355
	830303.111321654	0.13057E+03,	-0.36226E+00,	1539	0.27461E+03,	-0.27541E-01,	1684		0.34219D-01	
7	830303.111321654	0.97844E+00,	-0.24888E+00,	1771	0.35987E+03,	-0.23183E+00,	2132	-0.24459D+00	0.24679D+00	362
	830303.125212662	0.12149E+03,	-0.33238E-00,	1892	0.27351E+03,	0.0 ,	2045		0.32943D-01	
8	830303.125212662	0.86256E+00,	-0.23400E+00,	2133	0.35975E+03,	-0.24141E+00,	2494	-0.24975D+00	0.25188D+00	362
	830303.143103670	0.10045E+03,	-0.33584E+00,	2233	0.27438E+03,	0.0 ,	2408		0.32719D-01	
9	830303.143103670	0.74333E+00,	-0.24448E+00,	2495	0.35962E+03,	-0.23591E+00,	2856	-0.23047D+00	0.23224D+00	362
	830303.160954678	0.91356E+02,	-0.30777E+00,	2586	0.27426E+03,	0.0 ,	2770		0.28701D-01	
10	830303.160954678	0.61908E+00,	-0.21911E+00,	2857	0.35950E+03,	-0.24170E+00,	3218	-0.22367D+00	0.22585D+00	362
	830303.174845686	0.80269E+02,	-0.28993E+00,	2937	0.27314E+03,	0.0 ,	3131		0.31388D-01	
11	830303.174845686	0.49470E+00,	-0.24623E+00,	3219	0.35938E+03,	-0.24052E+00,	3579	-0.22566D+00	0.22900D+00	361
	830303.192736694	0.67193E+02,	-0.31149E+00,	3285	0.27401E+03,	0.0 ,	3493		0.38980D-01	
12	830303.192736694	0.37253E+00,	-0.22068E+00,	3580	0.35926E+03,	-0.24932E+00,	3941	-0.23229D+00	0.23588D+00	362
	830303.210627702	0.84122E+02,	-0.29371E+00,	3634	0.27390E+03,	-0.19099E-01,	3855		0.41087D-01	
13	830303.210627702	0.25511E+00,	-0.24982E+00,	3942	0.35915E+03,	-0.24441E+00,	4302	-0.22871D+00	0.23131D+00	361
	830303.224518710	0.14068E+03,	-0.27775E+00,	4082	0.27378E+03,	-0.38294E-01,	4216		0.34632D-01	
14	830303.224518710	0.14006E+00,	-0.24017E+00,	4303	0.35903E+03,	-0.25857E+00,	4664	-0.23600D+00	0.23765D+00	362
	830304.002409718	0.26177E+03,	-0.28870E+00,	4566	0.27367E+03,	-0.57908E-01,	4578		0.27946D-01	
15	830304.002409718	0.24927E-01,	-0.25951E+00,	4655	0.35992E+03,	-0.19736E+00,	5024	-0.22879D+00	0.23074D+00	360
	830304.020317110	0.23884E+03,	-0.28065E+00,	4904	0.27356E-03,	-0.45169E-02,	4939		0.30022D-01	
16	830304.020317110	0.91533E+00,	-0.21172E+00,	5025	0.35980E+03,	-0.19639E+00,	5382	-0.22395D+00	0.22540D+00	358
	830304.034224502	0.58649E+02,	-0.28114E+00,	5081	0.27344E+03,	-0.30426E-01,	5296		0.25595D-01	
17	830304.034224502	0.17898E+01,	-0.20736E+00,	5383	0.37787E+01,	-0.21855E+00,	5385	-0.21641D+00	0.21651D+00	3
	830304.034257270	0.27843E+01,	-0.22331E+00,	5384	0.17898E+01,	-0.20736E+00,	5383		0.81860D-02	

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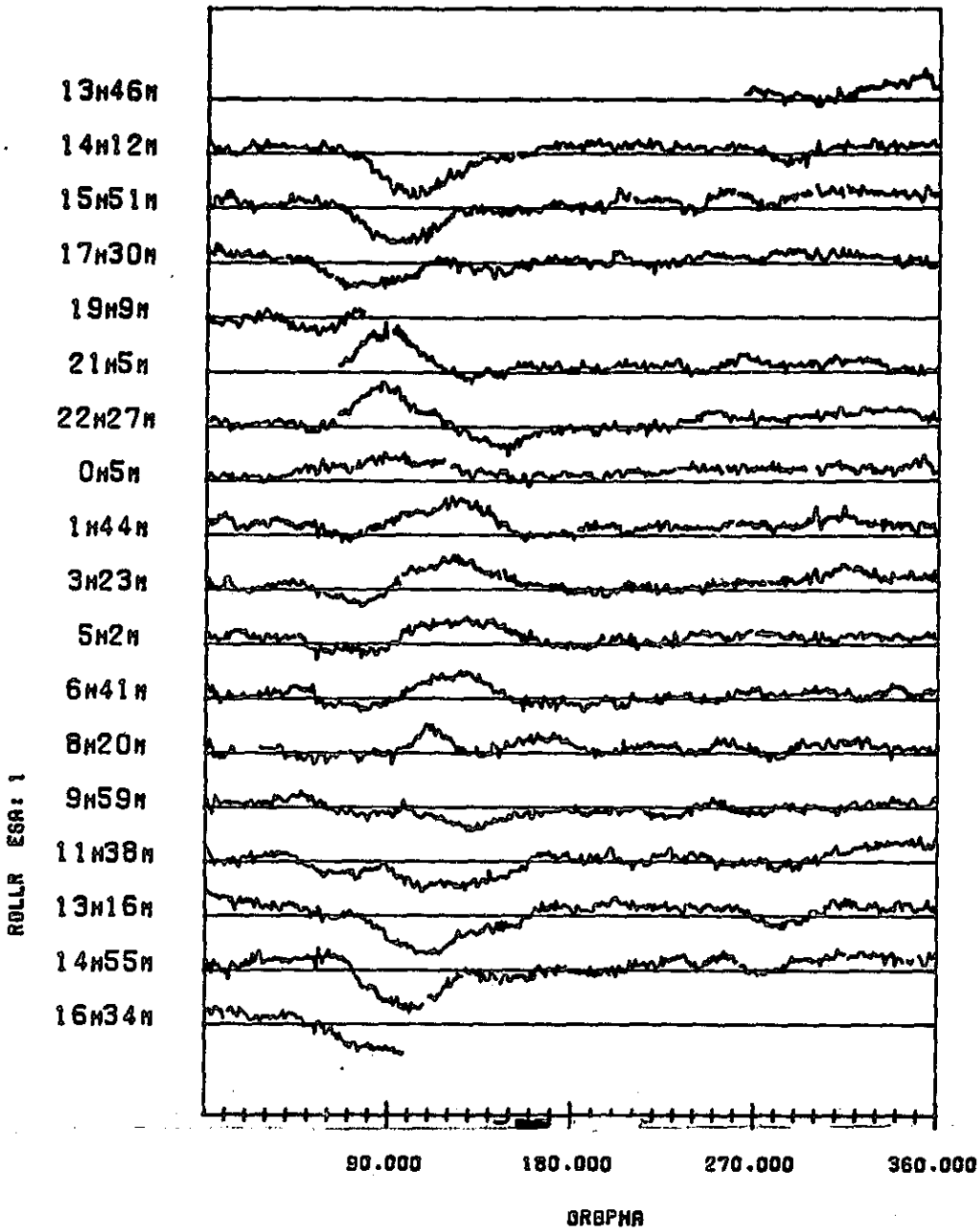

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830314.134603442
END TIME:830315.170127216

FIGURE C-14. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-14. Data Statistics by Orbit

ORBIT	TIME START/END	(#,V,REC) AT MIN #/V			(#,V,REC) AT MAX #/V			MEAN V	V-RMS/STDV	POINTS
1	830314.134603442	0.26427E+03,	-0.23367E+00,	1	0.35955E+03,	-0.21994E+00,	97	-0.22405D+00	0.22503D+00	97
	830314.141232690	0.29897E+03,	-0.26785E+00,	36	0.35259E+03,	-0.16433E+00,	90		0.21125D-01	
2	830314.141232690	0.54192E+00,	-0.21704E+00,	98	0.35941E+03,	-0.22694E+00,	459	-0.25050D+00	0.25310D+00	362
	830314.155123698	0.10311E+03,	-0.37159E+00,	201	0.19169E+03,	-0.20713E+00,	290		0.36257D-01	
3	830314.155123698	0.40570E+00,	-0.22175E+00,	460	0.35927E+03,	-0.21502E+00,	812	-0.24340D+00	0.24613D+00	353
	830314.173014706	0.90020E+02,	-0.34831E+00,	550	0.29969E+03,	-0.18332E+00,	753		0.36578D-01	
4	830314.173014706	0.26854E+00,	-0.20892E+00,	813	0.35914E+03,	-0.25898E+00,	1172	-0.24783D+00	0.24913D+00	360
	830314.190905714	0.66968E+02,	-0.30221E+00,	878	0.42464E+01,	-0.19527E+00,	817		0.25420D-01	
5	830314.190905714	0.13303E+00,	-0.26196E+00,	1173	0.76798E+02,	-0.23273E+00,	1250	-0.25962D+00	0.26024D+00	78
	830314.210541682	0.53883E+02,	-0.29728E+00,	1227	0.71816E+02,	-0.22439E+00,	1245		0.18076D-01	
6	830314.210541682	0.64711E+02,	-0.31048E+00,	1251	0.35987E+03,	-0.23514E+00,	1544	-0.22541D+00	0.22707D+00	294
	830314.222704114	0.13047E+03,	-0.31944E+00,	1315	0.87628E+02,	-0.10991E+00,	1274		0.27455D-01	
7	830314.222704114	0.86924E+00,	-0.23577E+00,	1545	0.35975E+03,	-0.22994E+00,	1905	-0.23163D+00	0.23402D+00	361
	830315.000555122	0.14827E+03,	-0.32994E+00,	1692	0.86507E+02,	-0.12439E+00,	1630		0.33425D-01	
8	830315.000555122	0.74404E+00,	-0.24733E+00,	1906	0.35962E+03,	-0.22567E+00,	2257	-0.21875D+00	0.21942D+00	352
	830315.014446130	0.15809E+03,	-0.26455E+00,	2061	0.87374E+02,	-0.16836E+00,	1992		0.17109D-01	
9	830315.014446130	0.61526E+00,	-0.22184E+00,	2258	0.35949E+03,	-0.25186E+00,	2617	-0.21813D+00	0.21935D+00	360
	830315.032337138	0.66319E+02,	-0.27067E+00,	2324	0.12112E+03,	-0.14230E+00,	2379		0.23118D-01	
10	830315.032337138	0.48243E+00,	-0.23960E+00,	2618	0.35935E+03,	-0.22577E+00,	2969	-0.22983D+00	0.23149D+00	352
	830315.050228146	0.76151E+02,	-0.29702E+00,	2694	0.12198E+03,	-0.15287E+00,	2738		0.27711D-01	
11	830315.050228146	0.34457E+00,	-0.22291E+00,	2970	0.35922E+03,	-0.23355E+00,	3328	-0.23105D+00	0.23208D+00	359
	830315.064119154	0.54097E+02,	-0.29347E+00,	3024	0.12882E+03,	-0.17493E+00,	3099		0.21870D-01	
12	830315.064119154	0.20992E+00,	-0.21566E+00,	3329	0.35908E+03,	-0.22608E+00,	3690	-0.24030D+00	0.24134D+00	362
	830315.082010162	0.75883E+02,	-0.28593E+00,	3405	0.12570E+03,	-0.17089E+00,	3455		0.22426D-01	
13	830315.082010162	0.79209E-01,	-0.22811E+00,	3691	0.35995E+03,	-0.22417E+00,	4037	-0.23527D+00	0.23604D+00	347
	830315.095917554	0.52836E+02,	-0.28196E+00,	3732	0.10963E+03,	-0.16838E+00,	3789		0.19130D-01	
14	830315.095917554	0.94436E+00,	-0.23065E+00,	4038	0.35982E+03,	-0.23054E+00,	4399	-0.25556D+00	0.25634D+00	362
	830315.113808562	0.13141E+03,	-0.31680E+00,	4169	0.46730E+02,	-0.20238E+00,	4084		0.20016D-01	
15	830315.113808562	0.81660E+00,	-0.21728E+00,	4400	0.35969E+03,	-0.18189E+00,	4761	-0.25206D+00	0.25417D+00	362
	830315.131659570	0.10738E+03,	-0.33532E+00,	4507	0.35174E+03,	-0.17884E+00,	4753		0.32706D-01	
16	830315.131659570	0.68762E+00,	-0.18213E+00,	4762	0.35956E+03,	-0.24624E+00,	5122	-0.24698D+00	0.24998D+00	361
	830315.145550578	0.10426E+03,	-0.35640E+00,	4866	0.68762E+00,	-0.18213E+00,	4762		0.38674D-01	
17	830315.145550578	0.55461E+00,	-0.22509E+00,	5123	0.35942E+03,	-0.20103E+00,	5470	-0.24509D+00	0.24792D+00	348
	830315.163441586	0.10113E+03,	-0.36715E+00,	5223	0.55300E+02,	-0.18724E+00,	5178		0.37433D-01	
18	830315.163441586	0.41741E+00,	-0.21225E+00,	5471	0.98003E+02,	-0.32705E+00,	5568	-0.25958D+00	0.26296D+00	98
	830315.170127218	0.97006E+02,	-0.33417E+00,	5567	0.53898E+01,	-0.20016E+00,	5476		0.42257D-01	

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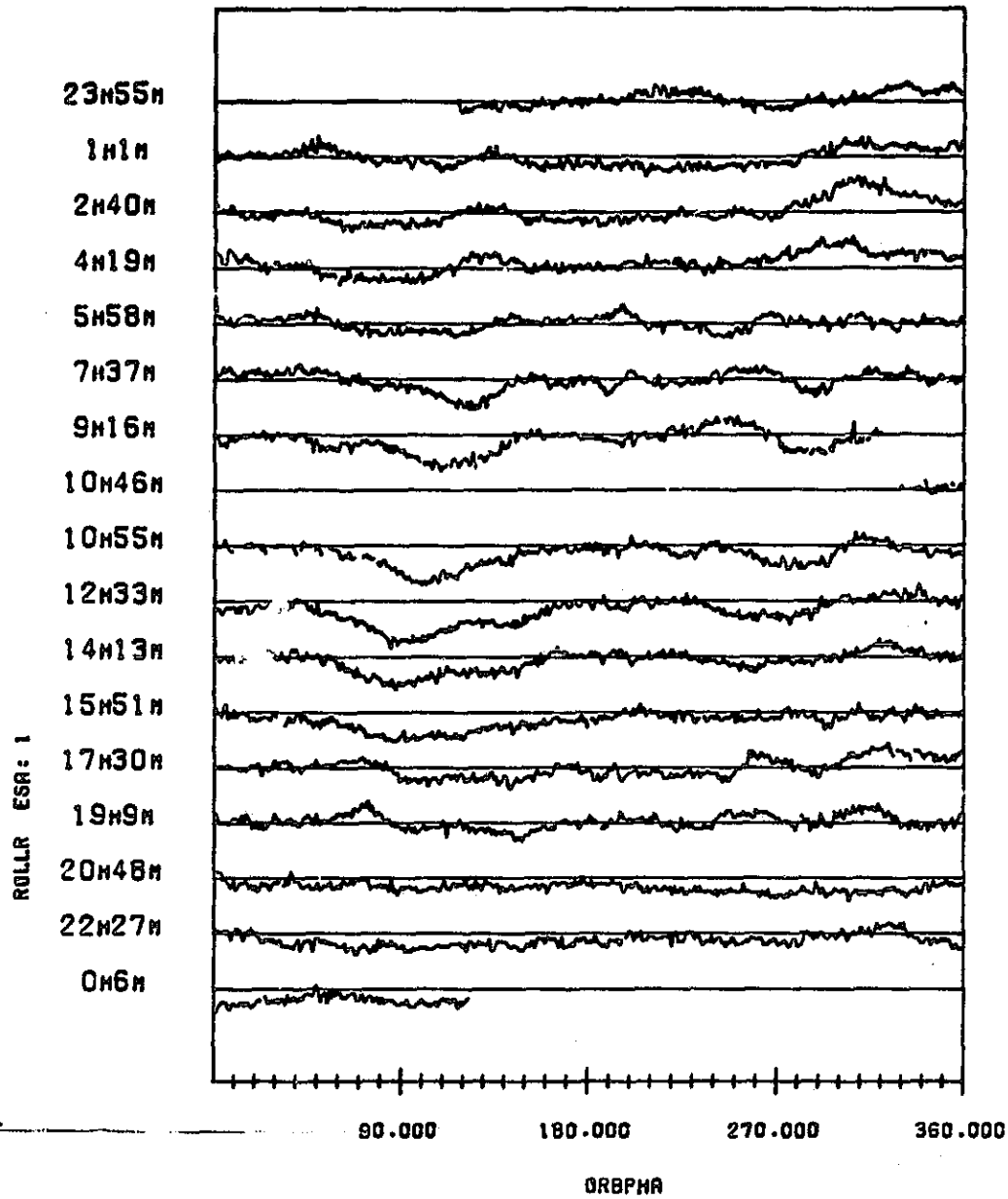

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830329.235506990
END TIME:830331.003946798

FIGURE C-15. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-15. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830329.235506990	0.11764E+03.	-0.25674E+00.	1	0.35901E+03.	-0.23460E+00.	244	-0.24314D+00	0.24388D+00	244
	830330.010144686	0.11863E+03.	-0.28250E+00.	2	0.33217E+03.	-0.19704E+00.	217		0.19070D-01	
2	830330.010144686	0.15801E-02.	-0.22917E+00.	245	0.35987E+03.	-0.22578E+00.	607	-0.25282D+00	0.25381D+00	363
	830330.024052078	0.20703E+03.	-0.30393E+00.	453	0.49765E+02.	-0.19215E+00.	295		0.22489D-01	
3	830330.024052078	0.86833E+00.	-0.23210E+00.	608	0.35974E+03.	-0.21921E+00.	967	-0.24833D+00	0.25025D+00	360
	830330.041943086	0.65575E+02.	-0.30301E+00.	672	0.30809E+03.	-0.15400E+00.	915		0.30996D-01	
4	830330.041943086	0.73464E+00.	-0.21309E+00.	968	0.35961E+03.	-0.22850E+00.	1325	-0.23554D+00	0.23695D+00	358
	830330.055834094	0.10031E+03.	-0.29148E+00.	1065	0.30597E+03.	-0.11609E+00.	1271		0.25887D-01	
5	830330.055834094	0.60100E+00.	-0.20389E+00.	1326	0.35948E+03.	-0.23855E+00.	1686	-0.24809D+00	0.24874D+00	361
	830330.073725102	0.24534E+03.	-0.28740E+00.	1572	0.19571E+03.	-0.19763E+00.	1522		0.17894D-01	
6	830330.073725102	0.47052E+00.	-0.23021E+00.	1687	0.35935E+03.	-0.24367E+00.	2048	-0.25402D+00	0.25520D+00	362
	830330.091616110	0.12495E+03.	-0.33272E+00.	1812	0.41276E+02.	-0.21040E+00.	1728		0.24573D-01	
7	830330.091616110	0.34306E+00.	-0.25228E+00.	2049	0.34062E+03.	-0.22039E+00.	2362	-0.26659D+00	0.26823D+00	314
	830330.104639214	0.10889E+03.	-0.34797E+00.	2157	0.25103E+03.	-0.20198E+00.	2293		0.29666D-01	
8	830330.104639214	0.32941E+03.	-0.24106E+00.	2363	0.35922E+03.	-0.23637E+00.	2386	-0.24403D+00	0.24418D+00	24
	830330.105507118	0.34431E+03.	-0.26198E+00.	2373	0.34133E+03.	-0.22603E+00.	2370		0.88796D-02	
9	830330.105507118	0.21767E+00.	-0.23793E+00.	2387	0.35910E+03.	-0.27491E+00.	2734	-0.27404D+00	0.27551D+00	348
	830330.123358126	0.99797E+02.	-0.35716E+00.	2473	0.30744E+03.	-0.21512E+00.	2682		0.28512D-01	
10	830330.123358126	0.92321E-01.	-0.27156E+00.	2735	0.35996E+03.	-0.24347E+00.	3097	-0.27752D+00	0.27951D+00	363
	830330.141305518	0.84726E+02.	-0.37777E+00.	2820	0.33810E+03.	-0.20357E+00.	3075		0.33355D-01	
11	830330.141305518	0.95849E+00.	-0.24788E+00.	3098	0.35983E+03.	-0.24046E+00.	3459	-0.26207D+00	0.26337D+00	362
	830330.155156526	0.87583E+02.	-0.33850E+00.	3185	0.31909E+03.	-0.20188E+00.	3418		0.26135D-01	
12	830330.155156526	0.82515E+00.	-0.24286E+00.	3460	0.35970E+03.	-0.25384E+00.	3816	-0.27229D+00	0.27325D+00	357
	830330.173047534	0.86451E+02.	-0.33006E+00.	3543	0.30903E+03.	-0.22517E+00.	3765		0.22911D-01	
13	830330.173047534	0.69087E+00.	-0.24910E+00.	3817	0.35956E+03.	-0.21184E+00.	4176	-0.25068D+00	0.25188D+00	360
	830330.190938542	0.14309E+03.	-0.30718E+00.	3960	0.32379E+03.	-0.18177E+00.	4142		0.24514D-01	
14	830330.190938542	0.55823E+00.	-0.22663E+00.	4177	0.35944E+03.	-0.23194E+00.	4534	-0.24655D+00	0.24731D+00	358
	830330.204829550	0.14893E+03.	-0.29935E+00.	4326	0.74233E+02.	-0.18891E+00.	4251		0.19445D-01	
15	830330.204829550	0.43032E-00.	-0.23479E+00.	4535	0.35932E+03.	-0.26061E+00.	4895	-0.27533D+00	0.27567D+00	361
	830330.222720558	0.30469E+03.	-0.31267E+00.	4840	0.37251E+02.	-0.23149E+00.	4571		0.13606D-01	
16	830330.222720558	0.31033E+00.	-0.24047E+00.	4896	0.35919E+03.	-0.28840E+00.	5256	-0.26892D+00	0.26948D+00	361
	830331.000611566	0.68007E+02.	-0.30521E+00.	4964	0.32441E+03.	-0.21803E+00.	5221		0.17355D-01	
17	830331.000611566	0.18571E+00.	-0.30972E+00.	5257	0.12267E+03.	-0.27264E+00.	5379	-0.28107D+00	0.28139D+00	123
	830331.003946798	0.11802E+01.	-0.31650E+00.	5258	0.49951E+02.	-0.23912E+00.	5306		0.13448D-01	

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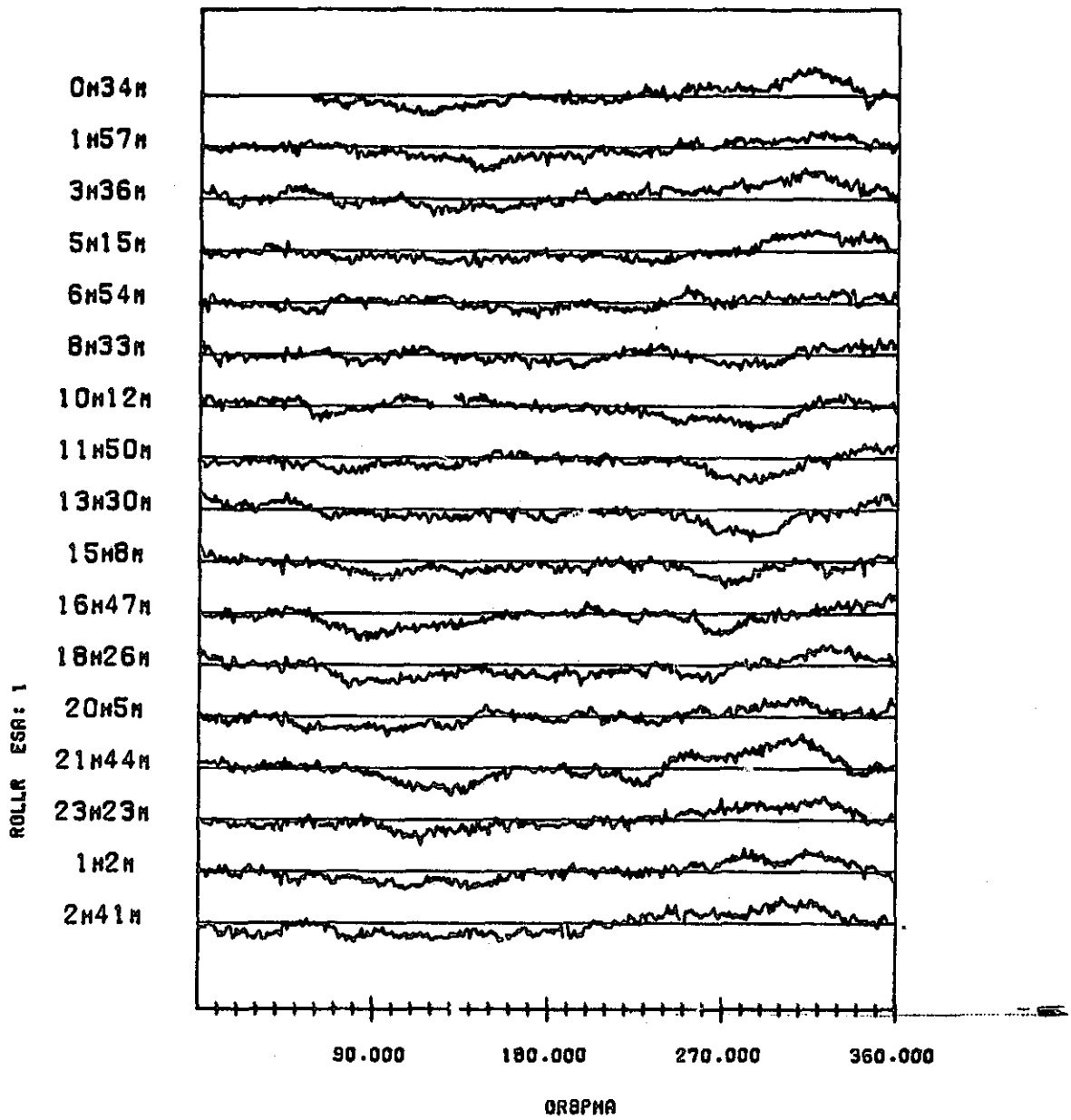

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830414.003417145
END TIME:830415.041837625

FIGURE C-16. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-16. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830414.003417145	0.56736E+02,	-0.25390E+00,	1	0.35988E+03,	-0.25617E+00,	306	-0.24977D+00	0.25155D+00	306
	830414.015750649	0.11352E+03,	-0.31010E+00,	58	0.31617E+03,	-0.16660E+00,	262		0.29896D-01	
2	830414.015750649	0.87437E+00,	-0.25213E+00,	307	0.35975E+03,	-0.25216E+00,	662	-0.25626D+00	0.25731D+00	356
	830414.033641657	0.14525E+03,	-0.32244E+00,	452	0.32199E+03,	-0.20359E+00,	624		0.23229D-01	
3	830414.033641657	0.74581E+00,	-0.22709E+00,	663	0.35962E+03,	-0.23529E+00,	1024	-0.23804D+00	0.23971D+00	362
	830414.051532665	0.12023E+03,	-0.29920E+00,	783	0.31193E+03,	-0.16117E+00,	976		0.28272D-01	
4	830414.051532665	0.61327E+00,	-0.23853E+00,	1025	0.35949E+03,	-0.24572E+00,	1386	-0.25288D+00	0.25409D+00	362
	830414.065423673	0.14400E+03,	-0.29759E+00,	1169	0.31875E+03,	-0.18687E+00,	1345		0.24856D-01	
5	830414.065423673	0.48404E+00,	-0.24296E+00,	1387	0.35936E+03,	-0.23789E+00,	1748	-0.24920D+00	0.24980D+00	362
	830414.083314681	0.17372E+03,	-0.29506E+00,	1561	0.25117E+03,	-0.19800E+00,	1639		0.17298D-01	
6	830414.083314681	0.35859E+00,	-0.22710E+00,	1749	0.35924E+03,	-0.22008E+00,	2110	-0.25335D+00	0.25399D+00	362
	830414.101205689	0.27881E+03,	-0.29359E+00,	2029	0.35029E+03,	-0.20199E+00,	2101		0.18044D-01	
7	830414.101205689	0.23455E+00,	-0.22688E+00,	2111	0.35912E+03,	-0.26354E+00,	2460	-0.25558D+00	0.25667D+00	350
	830414.115056697	0.28464E+03,	-0.32062E+00,	2385	0.33328E+03,	-0.21069E+00,	2434		0.23655D-01	
8	830414.115056697	0.11182E+00,	-0.25935E+00,	2461	0.35999E+03,	-0.21076E+00,	2823	-0.26349D+00	0.26442D+00	363
	830414.133004089	0.27758E+03,	-0.32651E+00,	2740	0.34309E+03,	-0.20470E+00,	2805		0.22226D-01	
9	830414.133004089	0.98198E+00,	-0.20553E+00,	2824	0.35986E+03,	-0.22602E+00,	3185	-0.26143D+00	0.26265D+00	362
	830414.150855097	0.28439E+03,	-0.33944E+00,	3109	0.35489E+03,	-0.20323E+00,	3180		0.25322D-01	
10	830414.150855097	0.85310E+00,	-0.21142E+00,	3186	0.35973E+03,	-0.23295E+00,	3547	-0.26467D+00	0.26534D+00	362
	830414.164746105	0.27137E+03,	-0.32462E+00,	3458	0.85310E+00,	-0.21142E+00,	3186		0.18855D-01	
11	830414.164746105	0.72063E+00,	-0.24748E+00,	3548	0.35959E+03,	-0.20877E+00,	3910	-0.26172D+00	0.26296D+00	363
	830414.182637113	0.83349E+02,	-0.32862E+00,	3631	0.35661E+03,	-0.19219E+00,	3907		0.25579D-01	
12	830414.182637113	0.58902E+00,	-0.20453E+00,	3911	0.35947E+03,	-0.24713E+00,	4271	-0.25957D+00	0.26091D-00	361
	830414.200528121	0.77242E+02,	-0.31729E+00,	3988	0.32667E+03,	-0.19026E+00,	4239		0.26371D-01	
13	830414.200528121	0.46132E+00,	-0.24192E+00,	4272	0.35934E+03,	-0.21415E+00,	4633	-0.25047D+00	0.25155D+00	362
	830414.214419129	0.98035E+02,	-0.30663E+00,	4370	0.31067E+03,	-0.18913E+00,	4594		0.23222D-01	
14	830414.214419129	0.33837E+00,	-0.23413E+00,	4634	0.35923E+03,	-0.24162E+00,	4994	-0.24744D+00	0.25002D+00	361
	830414.232310137	0.13078E+03,	-0.33056E+00,	4765	0.31154E+03,	-0.14987E+00,	4946		0.35850D-01	
15	830414.232310137	0.21960E+00,	-0.24802E+00,	4995	0.35910E+03,	-0.23987E+00,	5355	-0.24955D+00	0.25098D+00	361
	830415.010201145	0.11473E+03,	-0.32373E+00,	5109	0.32333E+03,	-0.18029E+00,	5319		0.26804D-01	
16	830415.010201145	0.96876E-01,	-0.23108E+00,	5356	0.35997E+03,	-0.27241E+00,	5718	-0.25081D+00	0.25217D+00	363
	830415.024108537	0.13749E+03,	-0.30343E+00,	5496	0.28153E+03,	-0.18201E+00,	5639		0.26189D-01	
17	830415.024108537	0.96617E+00,	-0.26444E+00,	5719	0.35586E+03,	-0.24989E+00,	6071	-0.25392D+00	0.25586D+00	353
	830415.041837625	0.80607E+02,	-0.30655E+00,	5798	0.30124E+03,	-0.17128E+00,	6016		0.31501D-01	

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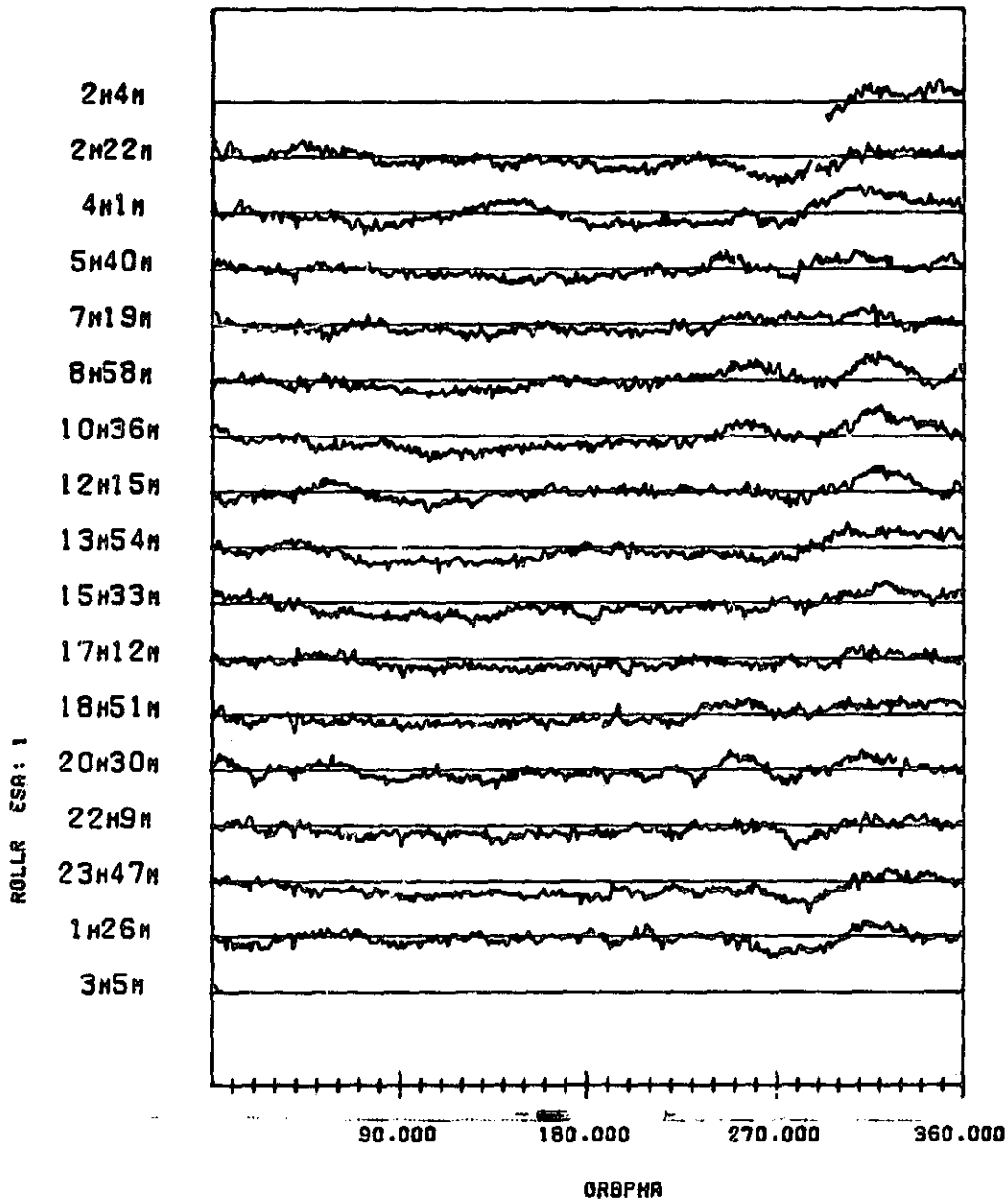

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830426.020419829
END TIME:830427.030700981

FIGURE C-17. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-17. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830426.020419829	0.29430E+03,	-0.28716E+00,	1	0.35984E+03,	-0.21815E+00,	67	-0.23227D+00	0.23332D+00	67
	830426.022237557	0.29529E+03,	-0.30157E+00,	2	0.34692E+03,	-0.19689E+00,	54		0.22281D-01	
2	830426.022237557	0.83217E+00,	-0.20556E+00,	68	0.35971E+03,	-0.24226E+00,	426	-0.25910D+00	0.26006D+00	359
	830426.040128565	0.27036E+03,	-0.33206E+00,	338	0.42622E+02,	-0.20325E+00,	110		0.22403D-01	
3	830426.040128565	0.70482E+00,	-0.22004E+00,	427	0.35958E+03,	-0.23527E-00,	788	-0.25078D+00	0.25238D+00	362
	830426.054019573	0.72372E+02,	-0.30658E+00,	499	0.30991E+03,	-0.17549E-00,	738		0.28353D-01	
4	830426.054019573	0.57591E+00,	-0.24834E+00,	789	0.35946E+03,	-0.23941E+00,	1149	-0.25185D+00	0.25261D+00	361
	830426.071910581	0.16982E+03,	-0.29304E+00,	959	0.30780E+03,	-0.20017E+00,	1097		0.19566D-01	
5	830426.071910581	0.45036E+00,	-0.21475E+00,	1150	0.35933E+03,	-0.24826E-00,	1511	-0.25289D+00	0.25353D+00	362
	830426.085801589	0.13288E+03,	-0.29410E+00,	1283	0.31661E+03,	-0.19825E+00,	1468		0.17956D-01	
6	830426.085801589	0.32813E+00,	-0.26631E+00,	1512	0.35921E+03,	-0.22780E+00,	1872	-0.24999D+00	0.25108D+00	361
	830426.103652597	0.13475E+03,	-0.29889E+00,	1647	0.31947E+03,	-0.17425E+00,	1833		0.23343D-01	
7	830426.103652597	0.20760E+00,	-0.22090E+00,	1873	0.35909E+03,	-0.26220E+00,	2234	-0.25702D+00	0.25873D+00	362
	830426.121543605	0.10375E+03,	-0.31783E+00,	1977	0.32034E+03,	-0.16954E+00,	2195		0.29701D-01	
8	830426.121543605	0.87651E-01,	-0.25119E+00,	2235	0.35997E+03,	-0.25711E+00,	2597	-0.25025D+00	0.25114D+00	363
	830426.135450997	0.10363E+03,	-0.30378E+00,	2339	0.32122E+03,	-0.17985E+00,	2558		0.21148D-01	
9	830426.135450997	0.95956E+00,	-0.24945E+00,	2598	0.35984E+03,	-0.22200E+00,	2959	-0.25848D+00	0.25996D+00	362
	830426.153342005	0.10849E+03,	-0.31679E+00,	2706	0.30422E+03,	-0.18391E+00,	2903		0.27723D-01	
10	830426.153342005	0.83226E+00,	-0.22402E+00,	2960	0.35971E+03,	-0.23505E+00,	3321	-0.25788D+00	0.25904D+00	362
	830426.171233013	0.12529E+03,	-0.31065E+00,	3085	0.32295E+03,	-0.19205E+00,	3284		0.24489D-01	
11	830426.171233013	0.70300E+00,	-0.23854E+00,	3322	0.35859E+03,	-0.24482E+00,	3682	-0.25956D+00	0.26003D+00	361
	830426.185124021	0.91293E+02,	-0.29820E+00,	3413	0.31686E+03,	-0.21556E+00,	3640		0.15595D-01	
12	830426.185124021	0.57497E+00,	-0.25572E+00,	3683	0.35946E+03,	-0.23547E-00,	4043	-0.25305D+00	0.25400D+00	361
	830426.203015029	0.39379E+02,	-0.29804E+00,	3722	0.32965E+03,	-0.20256E+00,	4013		0.21934D-01	
13	830426.203015029	0.45198E+00,	-0.23727E+00,	4044	0.35934E+03,	-0.24162E+00,	4404	-0.25076D+00	0.25159D+00	361
	830426.220906037	0.13686E+03,	-0.29851E+00,	4181	0.31166E+03,	-0.19585E+00,	4357		0.20545D-01	
14	830426.220906037	0.33305E+00,	-0.24489E+00,	4405	0.35922E+03,	-0.24670E+00,	4765	-0.26155D+00	0.26212D+00	361
	830426.234757045	0.27880E+03,	-0.31710E+00,	4685	0.31352E+03,	-0.21687E+00,	4719		0.17217D-01	
15	830426.234757045	0.21331E+00,	-0.25116E+00,	4766	0.35910E+03,	-0.25434E-00,	5127	-0.27321D+00	0.27402D+00	362
	830427.012648053	0.28563E+03,	-0.33522E+00,	5053	0.32432E+03,	-0.21671E+00,	5092		0.21003D-01	
16	830427.012648053	0.93092E-01,	-0.25219E+00,	5128	0.35997E+03,	-0.24212E+00,	5488	-0.25585D+00	0.25653D+00	361
	830427.030555445	0.27062E+03,	-0.30643E+00,	5398	0.31229E+03,	-0.20808E+00,	5440		0.18639D-01	
17	830427.030555445	0.96401E+00,	-0.23217E+00,	5489	0.49416E+01,	-0.24551E+00,	5493	-0.24099D+00	0.24108D+00	5
	830427.030700981	0.29527E+01,	-0.24874E+00,	5491	0.96401E+00,	-0.23217E+00,	5489		0.73584D-02	

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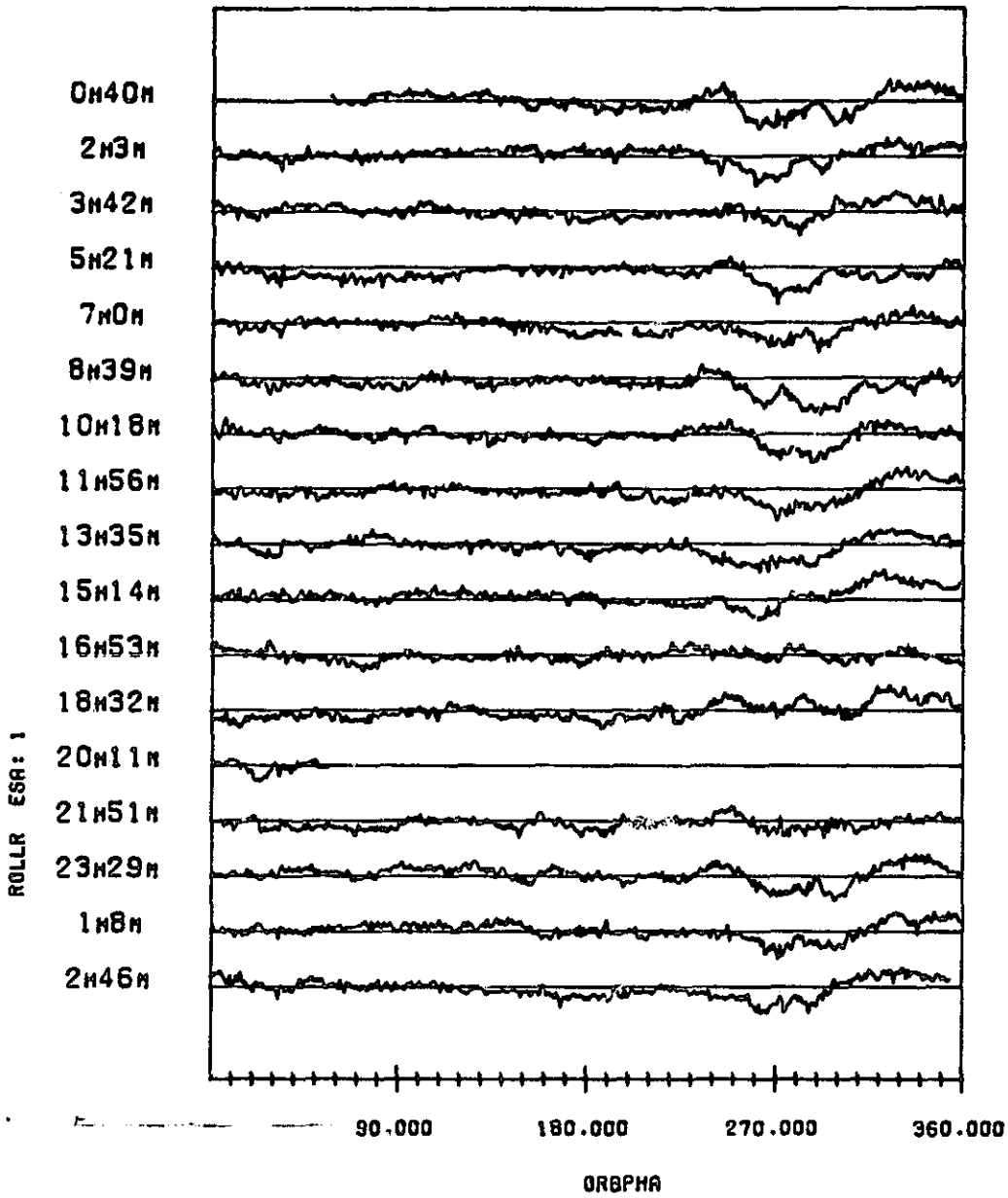

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830523.004000365
END TIME:830524.042404476

FIGURE C-18. Sensor One Roll Residuals for Consecutive Orbits

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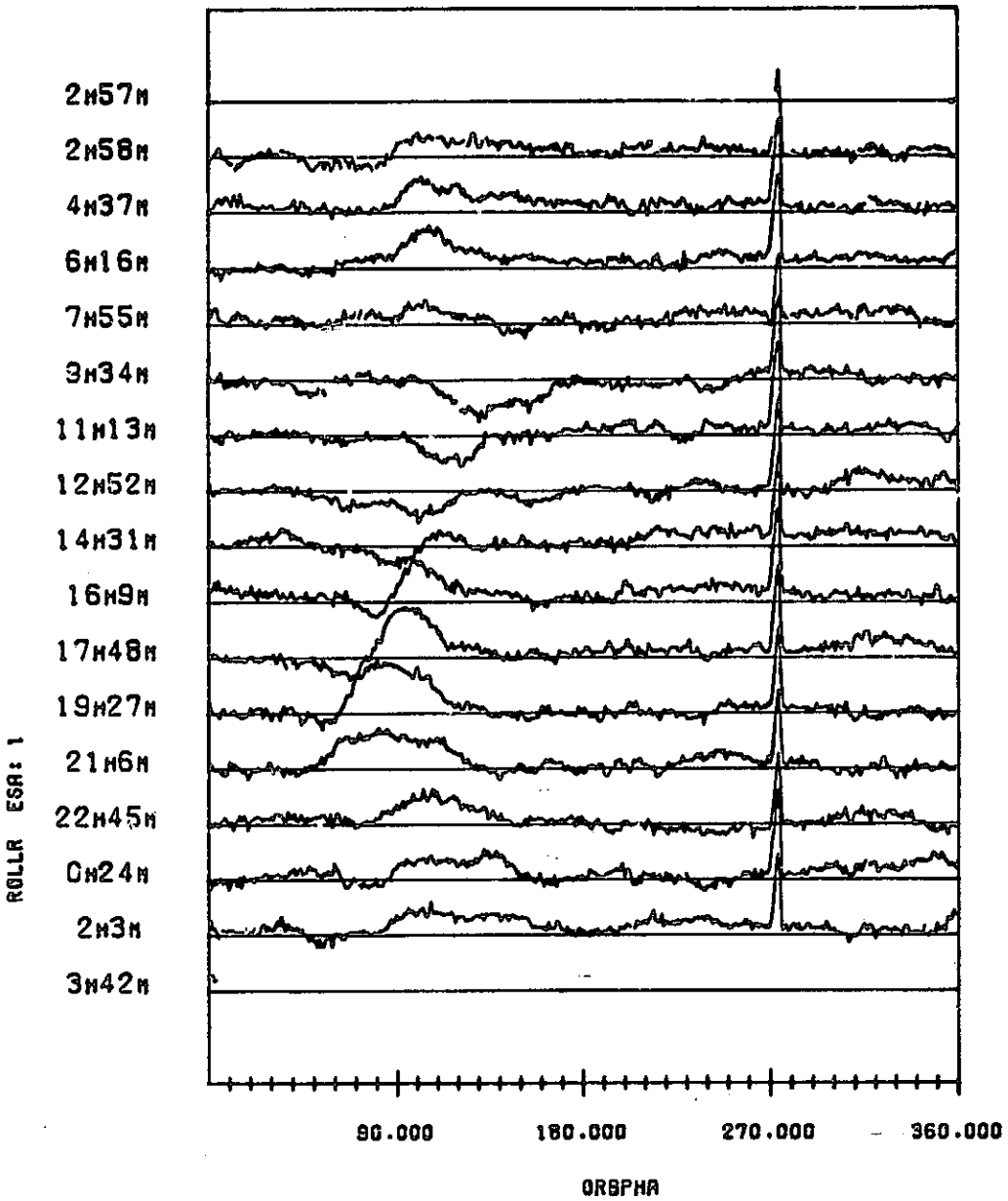

SENSOR 1 ROLL REGIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830303.025744604
END TIME:830304.034257270

FIGURE C-13. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-18. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830523.004000365	0.56024E+02,	-0.23598E+00,	1	0.35919E+03,	-0.24237E+00,	306	-0.25286D+00	0.25430D+00	306
	830523.020333869	0.26193E+03,	-0.32754E+00,	208	0.32442E+03,	-0.19041E+00,	271		0.27126D-01	
2	830523.020333869	0.18354E+00,	-0.23679E+00,	307	0.35907E+03,	-0.22048E+00,	667	-0.24691D+00	0.24785D+00	361
	830523.034224877	0.25982E+03,	-0.33126E+00,	567	0.32331E+03,	-0.19888E+00,	631		0.21630D-01	
3	830523.034224877	0.63375E-01,	-0.22201E+00,	668	0.35094E+03,	-0.23123E+00,	1029	-0.24910D+00	0.24983D+00	362
	830523.052132269	0.28053E+03,	-0.31501E+00,	949	0.32715E+03,	-0.19539E+00,	996		0.19122D-01	
4	830523.052132269	0.93404E+00,	-0.24746E+00,	1030	0.35982E+03,	-0.25156E+00,	1390	-0.26698D+00	0.26764D+00	361
	830523.070023277	0.27049E+03,	-0.35075E+00,	1300	0.24768E+03,	-0.22974E+00,	1277		0.18911D-01	
5	830523.070023277	0.81416E+00,	-0.24755E+00,	1391	0.35970E+03,	-0.24675E+00,	1748	-0.26004D+00	0.26086D+00	358
	830523.083914285	0.29020E+03,	-0.32940E+00,	1678	0.33585E+03,	-0.20252E+00,	1724		0.20722D-01	
6	830523.083914285	0.69796E+00,	-0.23577E+00,	1749	0.35959E+03,	-0.23327E+00,	2110	-0.26725D+00	0.26832D+00	362
	830523.101805293	0.29108E+03,	-0.34747E+00,	2041	0.23455E+03,	-0.21445E+00,	1984		0.23947D-01	
7	830523.101805293	0.58298E+00,	-0.23150E+00,	2111	0.35947E+03,	-0.24731E+00,	2471	-0.25446D+00	0.25532D+00	361
	830523.115656301	0.28700E+03,	-0.32710E+00,	2398	0.65489E+01,	-0.20757E+00,	2117		0.21019D-01	
8	830523.115656301	0.46914E+00,	-0.24933E+00,	2472	0.35936E+03,	-0.22656E+00,	2832	-0.25870D+00	0.25974D+00	361
	830523.133547309	0.27003E+03,	-0.33650E+00,	2742	0.33353E+03,	-0.18864E+00,	2806		0.23275D-01	
9	830523.133547309	0.35346E+00,	-0.23572E+00,	2833	0.35924E+03,	-0.24317E+00,	3194	-0.25758D+00	0.25868D+00	362
	830523.151438317	0.26595E+03,	-0.32531E+00,	3100	0.32646E+03,	-0.20753E+00,	3161		0.23877D-01	
10	830523.151438317	0.23325E+00,	-0.23466E+00,	3195	0.35912E+03,	-0.20204E+00,	3555	-0.24033D+00	0.24139D+00	361
	830523.165329325	0.26285E+03,	-0.30106E+00,	3458	0.32236E+03,	-0.16698E+00,	3518		0.22573D-01	
11	830523.165329325	0.10984E+00,	-0.23298E+00,	3556	0.35999E+03,	-0.27914E+00,	3918	-0.25144D+00	0.25184D+00	363
	830523.183236717	0.72765E+02,	-0.29355E+00,	3629	0.27960E+02,	-0.21099E+00,	3584		0.14186D-01	
12	830523.183236717	0.98137E+00,	-0.27365E+00,	3919	0.35987E+03,	-0.24841E+00,	4280	-0.25200D+00	0.25306D+00	362
	830523.201127725	0.18715E+03,	-0.29931E+00,	4106	0.32510E+03,	-0.17953E+00,	4245		0.23215D-01	
13	830523.201127725	0.86293E+00,	-0.24005E+00,	4281	0.55595E+02,	-0.25649E+00,	4336	-0.25397D+00	0.25446D+00	56
	830523.215124269	0.23739E+02,	-0.29251E+00,	4304	0.49620E+02,	-0.23156E+00,	4330		0.15976D-01	
14	830523.215124269	0.47262E+01,	-0.24711E+00,	4337	0.35965E+03,	-0.24184E+00,	4693	-0.25766D+00	0.25812D+00	357
	830523.232909741	0.29313E+03,	-0.29476E+00,	4626	0.24909E+03,	-0.20869E+00,	4582		0.15544D-01	
15	830523.232909741	0.64148E+00,	-0.24131E+00,	4694	0.35953E+03,	-0.25213E+00,	5054	-0.24516D+00	0.24628D+00	361
	830524.010800749	0.29897E+03,	-0.31709E+00,	4993	0.33767E+03,	-0.18802E+00,	5032		0.23569D-01	
16	830524.010800749	0.52793E+00,	-0.23773E+00,	5055	0.35942E+03,	-0.22374E+00,	5416	-0.24727D+00	0.24824D+00	362
	830524.024651757	0.27108E+03,	-0.32488E+00,	5327	0.32862E+03,	-0.19512E+00,	5385		0.21979D-01	
17	830524.024651757	0.41204E+00,	-0.22153E+00,	5417	0.35433E+03,	-0.22836E+00,	5772	-0.25511D+00	0.25629D+00	356
	830524.042404476	0.26303E+03,	-0.32208E+00,	5680	0.33148E+03,	-0.19615E+00,	5749		0.24647D-01	

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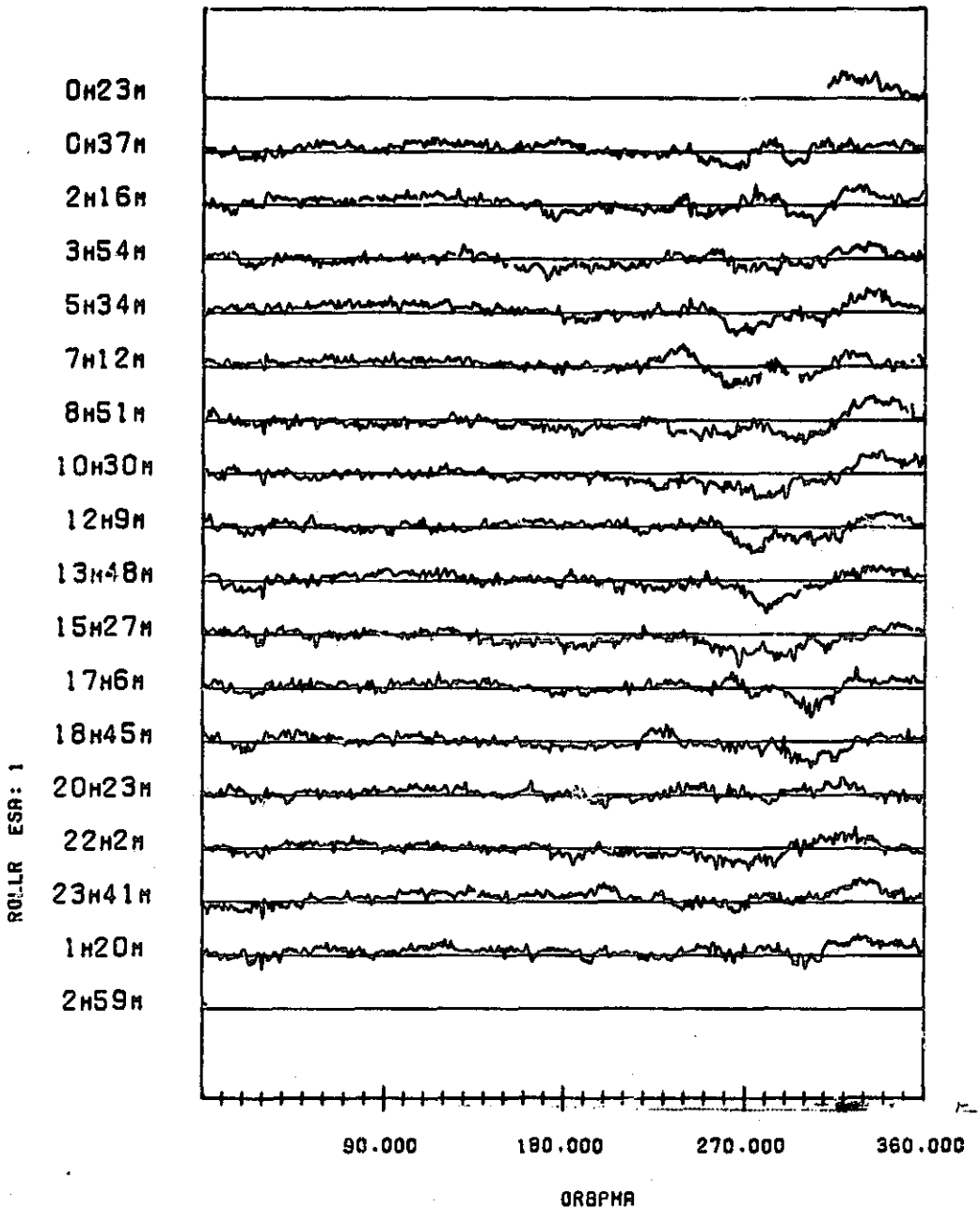

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830606.002351736
END TIME:830607.025956216

FIGURE C-19. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-19. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830606.002351736	0.31167E+03,	-0.21763E+00,	1	0.35934E+03,	-0.23818E+00,	49	-0.21244D+00	0.21348D+00	49
	830606.003714552	0.35635E+03,	-0.25538E+00,	46	0.31861E+03,	-0.17399E+00,	8		0.21271D-01	
2	830606.003714552	0.33127E+00,	-0.24442E+00,	50	0.35921E+03,	-0.23995E+00,	411	-0.24411D+00	0.24478D+00	362
	830606.021605560	0.26692E-03,	-0.29897E+00,	318	0.17657E+03,	-0.21105E+00,	227		0.18196D-01	
3	830606.021605560	0.20545E+00,	-0.24326E+00,	412	0.35908E+03,	-0.21418E+00,	769	-0.24381D+00	0.24463D+00	358
	830606.035456568	0.30447E+03,	-0.30656E+00,	715	0.27472E+03,	-0.19154E+00,	685		0.20083D-01	
4	830606.035456568	0.74377E-01,	-0.23716E+00,	770	0.35994E+03,	-0.25383E-00,	1124	-0.25211D+00	0.25276D+00	355
	830606.053403960	0.17134E+03,	-0.30818E+00,	936	0.33212E+03,	-0.20140E+00,	1096		0.18235D-01	
5	830606.053403960	0.93524E+00,	-0.25524E+00,	1125	0.35981E+03,	-0.23427E+00,	1486	-0.24236D+00	0.24330D+00	362
	830606.071254968	0.26553E+03,	-0.31188E+00,	1391	0.33100E+03,	-0.18281E+00,	1457		0.21434D-01	
6	830606.071254968	0.80523E+00,	-0.23991E+00,	1487	0.35968E+03,	-0.25711E+00,	1837	-0.24318D+00	0.24398D+00	351
	830606.085145976	0.26144E+03,	-0.30970E+00,	1745	0.23962E+03,	-0.18741E+00,	1723		0.19754D-01	
7	830606.085145976	0.67887E+00,	-0.24507E+00,	1838	0.35956E+03,	-0.23478E+00,	2197	-0.25813D+00	0.25924D+00	360
	830606.103036984	0.29998E+03,	-0.31517E+00,	2138	0.33472E+03,	-0.18086E+00,	2173		0.24046D-01	
8	830606.103036984	0.55405E+00,	-0.24497E+00,	2198	0.35944E+03,	-0.22294E+00,	2559	-0.25638D+00	0.25752D+00	362
	830606.120927992	0.27507E+03,	-0.32027E+00,	2474	0.33956E+03,	-0.18414E+00,	2539		0.24298D-01	
9	830606.120927992	0.43003E+00,	-0.21296E+00,	2560	0.35931E+03,	-0.25087E-00,	2920	-0.25066D+00	0.25150D+00	361
	830606.134819000	0.27295E+03,	-0.32155E+00,	2833	0.33844E+03,	-0.20917E+00,	2899		0.20507D-01	
10	830606.134819000	0.30366E+00,	-0.23876E+00,	2921	0.35918E+03,	-0.23631E+00,	3281	-0.25061D+00	0.25167D+00	361
	830606.152710008	0.28076E+03,	-0.34122E+00,	3203	0.33831E+03,	-0.20660E+00,	3260		0.23064D-01	
11	830606.152710008	0.17238E+00,	-0.25214E+00,	3282	0.35904E+03,	-0.23827E+00,	3642	-0.26105D+00	0.26194D+00	361
	830606.170601016	0.26675E+03,	-0.34231E+00,	3550	0.34712E+03,	-0.21660E+00,	3631		0.21661D-01	
12	830606.170601016	0.38814E-01,	-0.24121E+00,	3643	0.35991E+03,	-0.23456E+00,	4005	-0.24692D+00	0.24759D+00	363
	830606.184508408	0.30331E+03,	-0.33251E+00,	3948	0.32613E+03,	-0.19217E-00,	3971		0.18248D-01	
13	830606.184508408	0.90063E+00,	-0.22669E+00,	4006	0.35978E+03,	-0.23621E+00,	4367	-0.25154D+00	0.25229D+00	362
	830606.202359416	0.30318E+03,	-0.32245E+00,	4310	0.23178E+03,	-0.20070E+00,	4238		0.19506D-01	
14	830606.202359416	0.77272E+00,	-0.24112E+00,	4368	0.35965E+03,	-0.25126E+00,	4729	-0.24376D+00	0.24418D+00	362
	830606.220250424	0.20187E+03,	-0.28568E+00,	4570	0.31893E+03,	-0.19788E+00,	4688		0.14305D-01	
15	830606.220250424	0.64919E+00,	-0.24463E+00,	4730	0.35953E+03,	-0.26161E+00,	5090	-0.25179D+00	0.25252D+00	361
	830606.234141432	0.25633E+03,	-0.30899E+00,	4985	0.32576E+03,	-0.18981E-00,	5056		0.19210D-01	
16	830606.234141432	0.52700E+00,	-0.25363E+00,	5091	0.35941E+03,	-0.23909E+00,	5451	-0.23764D+00	0.23841D+00	361
	830607.012032440	0.30370E+02,	-0.29539E+00,	5121	0.32861E+03,	-0.18284E+00,	5420		0.19159D-01	
17	830607.012032440	0.40288E-00,	-0.24181E+00,	5452	0.35928E+03,	-0.23618E+00,	5813	-0.23820D+00	0.23875D+00	362
	830607.025923448	0.30245E+02,	-0.28877E+00,	5482	0.32749E+03,	-0.19121E+00,	5781		0.16153D-01	
18	830607.025923448	0.27588E-00,	-0.23756E+00,	5814	0.22643E+01,	-0.23902E-00,	5816	-0.23850D+00	0.23850D+00	3
	830607.025956216	0.22643E+01,	-0.23902E-00,	5816	0.27588E+00,	-0.23756E-00,	5814		0.81452D-03	

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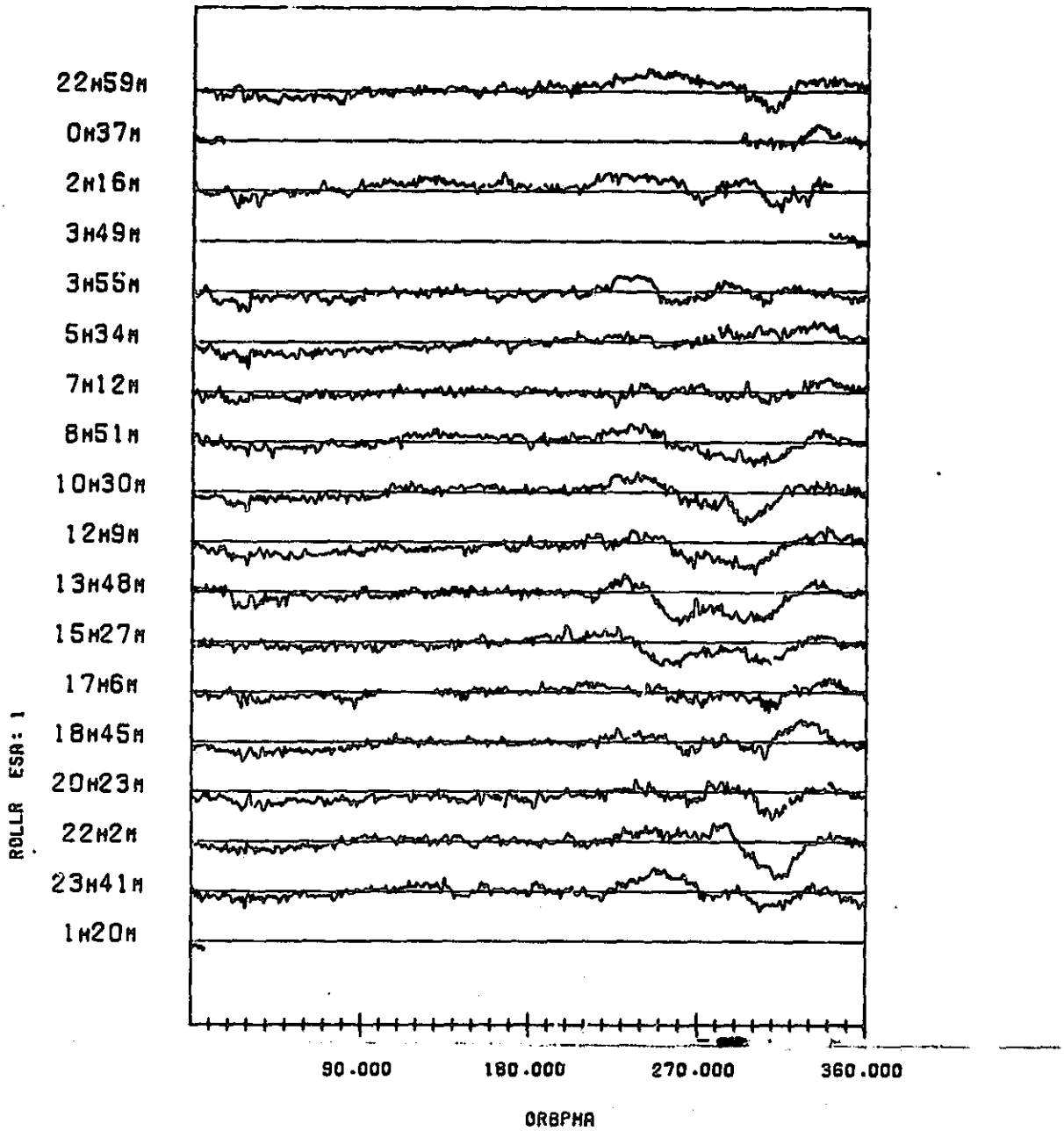

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830621.225929155
END TIME:830623.012243587

FIGURE C-20. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-20. Data Statistics by Orbit

ORBIT	TIME START END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830621.225929155	0.37950E+01,	-0.25460E+00,	1	0.35970E+03,	-0.23755E+00,	359	-0.24395D+00	0.24521D+00	359
	830622.003731011	0.31004E+03,	-0.30982E+00,	309	0.24261E+03,	-0.18191E+00,	241		0.24799D-01	
2	830622.003731011	0.69377E+00,	-0.24003E+00,	360	0.35958E+03,	-0.25174E+00,	443	-0.24332D+00	0.24389D+00	84
	830622.021622019	0.31984E+03,	-0.27340E+00,	404	0.33275E+03,	-0.19781E+00,	417		0.16766D-01	
3	830622.021622019	0.57116E+00,	-0.22473E+00,	444	0.34057E+03,	-0.23049E+00,	782	-0.23928D+00	0.24036D+00	339
	830622.034928963	0.31376E+03,	-0.31984E+00,	755	0.22252E+03,	-0.19396E+00,	663		0.22792D-01	
4	830622.034928963	0.33957E+03,	-0.22768E+00,	783	0.35945E+03,	-0.25543E+00,	803	-0.24296D+00	0.24324D+00	21
	830622.035513027	0.35448E+03,	-0.26589E+00,	798	0.34454E+03,	-0.22427E+00,	788		0.12101D-01	
5	830622.035513027	0.44334E+00,	-0.25034E+00,	804	0.35932E+03,	-0.26134E+00,	1163	-0.25592D+00	0.25665D+00	360
	830622.053404035	0.24319E+02,	-0.30885E+00,	828	0.23628E+03,	-0.20126E+00,	1039		0.19371D-01	
6	830622.053404035	0.31323E+00,	-0.26708E+00,	1164	0.35919E+03,	-0.24589E+00,	1524	-0.25284D+00	0.25405D+00	361
	830622.071255043	0.29166E+02,	-0.32878E+00,	1193	0.33137E+03,	-0.18930E+00,	1496		0.24875D-01	
7	830622.071255043	0.18647E+00,	-0.25876E+00,	1525	0.35907E+03,	-0.23241E+00,	1886	-0.25188D+00	0.25233D+00	362
	830622.085146051	0.22610E+03,	-0.29512E+00,	1752	0.33919E+03,	-0.20490E+00,	1866		0.15140D-01	
8	830622.085146051	0.63380E-01,	-0.22495E+00,	1887	0.35994E+03,	-0.24868E+00,	2249	-0.25112D+00	0.25236D+00	363
	830622.103053443	0.29937E+03,	-0.32107E+00,	2188	0.23392E+03,	-0.19337E+00,	2122		0.24968D-01	
9	830622.103053443	0.93621E+00,	-0.25177E+00,	2250	0.35982E+03,	-0.24926E+00,	2611	-0.25392D+00	0.25535D+00	362
	830622.120944451	0.29429E+03,	-0.34658E+00,	2545	0.23777E+03,	-0.18767E+00,	2488		0.26946D-01	
10	830622.120944451	0.81547E+00,	-0.25706E+00,	2612	0.35970E+03,	-0.24904E+00,	2973	-0.26899D+00	0.27016D+00	362
	830622.134835459	0.30012E+03,	-0.34695E+00,	2913	0.33883E+03,	-0.20215E+00,	2952		0.25060D-01	
11	830622.134835459	0.69240E+00,	-0.24738E+00,	2974	0.35957E+03,	-0.25343E+00,	3335	-0.26478D+00	0.26642D+00	362
	830622.152726467	0.26033E+03,	-0.34760E+00,	3235	0.23058E+03,	-0.19481E+00,	3205		0.29534D-01	
12	830622.152726467	0.56441E+00,	-0.26699E+00,	3336	0.35944E+03,	-0.25210E+00,	3695	-0.26020D+00	0.26114D+00	360
	830622.170617475	0.26020E+03,	-0.32278E+00,	3596	0.19967E+03,	-0.19926E+00,	3535		0.22122D-01	
13	830622.170617475	0.43417E+00,	-0.25148E+00,	3696	0.35931E+03,	-0.26897E+00,	4027	-0.25276D+00	0.25337D+00	332
	830622.184508483	0.30767E+03,	-0.30961E+00,	3976	0.34043E+03,	-0.20749E+00,	4008		0.17584D-01	
14	830622.184508483	0.30515E+00,	-0.26452E+00,	4028	0.35919E+03,	-0.26634E+00,	4385	-0.25296D+00	0.25392D+00	358
	830622.202359491	0.27166E+02,	-0.30888E+00,	4055	0.32541E+03,	-0.17923E+00,	4351		0.22125D-01	
15	830622.202359491	0.18062E+00,	-0.26969E+00,	4386	0.35907E+03,	-0.26177E+00,	4744	-0.26618D+00	0.26689D+00	359
	830622.220250499	0.30941E+03,	-0.33254E+00,	4696	0.23702E+03,	-0.21071E+00,	4623		0.19392D-01	
16	830622.220250499	0.60458E-01,	-0.25397E+00,	4745	0.35994E+03,	-0.27379E+00,	5106	-0.25333D+00	0.25486D+00	362
	830622.234157891	0.31127E+03,	-0.36118E+00,	5057	0.27854E+03,	-0.19272E+00,	5024		0.27964D-01	
17	830622.234157891	0.93036E+00,	-0.[illegible]4114E+00,	5107	0.35981E+03,	-0.29297E+00,	5468	-0.25087D+00	0.25188D+00	362
	830623.012048899	0.30321E+03,	-0.[illegible]1037E+00,	5411	0.24769E+03,	-0.17821E+00,	5355		0.22505D-01	
18	830623.012048899	0.80906E+00,	-0.26777E+00,	5469	0.77702E+01,	-0.27143E+00,	5476	-0.26748D+00	0.26757D+00	8
	830623.012243587	0.67756E+01,	-0.[illegible]7834E+00,	5475	0.27978E+01,	-0.25708E+00,	5471		0.74797D-02	

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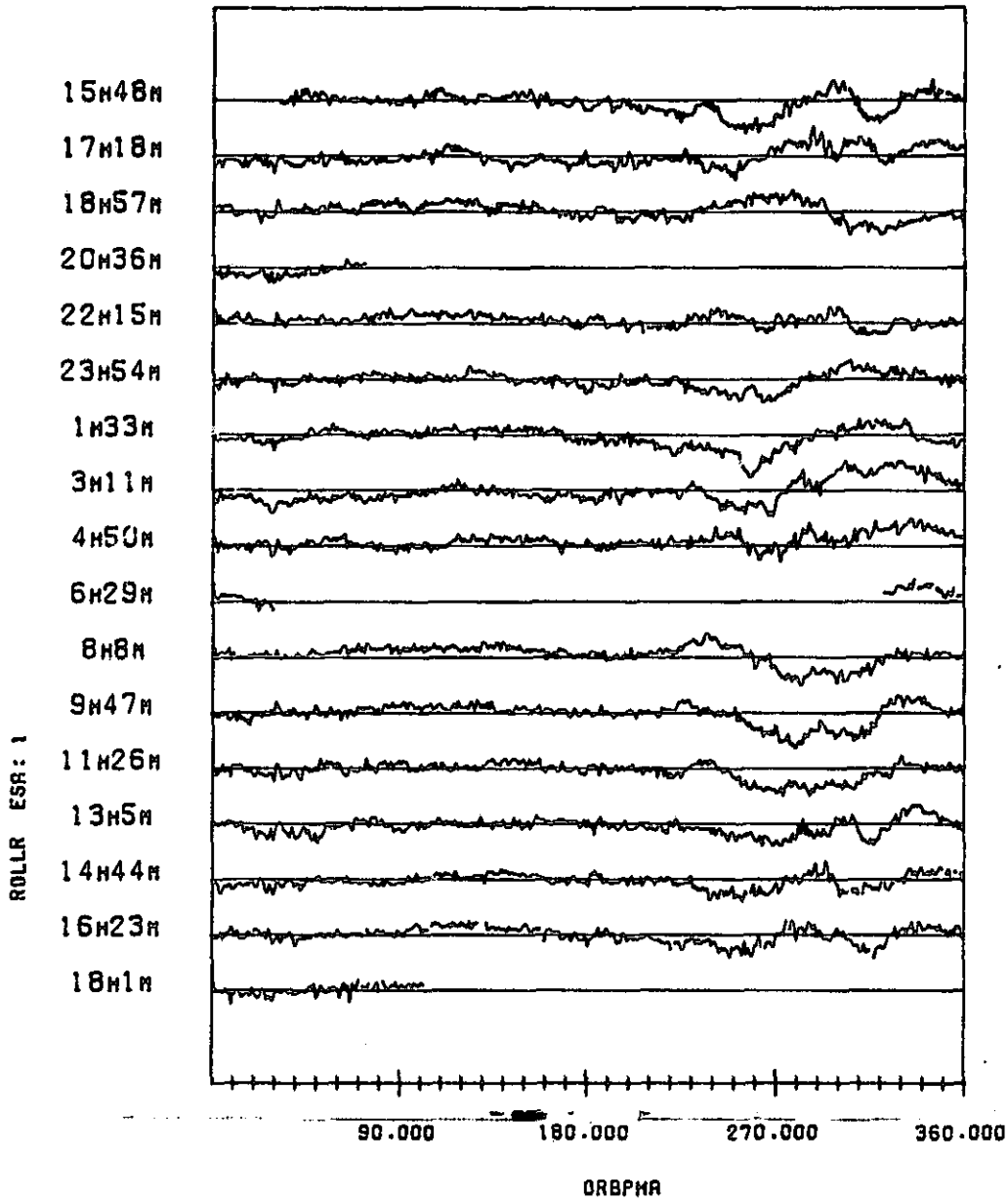

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830706.154825062
END TIME:830707.182940838

FIGURE C-21. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-21. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830706.154825062	0.32076E+02,	-0.25491E+00,	1	0.35911E+03,	-0.24850E+00,	326	-0.25744D+00	0.25888D+00	326
	830706.171848166	0.25491E+03,	-0.33949E+00,	223	0.29655E+03,	-0.19390E+00,	265		0.27288D-01	
2	830706.171848166	0.11023E+01,	-0.27255E+00,	327	0.35998E+03,	-0.22743E+00,	688	-0.25208D+00	0.25309D+00	362
	830706.185739174	0.24982E+03,	-0.31419E+00,	578	0.28750E+03,	-0.16911E+00,	615		0.22519D-01	
3	830706.185739174	0.97611E+00,	-0.23766E+00,	689	0.35986E+03,	-0.28741E+00,	1050	-0.24599D-00	0.24702D+00	362
	830706.203630182	0.30523E+03,	-0.31109E+00,	995	0.27746E+03,	-0.19091E+00,	967		0.22520D-01	
4	830706.203630182	0.85451E+00,	-0.25972E+00,	1051	0.72540E+02,	-0.23913E+00,	1123	-0.26008D+00	0.26040D+00	73
	830706.221521190	0.28715E+02,	-0.28926E+00,	1079	0.63573E+02,	-0.22736E+00,	1114		0.13125D-01	
5	830706.221521190	0.73685E+00,	-0.21507E+00,	1124	0.35962E+03,	-0.24042E+00,	1484	-0.24116D+00	0.24167D+00	361
	830706.235412198	0.31492E+03,	-0.28170E+00,	1439	0.29508E+03,	-0.20434E+00,	1419		0.15706D-01	
6	830706.235412198	0.61879E+00,	-0.26533E+00,	1485	0.35950E+03,	-0.26115E+00,	1846	-0.25240D+00	0.25320D+00	362
	830707.013303206	0.26323E+03,	-0.31225E+00,	1749	0.30587E+03,	-0.19747E+00,	1792		0.20111D-01	
7	830707.013303206	0.49560E+00,	-0.25543E+00,	1847	0.35938E+03,	-0.26505E+00,	2208	-0.25752D+00	0.25889D+00	362
	830707.031154214	0.25815E+03,	-0.36515E+00,	2106	0.33155E+03,	-0.20637E+00,	2180		0.26598D-01	
8	830707.031154214	0.37296E+00,	-0.27184E+00,	2209	0.35925E+03,	-0.23457E+00,	2570	-0.25201D+00	0.25393D+00	362
	830707.045045222	0.28793E+03,	-0.31946E+00,	2478	0.30363E+03,	-0.16857E+00,	2514		0.31232D-01	
9	830707.045045222	0.24459E+00,	-0.22397E+00,	2571	0.35912E+03,	-0.22500E+00,	2932	-0.23660D+00	0.23742D+00	362
	830707.062936230	0.27177E+03,	-0.29216E+00,	2844	0.33428E+03,	-0.17482E+00,	2907		0.19784D-01	
10	830707.062936230	0.11891E+00,	-0.20186E+00,	2933	0.36000E+03,	-0.23604E+00,	2998	-0.22919D+00	0.22989D+00	66
	830707.080843622	0.22007E+02,	-0.27435E+00,	2995	0.33614E+03,	-0.18800E+00,	2977		0.18056D-01	
11	830707.080843622	0.99142E+00,	-0.22729E+00,	2999	0.35988E+03,	-0.24354E+00,	3350	-0.24291D-00	0.24425D+00	362
	830707.094734630	0.28244E+03,	-0.32425E+00,	3282	0.23682E+03,	-0.18298E+00,	3236		0.25515D-01	
12	830707.094734630	0.87127E+00,	-0.24917E+00,	3361	0.35976E+03,	-0.23102E+00,	3722	-0.25296D+00	0.25450D+00	362
	830707.112625638	0.27934E+03,	-0.34675E+00,	3641	0.32994E+03,	-0.20131E+00,	3692		0.27996D-01	
13	830707.112625638	0.75295E+00,	-0.25740E+00,	3723	0.35964E+03,	-0.26391E+00,	4084	-0.25690D+00	0.25791D+00	362
	830707.130516646	0.27328E+03,	-0.32376E+00,	3997	0.32983E+03,	-0.21470E+00,	4054		0.22737D-01	
14	830707.130516646	0.63379E+00,	-0.24636E+00,	4085	0.35952E+03,	-0.26551E+00,	4446	-0.25773D+00	0.25856D+00	362
	830707.144407654	0.27216E+03,	-0.31156E+00,	4358	0.33566E+03,	-0.19664E+00,	4422		0.20678D-01	
15	830707.144407654	0.51099E+00,	-0.25735E+00,	4447	0.35939E+03,	-0.25447E+00,	4801	-0.25507D+00	0.25573D+00	355
	830707.162315046	0.25419E+03,	-0.30789E+00,	4702	0.29385E+03,	-0.20031E+00,	4741		0.18480D-01	
16	830707.162315046	0.13780E+01,	-0.25281E+00,	4802	0.35926E+03,	-0.25668E+00,	5149	-0.25036D+00	0.25119D+00	348
	830707.180149670	0.24811E+03,	-0.31171E+00,	5040	0.27786E+03,	-0.21103E+00,	5068		0.20387D-01	
17	830707.180149670	0.25622E+00,	-0.22637E+00,	5150	0.10183E+03,	-0.23716E+00,	5248	-0.24818D+00	0.24852D+00	99
	830707.182940838	0.92075E+01,	-0.28806E+00,	5159	0.69945E+02,	-0.22165E+00,	5219		0.12957D-01	

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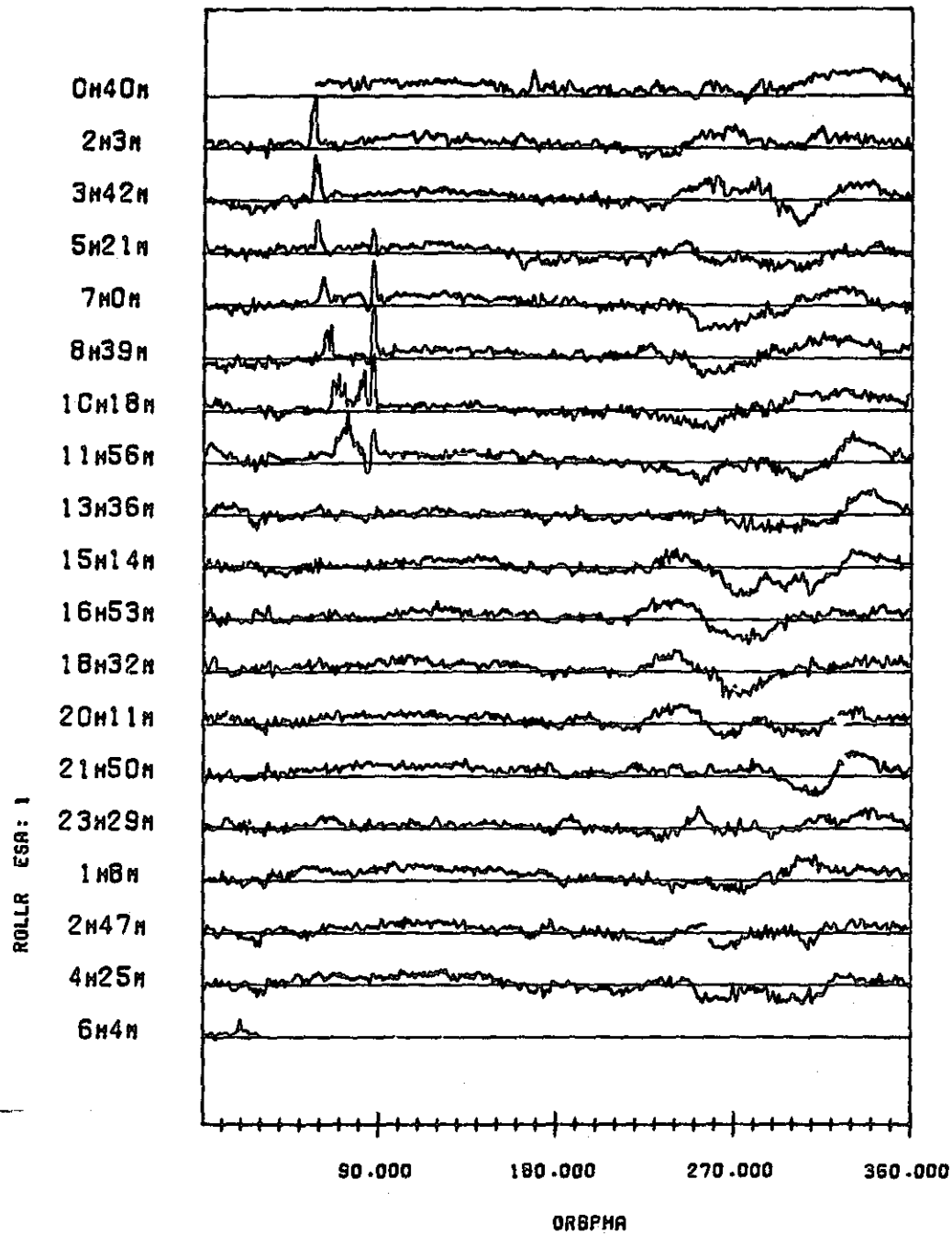

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830726.004016064
END TIME:830727.061244608

FIGURE C-22. Sensor One Roll Residuals for Consecutive Orbits

TABLE C-22. Data Statistics by Orbit

ORBIT	TIME START/END	(Y,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830726.004016064	0.56601E+02.	-0.2 573E+00.	1	0.35975E+03.	-0.23839E+00.	306	-0.22052D+00	0.22141D+00	306
	830726.020349568	0.27437E+03.	-0.2 417E+00.	220	0.33490E+03.	-0.17393E+00.	281		0.19878D-01	
2	830726.020349568	0.74253E+00.	-0.22929E+00.	307	0.35963E+03.	-0.23938E+00.	668	-0.2328[illegible]D+00	0.23363D+00	362
	830726.034240576	0.22465E+03.	-0.28151E+00.	532	0.56483E+02.	-0.97396E-01.	363		0.19313D-01	
3	830726.034240576	0.62944E+00.	-0.24635E+00.	669	0.35950E+03.	-0.24036E+00.	1030	-0.23878D+00	0.24004D+00	362
	830726.052131584	0.30289E+03.	-0.32278E+00.	973	0.56362E+02.	-0.11833E+00.	725		0.24584D-01	
4	830726.052131584	0.49501E+00.	-0.21894E+00.	1031	0.35938E+03.	-0.25746E+00.	1392	-0.25052D+00	0.25146D+00	362
	830726.070022592	0.30375E+03.	-0.30234E+00.	1336	0.58231E+02.	-0.15482E+00.	1089		0.21774D-01	
5	830726.070022592	0.37318E+00.	-0.24427E+00.	1393	0.35926E+03.	-0.26052E+00.	1753	-0.24499D+00	0.24657D+00	361
	830726.083913600	0.27090E+03.	-0.32528E+00.	1664	0.86005E+02.	-0.12101E+00.	1479		0.27833D-01	
6	830726.083913600	0.25503E+00.	-0.27120E+00.	1754	0.35914E+03.	-0.21088E+00.	2114	-0.23922D+00	0.24066D+00	361
	830726.101804608	0.25293E+03.	-0.30470E+00.	2007	0.86883E+02.	-0.10225E+00.	1841		0.26306D-01	
7	830726.101804608	0.13812E+00.	-0.22563E+00.	2115	0.35903E+03.	-0.20497E+00.	2476	-0.23955D+00	0.24123D+00	362
	830726.115655616	0.25877E+03.	-0.31342E+00.	2375	0.86765E+02.	-0.86597E-01.	2202		0.28454D-01	
8	830726.115655616	0.22394E-01.	-0.20786E+00.	2477	0.35990E+03.	-0.24636E+00.	2839	-0.23709D+00	0.23885D+00	363
	830726.133603008	0.25271E+03.	-0.31464E+00.	2731	0.73696E+02.	-0.10165E+00.	2551		0.28940D-01	
9	830726.133603008	0.89922E+00.	-0.23053E+00.	2840	0.35978E+03.	-0.23859E+00.	3201	-0.24837D+00	0.24928D+00	362
	830726.151454016	0.28829E+03.	-0.30047E+00.	3129	0.33990E+03.	-0.17789E+00.	3181		0.21263D-01	
10	830726.151454016	0.77704E+00.	-0.24331E+00.	3202	0.35966E+03.	-0.23842E+00.	3562	-0.25145D+00	0.25284D+00	361
	830726.165345024	0.27190E+03.	-0.33309E+00.	3473	0.24056E+03.	-0.19564E+00.	3442		0.26541D-01	
11	830726.165345024	0.65170E+00.	-0.22489E+00.	3563	0.35953E+03.	-0.22366E+00.	3924	-0.24130D+00	0.24236D+00	362
	830726.183236032	0.27713E+03.	-0.32210E+00.	3841	0.22853E+03.	-0.18785E+00.	3792		0.22673D-01	
12	830726.183236032	0.52717E+00.	-0.22053E+00.	3925	0.35941E+03.	-0.23323E+00.	4285	-0.23915D+00	0.24027D+00	361
	830726.201127040	0.26709E+03.	-0.32685E+00.	4192	0.23932E+03.	-0.18861E+00.	4164		0.23226D-01	
13	830726.201127040	0.40681E+00.	-0.23331E+00.	4286	0.35930E+03.	-0.23041E+00.	4646	-0.23843D+00	0.23923D+00	361
	830726.215018048	0.26400E+03.	-0.29340E+00.	4550	0.23623E+03.	-0.19397E+00.	4522		0.19612D-01	
14	830726.215018048	0.29117E+00.	-0.23586E+00.	4647	0.35918E+03.	-0.22967E+00.	5007	-0.23451D+00	0.23544D+00	361
	830726.232909056	0.31249E+03.	-0.30533E+00.	4961	0.33036E+03.	-0.17536E+00.	4978		0.20916D-01	
15	830726.232909056	0.17577E+00.	-0.23721E+00.	5008	0.35907E+03.	-0.23740E+00.	5369	-0.24113D+00	0.24172D+00	362
	830727.010800064	0.23303E+03.	-0.28891E+00.	5242	0.25187E+03.	-0.18829E+00.	5261		0.16924D-01	
16	830727.010800064	0.59891E-01.	-0.24734E+00.	5370	0.35994E+03.	-0.2488[illegible]E+00.	5732	-0.23318D+00	0.23413D+00	363
	830727.024707456	0.27495E+03.	-0.28929E+00.	5646	0.31126E+03.	-0.17819E+00.	5683		0.21049D-01	
17	830727.024707456	0.93506E+00.	-0.25200E+00.	5733	0.35982E+03.	-0.23438E+00.	6093	-0.24518D+00	0.24593D+00	361
	830727.042558464	0.26452E+03.	-0.29960E+00.	5997	0.10350E+03.	-0.20443E+00.	5836		0.19182D-01	
18	830727.042558464	0.81160E+00.	-0.25945E+00.	6094	0.35969E+03.	-0.25453E+00.	6455	-0.24766D+00	0.24873D+00	362
	830727.060449472	0.30506E+03.	-0.30565E+00.	6400	0.12429E+03.	-0.20432E+00.	6218		0.23074D-01	
19	830727.060449472	0.68794E+00.	-0.24528E+00.	6456	0.29544E+02.	-0.24699E+00.	6485	-0.23928D+00	0.23952D+00	30
	830727.061244608	0.66555E+01.	-0.25772E+00.	6462	0.19590E+02.	-0.19723E+00.	6475		0.10896D-01	

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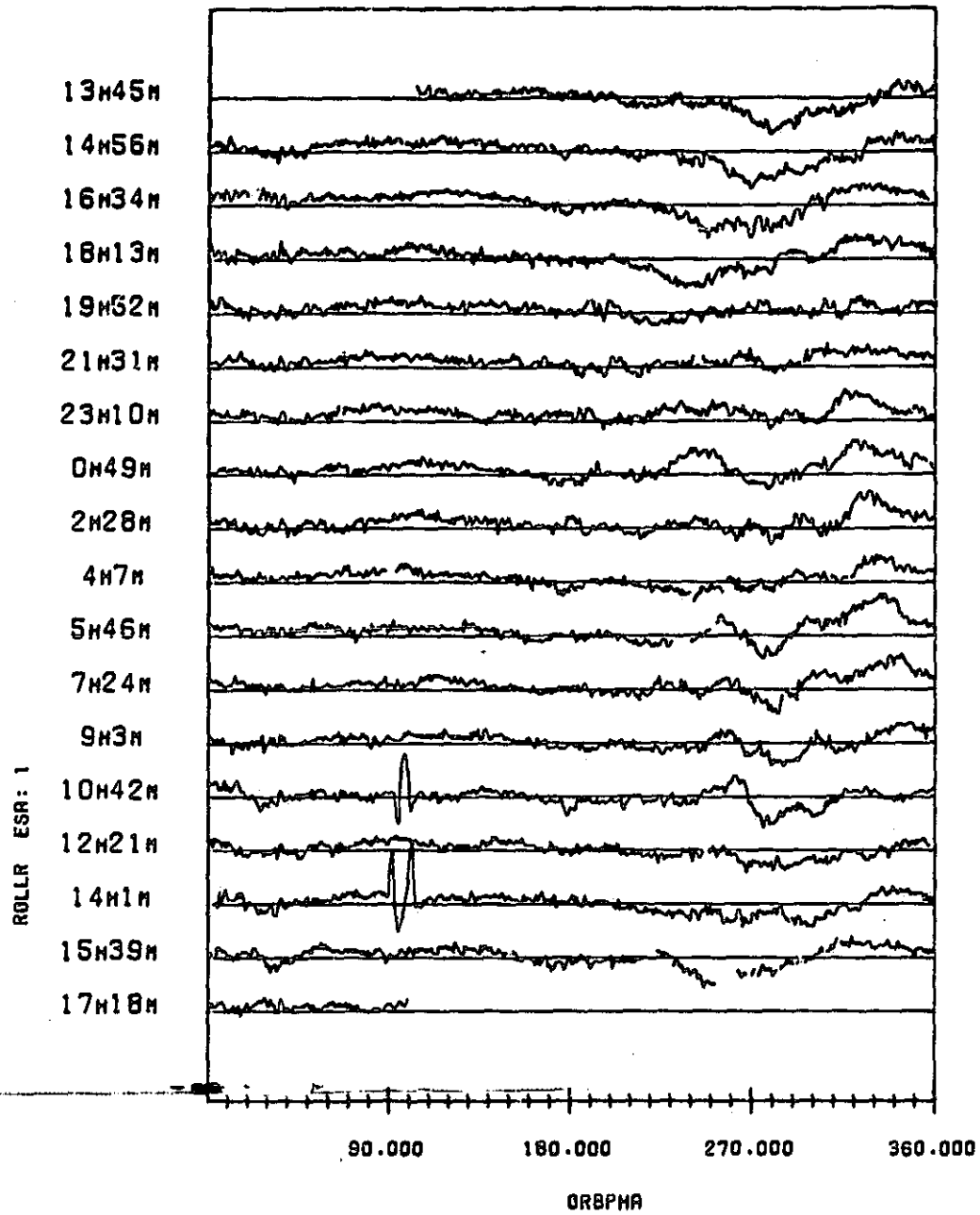

SENSOR 1 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK -0.25 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830806.134523196
END TIME:830807.174517564

FIGURE C-23. Sensor One Roll Residuals for Consecutive Orbits

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TABLE C-23. Data Statistics by Orbit

ORBIT	TIME START/END	(V,V,REC) AT MIN V/V			(V,V,REC) AT MAX V/V			MEAN V	V-RMS/STDV	POINTS
1	830806.134523196	0.10331E+03,	-0.21711E+00,	1	0.35964E+03,	-0.22906E+00,	259	-0.25919D+00	0.26097D+00	259
	830806.145606552	0.27822E+03,	-0.34905E+00,	177	0.34175E+03,	-0.20240E+00,	241		0.30473D-01	
2	830806.145606652	0.63222E+00,	-0.23506E+00,	260	0.35951E+03,	-0.23802E+00,	619	-0.25035D+00	0.25232D+00	360
	830806.163457660	0.26917E+03,	-0.35371E+00,	528	0.34063E+03,	-0.19600E+00,	800		0.31504D-01	
3	830806.163457660	0.50848E+00,	-0.21719E+00,	620	0.35939E+03,	-0.23291E+00,	979	-0.24156D+00	0.24373D+00	360
	830806.181348668	0.26905E+03,	-0.34074E+00,	890	0.33256E+03,	-0.18942E+00,	954		0.32502D-01	
4	830806.181348668	0.38517E+00,	-0.20440E-00,	980	0.35927E+03,	-0.21823E+00,	1341	-0.24441D+00	0.24626D+00	362
	830806.195239676	0.23719E+03,	-0.33086E+00,	1218	0.32648E+03,	-0.18275E+00,	1308		0.30121D-01	
5	830806.195239676	0.26517E+00,	-0.22922E+00,	1342	0.35916E+03,	-0.23315E+00,	1702	-0.23861D+00	0.23920D+00	361
	830806.213130684	0.22318E+03,	-0.28462E+00,	1565	0.10581E+03,	-0.20115E+00,	1448		0.16916D-01	
6	830806.213130684	0.15048E+00,	-0.23132E+00,	1703	0.35904E+03,	-0.22662E+00,	2060	-0.23168D+00	0.23229D+00	358
	830806.231021692	0.18532E+03,	-0.27689E+00,	1888	0.30640E+03,	-0.18537E+00,	2007		0.16784D-01	
7	830806.231021692	0.36017E-01,	-0.23439E+00,	2061	0.35992E+03,	-0.23270E+00,	2422	-0.22763D+00	0.22836D+00	362
	830807.004929084	0.27951E+03,	-0.27365E+00,	2340	0.31522E+03,	-0.16201E+00,	2377		0.18322D-01	
8	830807.004929084	0.91605E+00,	-0.24308E+00,	2423	0.35981E+03,	-0.23650E+00,	2783	-0.23196D+00	0.23345D+00	361
	830807.022820092	0.27839E+03,	-0.28929E+00,	2702	0.31907E+03,	-0.15549E+00,	2743		0.26350D-01	
9	830807.022820092	0.79971E+00,	-0.23213E+00,	2784	0.35968E+03,	-0.22057E+00,	3145	-0.23506D+00	0.23629D+00	362
	830807.040711100	0.27926E+03,	-0.29371E+00,	3064	0.32689E+03,	-0.14650E+00,	3112		0.24082D-01	
10	830807.040711100	0.67772E+00,	-0.22502E+00,	3146	0.35956E+03,	-0.21939E+00,	3498	-0.23830D+00	0.23936D+00	353
	830807.054602108	0.24145E+03,	-0.30161E+00,	3383	0.33074E+03,	-0.17348E+00,	3469		0.22496D-01	
11	830807.054602108	0.55453E+00,	-0.21697E+00,	3499	0.35944E+03,	-0.22814E+00,	3847	-0.23278D+00	0.23483D+00	349
	830807.072453116	0.27604E+03,	-0.31570E+00,	3763	0.33459E+03,	-0.13162E+00,	3822		0.30992D-01	
12	830807.072453116	0.43448E+00,	-0.21989E+00,	3848	0.35932E+03,	-0.22218E+00,	4208	-0.23560D+00	0.23696D+00	361
	830807.090344124	0.28285E+03,	-0.31939E+00,	4132	0.34342E+03,	-0.15263E+00,	4192		0.25405D-01	
13	830807.090344124	0.31784E+00,	-0.23429E+00,	4209	0.35921E+03,	-0.20944E+00,	4570	-0.24577D+00	0.24678D+00	362
	830807.104235132	0.28573E+03,	-0.31382E+00,	4496	0.34728E+03,	-0.19340E+00,	4558		0.22406D-01	
14	830807.104235132	0.20308E+00,	-0.20998E+00,	4571	0.35909E+03,	-0.22[illegible]9E-00,	4932	-0.25078D+00	0.25214D+00	362
	830807.122126140	0.27569E+03,	-0.33684E+00,	4848	0.97781E+02,	-0.12623E+00,	4669		0.26184D-01	
15	830807.122126140	0.88791E-01,	-0.22770E+00,	4933	0.35699E+03,	-0.23853E+00,	5292	-0.24941D+00	0.25028D+00	360
	830807.140122684	0.26765E+03,	-0.31116E+00,	5202	0.93680E+02,	-0.20657E-00,	5027		0.20843D-01	
16	830807.140122684	0.39497E+01,	-0.24819E+00,	5293	0.35985E+03,	-0.22682E+00,	5651	-0.24920D+00	0.25097D+00	359
	830807.153924540	0.94556E+02,	-0.32554E+00,	5384	0.10153E+03,	-0.77266E-01,	5391		0.29729D-01	
17	830807.153924540	0.84416E+00,	-0.23973E+00,	5652	0.35973E+03,	-0.22578E+00,	5988	-0.24586D+00	0.24718D+00	337
	830807.171815548	0.24657E+03,	-0.33357E+00,	5890	0.31899E+03,	-0.18990E+00,	5947		0.25574D-01	
18	830807.171815548	0.72057E+00,	-0.23919E+00,	5989	0.99289E+02,	-0.21463E+00,	6088	-0.23630D+00	0.23651D+00	100
	830807.174517564	0.16635E+02,	-0.26243E+00,	6005	0.28578E+02,	-0.20997E+00,	6017		0.10152D-01	

TABLE C-24. Summary Statistics for the Period from 8/10/82 to 8/6/83

ROLLR ESA: 1

SEGMENT NUMBER	SEGMENT[1] DATE	MEAN FULL ORBIT AVERAGE	p-p	σ	NO. OF ORBITS
1	8/10/82	-0.2338	0.0299	0.0109	8
2	9/8/82	-0.2754	0.0194	0.0057	11
3	9/22/82	-0.2419	0.0319	0.0108	8
4	10/5/82	-0.2460	0.0422	0.0153	8
5	10/20/82	-0.2466	0.0440	0.0143	11
6	11/2/82	-0.2380	0.0210	0.0068	9
7	11/16/82	-0.2431	0.0235	0.0086	8
8	12/1/82	-0.2465	0.0416	0.0105	13
9	12/14/82	-0.2745	0.0165	0.0064	6
10	12/28/82	-0.2823	0.0278	0.0102	8
11	1/19/83	-0.2442	0.0310	0.0132	12
12	2/2/83	-0.2546	0.0392	0.0112	14
13	3/3/83	-0.2330	0.0368	0.0115	13
14	3/14/83	-0.2388	0.0374	0.0127	12
15	3/29/83	-0.2577	0.0420	0.0133	12
16	4/14/83	-0.2543	0.0266	0.0069	16
17	4/26/83	-0.2562	0.0232	0.0061	15
18	5/23/83	-0.2540	0.0269	0.0077	15
19	6/6/83	-0.2483	0.0234	0.0069	16
20	6/21/83	-0.2559	0.0250	0.0071	13
21	7/6/83	-0.2503	0.0211	0.0070	12
22	7/26/83	-0.2414	0.0186	0.0058	17
23	8/6/83	-0.2407	0.0232	0.0077	14

1 Segment date refers to the start date of each segment. Each segment is approximately 24 hours in length.

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APPENDIX D

This appendix contains plots and statistics for sensor 2 roll residual versus orbit phase from the ascending node for all orbits in 23 data segments. The 23 segments are presented in sequence from the earliest segment to the most recent. Figures D-1 through D-23 provide plots and Tables D-1 through D-23 provide tables of statistics computed by orbit for each segment. Tables D-1 through D-23 are organized vertically by orbit number and horizontally into the following six columns:

(1)	ORBIT TIME START/END:	Orbit start and end times in the format YYMMDD.HHMMSSMMM, where: YY... Year MM... Month DD... Day HH... Hours MM... Minutes SS... Seconds MMM... Milliseconds
(2)	(X,Y,REC) AT MIN X/Y:	Provides the coordinates — orbit phase (X), residual value (Y), and record number (REC) — at which the minimum values occur. The upper line gives the minimum orbit phase (X) coordinates and the lower line gives the minimum residual value (Y) coordinates for each orbit.
(3)	(X,Y,REC) AT MAX X/Y:	Same as (2) except maximum rather than minimum values
(4)	MEAN Y:	Full-orbit average of roll residual.
(5)	Y-RMS/STDV:	For each orbit, the upper value is the root mean square of roll residual and the lower value, the standard deviation.
(6)	POINTS:	The number of points contained in each orbit.

Table D-24 provides mean, peak-to-peak and standard deviation of full orbit average roll residual for each segment. Note that only orbits with at least 350 data points were used in compiling these statistics for each segment. The number of orbits used is provided.

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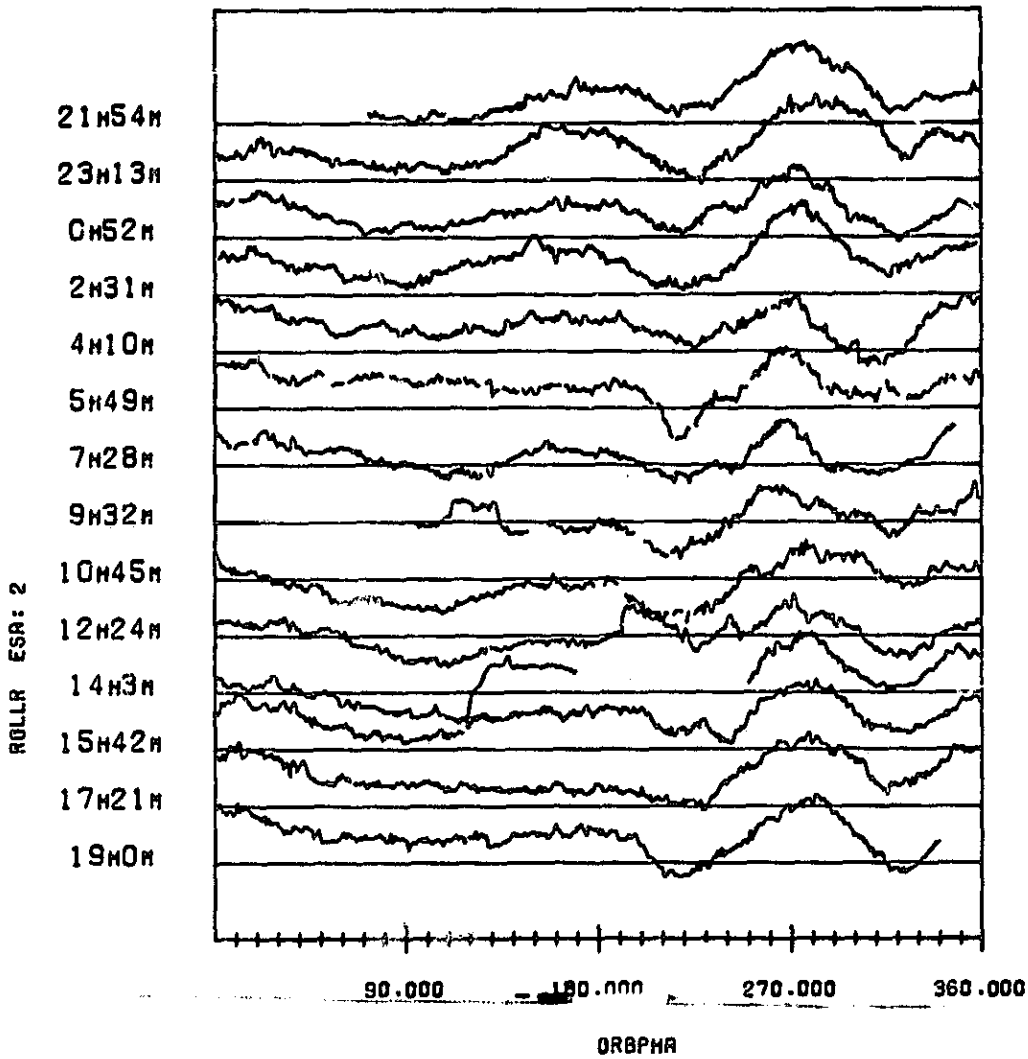

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820810.215426522
END TIME:820811.203329690

FIGURE D-1. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-1. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	820810.215426522	0.72118E+02,	0.26392E-01,	1	0.35933E+03,	0.83585E-01,	289	0.75711D-01	0.92959D-01	289
	820810.231337882	0.97045E+02,	-0.43754E-02,	21	0.27692E+03,	0.21486E+00,	206		0.54031D-01	
2	820810.231337882	0.32249E+00,	0.64077E-01,	290	0.35921E+03,	0.85979E-01,	651	0.90609D-01	0.10485D+00	362
	820811.005228890	0.22820E+03,	-0.95733E-02,	519	0.28176E+03,	0.22686E+00,	573		0.52838D-01	
3	820811.005228890	0.20319E+00,	0.85839E-01,	652	0.35909E+03,	0.77540E-01,	1011	0.67890D-01	0.78864D-01	360
	820811.023119898	0.32132E+03,	-0.11975E-01,	973	0.27172E+03,	0.18976E+00,	923		0.40340D-01	
4	820811.023119898	0.81257E-01,	0.91900E-01,	1012	0.35995E+03,	0.14770E+00,	1372	0.92311D-01	0.10428D+00	361
	820811.041027290	0.22002E+03,	0.82821E-02,	1232	0.27556E+03,	0.24488E+00,	1288		0.48581D-01	
5	820811.041027290	0.94857E+00,	0.13251E+00,	1373	0.35983E+03,	0.12760E+00,	1730	0.68497D-01	0.78949D-01	358
	820811.054918298	0.30618E+03,	-0.40983E-01,	1677	0.35187E+03,	0.15170E+00,	1722		0.39304D-01	
6	820811.054918298	0.82069E+00,	0.11555E+00,	1731	0.35970E+03,	0.92410E-01,	2059	0.62083D-01	0.74439D-01	329
	820811.072809306	0.21678E+03,	-0.81093E-01,	1929	0.26539E+03,	0.15949E+00,	1975		0.41133D-01	
7	820811.072809306	0.69661E-00,	0.86184E-01,	2060	0.34765E+03,	0.10326E+00,	2404	0.21820D-01	0.42689D-01	348
	820811.093256794	0.21567E+03,	-0.47801E-01,	2271	0.26527E+03,	0.11898E+00,	2331		0.36744D-01	
8	820811.093256794	0.95184E+02,	-0.42932E-02,	2405	0.35847E+03,	0.60269E-01,	2657	0.72564D-03	0.44591D-01	253
	820811.104551322	0.21853E+03,	-0.97962E-01,	2515	0.35648E+03,	0.10575E+00,	2655		0.44185D-01	
9	820811.104551322	0.45643E-00,	0.70624E-01,	2658	0.35934E+03,	0.19336E-01,	3007	-0.15520D-01	0.49385D-01	350
	820811.122442330	0.22139E+03,	-0.11286E+00,	2870	0.27693E+03,	0.10151E+00,	2924		0.46950D-01	
10	820811.122442330	0.33782E+00,	0.31335E-01,	3008	0.35922E+03,	0.32733E-01,	3369	0.28347D-03	0.40103D-01	362
	820811.140333338	0.10989E+03,	-0.80625E-01,	3118	0.27086E+03,	0.10855E+00,	3280		0.40157D-01	
11	820811.140333338	0.21582E+00,	0.39889E-01,	3370	0.35909E+03,	0.96333E-01,	3651	0.33659D-01	0.68063D-01	282
	820811.154224346	0.11474E+03,	-0.81784E-01,	3485	0.27371E+03,	0.16139E-00,	3565		0.59263D-01	
12	820811.154224346	0.89517E-01,	0.10568E+00,	3652	0.35996E+03,	0.13958E+00,	4013	0.85813D-01	0.94302D-01	362
	820811.172131738	0.24185E+03,	0.15240E-01,	3894	0.28151E+03,	0.18543E+00,	3934		0.39157D-01	
13	820811.172131738	0.95600E+00,	0.13207E+00,	4014	0.35983E+03,	0.14759E+00,	4374	0.80482D-01	0.93768D-01	361
	820811.190022746	0.22882E+03,	-0.11884E-01,	4242	0.27841E+03,	0.19509E+00,	4292		0.48181D-01	
14	820811.190022746	0.82974E+00,	0.14824E+00,	4375	0.33983E+03,	0.53509E-01,	4716	0.68879D-01	0.84076D-01	342
	820811.203329690	0.21878E+03,	-0.39181E-01,	4594	0.28127E+03,	0.18091E+00,	4657		0.48284D-01	

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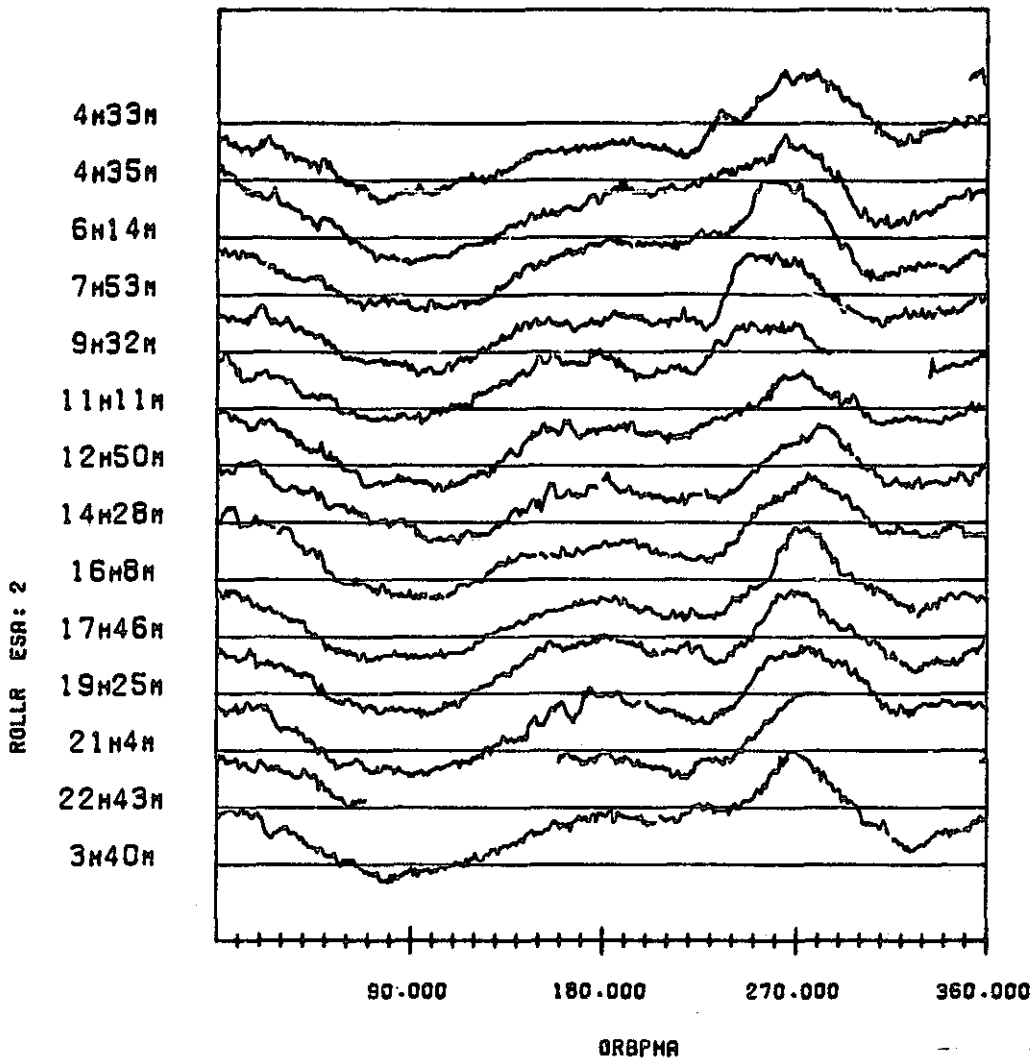

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820908.043319559
END TIME:820909.051248519

FIGURE D-2. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-2. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	820908.043319559	0.35183E+03.	0.11576E+00.	1	0.35979E+03.	0.12095E+00.	9	0.12522D+00	0.12575D+00	9
	820908.043547015	0.35879E+03.	0.10219E+00.	8	0.35780E+03.	0.14300E+00.	7		0.12293D-01	
2	820908.043547015	0.78028E+00.	0.10886E+00.	10	0.35965E+03.	0.17449E+00.	370	0.95549D-01	0.12732D+00	361
	820908.061438023	0.74436E+02.	-0.59381E-01.	84	0.27923E+03.	0.29262E-00.	290		0.84259D-01	
3	820908.061438023	0.64770E+00.	0.17442E+00.	371	0.35952E+03.	0.11554E+00.	731	0.83857D-01	0.11985D+00	361
	820908.075329031	0.89246E+02.	-0.68444E-01.	459	0.26422E+03.	0.27294E+00.	635		0.80040D-01	
4	820908.075329031	0.51890E+00.	0.11624E+00.	732	0.35940E+03.	0.10509E+00.	1090	0.91866D-01	0.12491D+00	359
	820908.093220039	0.97086E-02.	-0.44725E-01.	828	0.25417E+03.	0.30000E+00.	985		0.84756D-01	
5	820908.093220039	0.39327E-00.	0.98513E-01.	1091	0.35927E+03.	0.14726E+00.	1452	0.80831D-01	0.11069D+00	362
	820908.111111047	0.92975E+02.	-0.64151E-01.	1184	0.26000E+03.	0.26067E+00.	1352		0.75719D-01	
6	820908.111111047	0.26878E+00.	0.13964E+00.	1453	0.35915E+03.	0.13938E-00.	1767	0.91478D-01	0.11547D+00	315
	820908.125002055	0.94842E+02.	-0.39864E-01.	1548	0.26286E+03.	0.22785E+00.	1717		0.70579D-01	
7	820908.125002055	0.14426E+00.	0.13784E+00.	1768	0.35902E+03.	0.15492E+00.	2129	0.85162D-01	0.11479D+00	362
	820908.142853063	0.10467E+03.	-0.67350E-01.	1873	0.27265E+03.	0.24796E+00.	2042		0.77074D-01	
8	820908.142853063	0.15521E-01.	0.14747E+00.	2130	0.35988E+03.	0.15746E+00.	2488	0.84944D-01	0.11095D+00	359
	820908.160800455	0.11251E+03.	-0.55556E-01.	2243	0.28045E-03.	0.26086E+00.	2409		0.71471D-01	
9	820908.160800455	0.87682E-00.	0.14853E+00.	2485	0.35975E+03.	0.10790E+00.	2845	0.92330D-01	0.12226D+00	357
	820908.174651463	0.10242E+03.	-0.52711E-01.	2589	0.27536E+03.	0.28149E+00.	2760		0.80256D-01	
10	820908.174651463	0.74347E+00.	0.12174E+00.	2846	0.35962E+03.	0.95437E-01.	3206	0.69780D-01	0.10718D+00	361
	820908.192542471	0.69417E+02.	-0.63674E-01.	2915	0.26927E+03.	0.29052E+00.	3116		0.81469D-01	
11	820908.192542471	0.61234E+00.	0.10843E-00.	3207	0.35949E+03.	0.14640E+00.	3564	0.89233D-01	0.11952D+00	358
	820908.210433479	0.95183E+02.	-0.62506E-01.	3302	0.26816E+03.	0.27530E+00.	3474		0.79628D-01	
12	820908.210433479	0.48423E+00.	0.11709E+00.	3565	0.35937E+03.	0.11274E+00.	3924	0.90338D-01	0.12721D+00	360
	820908.224324487	0.91072E+02.	-0.69670E-01.	3656	0.27200E+03.	0.28062E+00.	3836		0.89683D-01	
13	820908.224324487	0.35983E+00.	0.12624E+00.	3925	0.35998E+03.	0.13153E+00.	4126	0.13377D+00	0.15268D+00	202
	820909.034013895	0.62063E+02.	-0.10198E-02.	3987	0.27076E+03.	0.30000E+00.	4107		0.73782D-01	
14	820909.034013895	0.97464E+00.	0.12623E-00.	4127	0.35985E+03.	0.12220E+00.	4486	0.97311D-01	0.12425D+00	360
	820909.051848519	0.79609E+02.	-0.48302E-01.	4206	0.26653E+03.	0.30000E+00.	4393		0.77370D-01	

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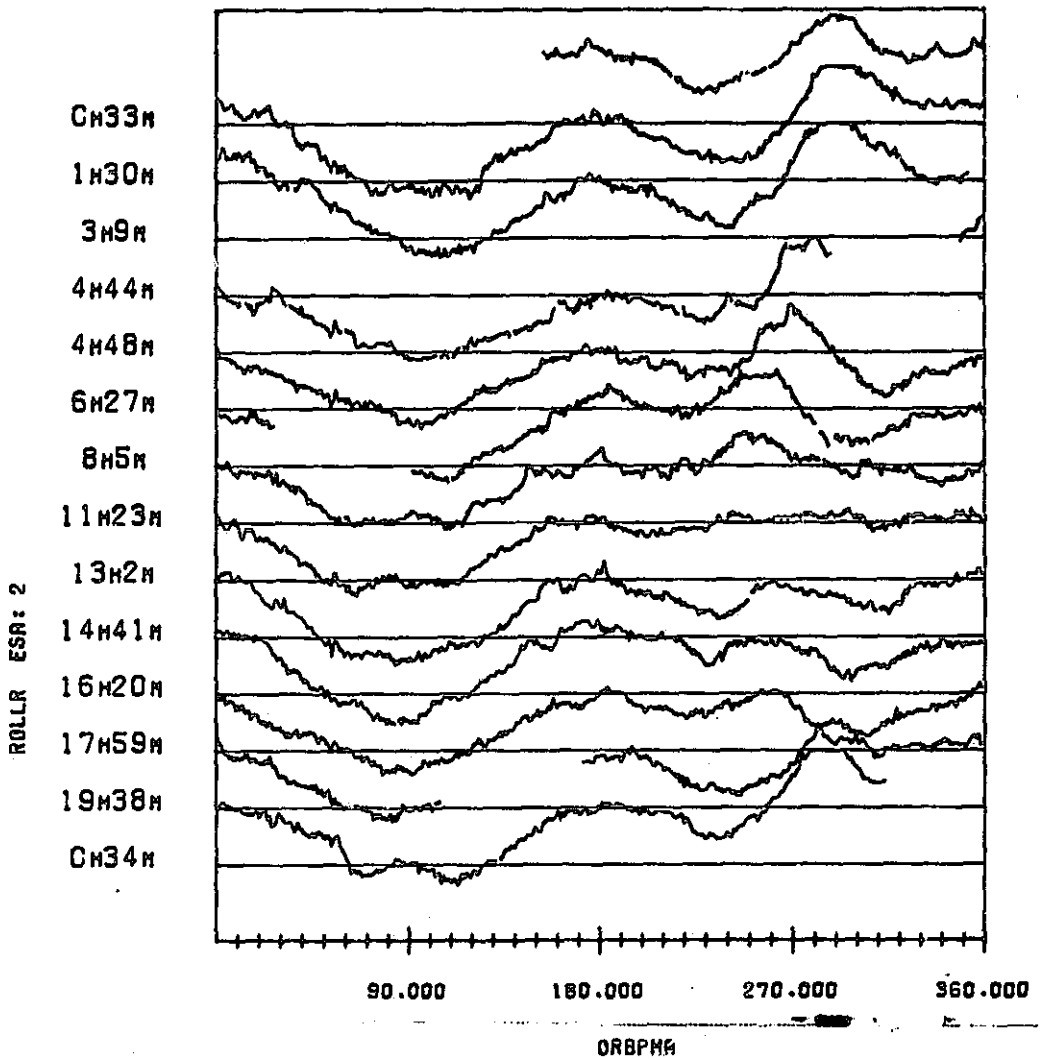

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:820922.003327683
END TIME:820923.020043395

FIGURE D-3. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-3. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	820922.003327683	0.15319E+03.	0.18906E+00.	1	0.35975E+03.	0.22654E+00.	206	0.17887D+00	0.18549D+00	206
	820922.013031939	0.22775E+03.	0.78017E-01.	75	0.29223E+03.	0.28791E+00.	138		0.49216D-01	
2	820922.013031939	0.74076E+00.	0.21387E+00.	207	0.35962E+03.	0.20754E+00.	568	0.12062D+00	0.15206D+00	362
	820922.030922947	0.11921E+03.	-0.46312E-01.	326	0.28318E+03.	0.30000E+00.	491		0.92710D-01	
3	820922.030922947	0.61617E+00.	0.21081E+00.	569	0.35253E+03.	0.16941E+00.	921	0.11609D+00	0.14767D+00	353
	820922.044457347	0.10913E+03.	-0.48812E-01.	676	0.28206E+03.	0.30000E+00.	850		0.91385D-01	
4	820922.044457347	0.34856E+03.	0.14053E+00.	922	0.35949E+03.	0.20471E+00.	933	0.17367D+00	0.17466D+00	12
	820922.044813955	0.34856E+03.	0.14053E+00.	922	0.35949E+03.	0.20471E+00.	933		0.19406D-01	
5	820922.044813955	0.48643E+00.	0.17735E+00.	934	0.35936E+03.	0.14811E+00.	1214	0.10406D+00	0.12884D+00	281
	820922.062704963	0.90072E+02.	-0.22856E-01.	1020	0.27796E+03.	0.30000E+00.	1202		0.76107D-01	
6	820922.062704963	0.35881E+00.	0.15781E+00.	1215	0.35924E+03.	0.14031E+00.	1576	0.92763D-01	0.11383D+00	362
	820922.080955971	0.95923E+02.	-0.52300E-01.	1311	0.26891E+03.	0.27568E+00.	1485		0.66063D-01	
7	820922.080955971	0.23474E+00.	0.14807E+00.	1577	0.35999E+03.	0.14975E+00.	1870	0.12068D+00	0.13862D+00	294
	820922.112354371	0.10863E+03.	-0.40629E-01.	1622	0.26272E+03.	0.25434E+00.	1776		0.68313D-01	
8	820922.112354371	0.98759E+00.	0.15400E+00.	1871	0.35987E+03.	0.16279E+00.	2228	0.11286D+00	0.12931D+00	358
	820922.130245379	0.10751E+03.	-0.17716E-01.	1977	0.24871E+03.	0.24144E+00.	2117		0.63191D-01	
9	820922.130245379	0.86686E+00.	0.16446E+00.	2229	0.35975E+03.	0.14747E+00.	2589	0.10754D+00	0.12582D+00	361
	820922.144136387	0.65552E+02.	-0.40958E-01.	2294	0.35378E+03.	0.18651E+00.	2583		0.65401D-01	
10	820922.144136387	0.74189E+00.	0.15808E+00.	2590	0.35962E+03.	0.16173E+00.	2948	0.76395D-01	0.10367D+00	359
	820922.162027395	0.83352E+02.	-0.71750E-01.	2673	0.18192E+03.	0.19840E+00.	2772		0.70182D-01	
11	820922.162027395	0.61275E+00.	0.16582E+00.	2949	0.35949E+03.	0.13305E+00.	3309	0.86072D-01	0.11224D+00	361
	820922.175918403	0.79237E+02.	-0.80740E-01.	3028	0.17283E+03.	0.19568E+00.	3121		0.72142D-01	
12	820922.175918403	0.48375E+00.	0.14013E+00.	3310	0.35936E+03.	0.16347E+00.	3671	0.73095D-01	0.95116D-01	362
	820922.193809411	0.91062E+02.	-0.63682E-01.	3401	0.35737E+03.	0.17961E+00.	3669		0.60946D-01	
13	820922.193809411	0.35724E+00.	0.18447E-00.	3672	0.35999E+03.	0.16514E+00.	3967	0.10077D+00	0.12117D+00	296
	820923.003458819	0.81973E+02.	-0.36517E-01.	3754	0.28891E+03.	0.23404E+00.	3895		0.67410D-01	
14	820923.003458819	0.98536E+00.	0.14988E+00.	3968	0.31319E+03.	0.22084E+00.	4281	0.10864D+00	0.14137D+00	314
	820923.020043395	0.11348E+03.	-0.54874E-01.	4081	0.27847E+03.	0.30000E+00.	4246		0.90608D-01	

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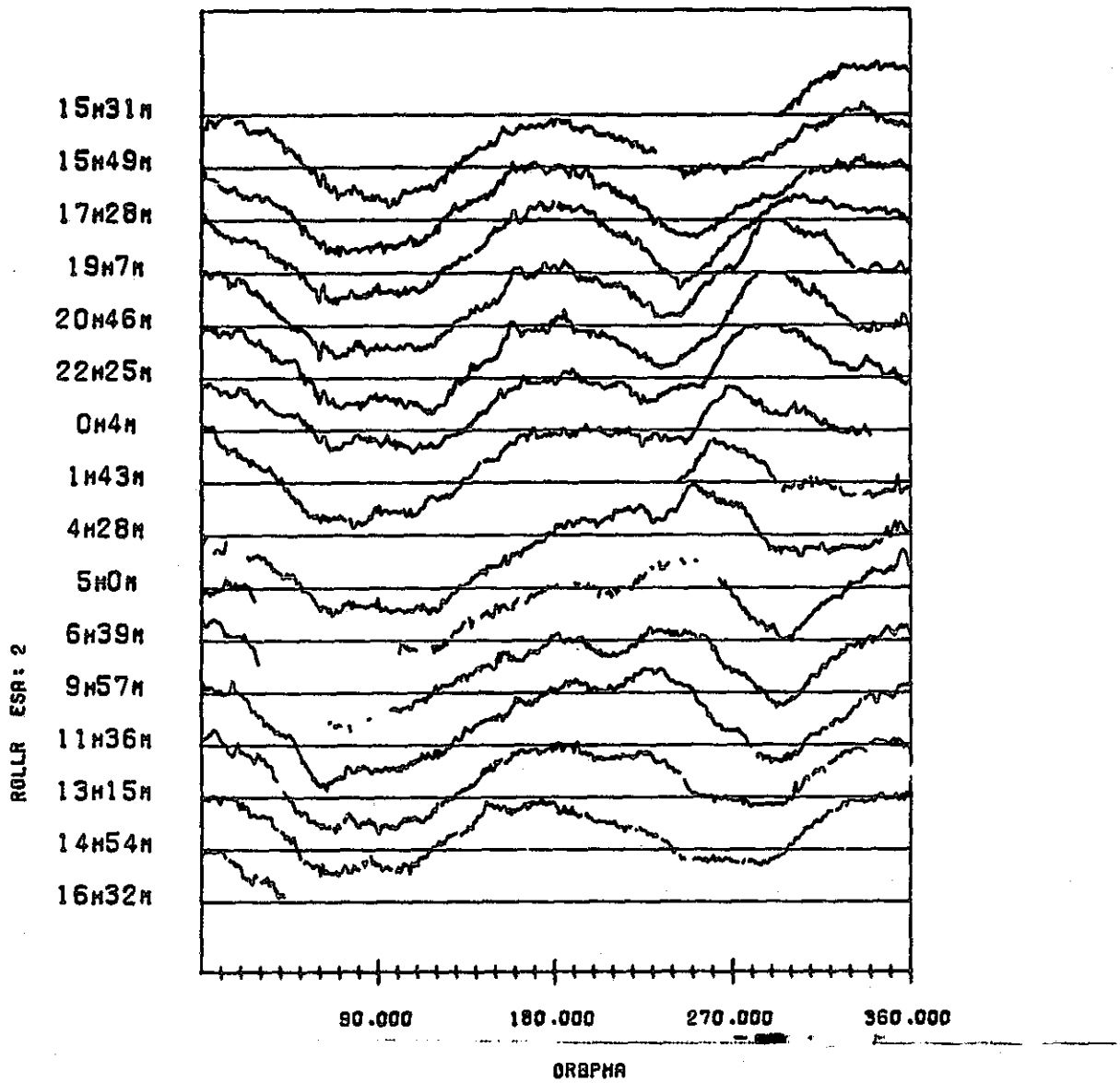

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821005.159123435
END TIME:821006.164427194

FIGURE D-4. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-4. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	821005.153123435	0.29399E+03.	0.19492E-02.	1	0.35952E+03.	0.12402E+00.	67	0.10551D+00	0.11403D+00	67
	821005.154941163	0.29399E+03.	0.19492E-02.	1	0.34262E+03.	0.15264E+00.	50		0.43573D-01	
2	821005.154941163	0.50978E+00.	0.11668E+00.	68	0.35938E+03.	0.11884E+00.	421	0.52075D-01	0.92431D-01	354
	821005.172832171	0.95077E+02.	-0.11306E+00.	162	0.33553E+03.	0.18545E+00.	397		0.76474D-01	
3	821005.172832171	0.37226E+00.	0.11893E+00.	422	0.35924E+03.	0.13988E+00.	782	0.52052D-01	0.96413D-01	361
	821005.190723179	0.70037E+02.	-0.10110E+00.	492	0.33639E+03.	0.18522E+00.	759		0.81267D-01	
4	821005.190723179	0.23648E+00.	0.14177E+00.	783	0.35911E+03.	0.14077E+00.	1142	0.84330D-01	0.12472D+00	360
	821005.204614202	0.68907E+02.	-0.88150E-01.	852	0.30648E+03.	0.22450E+00.	1089		0.92023D-01	
5	821005.204614202	0.10634E+00.	0.15265E+00.	1143	0.35997E+03.	0.15585E+00.	1504	0.95181D-01	0.14219D+00	362
	821005.222521594	0.59813E+02.	-0.97427E-01.	1203	0.28651E+03.	0.30000E+00.	1431		0.10578D+00	
6	821005.222521594	0.96360E+00.	0.13741E+00.	1505	0.35984E+03.	0.12901E+00.	1866	0.92909D-01	0.14149D+00	362
	821006.000412602	0.11546E+03.	-0.10234E+00.	1620	0.28341E+03.	0.30000E+00.	1789		0.10685D+00	
7	821006.000412602	0.83518E+00.	0.13021E+00.	1867	0.35971E+03.	0.14546E+00.	2227	0.10974D+00	0.14833D+00	361
	821006.014303610	0.10736E+03.	-0.64061E-01.	1974	0.27733E+03.	0.30000E+00.	2145		0.99925D-01	
8	821006.014303610	0.70559E+00.	0.15402E+00.	2228	0.33971E+03.	0.13297E+00.	2564	0.83583D-01	0.13898D+00	337
	821006.042815930	0.77343E+02.	-0.13006E+00.	2304	0.26827E+03.	0.27684E+00.	2493		0.11120D+00	
9	821006.042815930	0.24235E+03.	0.15265E+00.	2565	0.35944E+03.	0.13664E+00.	2673	0.17037D+00	0.17771D+00	109
	821006.050045626	0.34056E+03.	0.10642E+00.	2654	0.26020E+03.	0.27480E+00.	2582		0.50792D-01	
10	821006.050045626	0.43342E+00.	0.12902E+00.	2674	0.35930E+03.	0.15187E+00.	3022	0.10036D+00	0.14376D+00	349
	821006.063936634	0.66118E+02.	-0.78281E-01.	2728	0.25015E+03.	0.29713E+00.	2913		0.10308D+00	
11	821006.063936634	0.29822E+00.	0.14362E+00.	3023	0.35904E+03.	0.21064E+00.	3252	0.11460D+00	0.13461D+00	240
	821006.095718650	0.11267E+03.	-0.39124E-01.	3062	0.35606E+03.	0.25733E+00.	3259		0.70762D-01	
12	821006.095718650	0.36834E-01.	0.21482E+00.	3263	0.35991E+03.	0.16890E+00.	3576	0.90045D-01	0.11980D+00	314
	821006.113626042	0.77675E+02.	-0.10973E+00.	3307	0.60023E+01.	0.21507E+00.	3269		0.79150D-01	
13	821006.113626042	0.90263E+00.	0.17496E+00.	3577	0.35978E+03.	0.17089E+00.	3934	0.66971D-01	0.11588D+00	358
	821006.131517050	0.63600E+02.	-0.12942E+00.	3640	0.22582E+03.	0.22126E+00.	3803		0.94696D-01	
14	821006.131517050	0.77314E+00.	0.16451E+00.	3935	0.35965E+03.	0.13703E+00.	4285	0.53111D-01	0.99155D-01	351
	821006.145408058	0.90364E+02.	-0.10612E+00.	4021	0.57441E+01.	0.19604E+00.	3940		0.83850D-01	
15	821006.145408058	0.63970E+00.	0.15232E+00.	4286	0.35951E+03.	0.16456E+00.	4632	0.50226D-01	0.88807D-01	347
	821006.163259066	0.60345E+02.	-0.75279E-01.	4344	0.35951E+03.	0.16456E+00.	4632		0.73346D-01	
16	821006.163259066	0.50209E+00.	0.13636E+00.	4633	0.42284E+02.	0.15117E-01.	4673	0.92566D-01	0.10249D+00	41
	821006.164427194	0.39298E+02.	0.14615E-01.	4670	0.34844E+01.	0.15600E-00.	4636		0.44544D-01	

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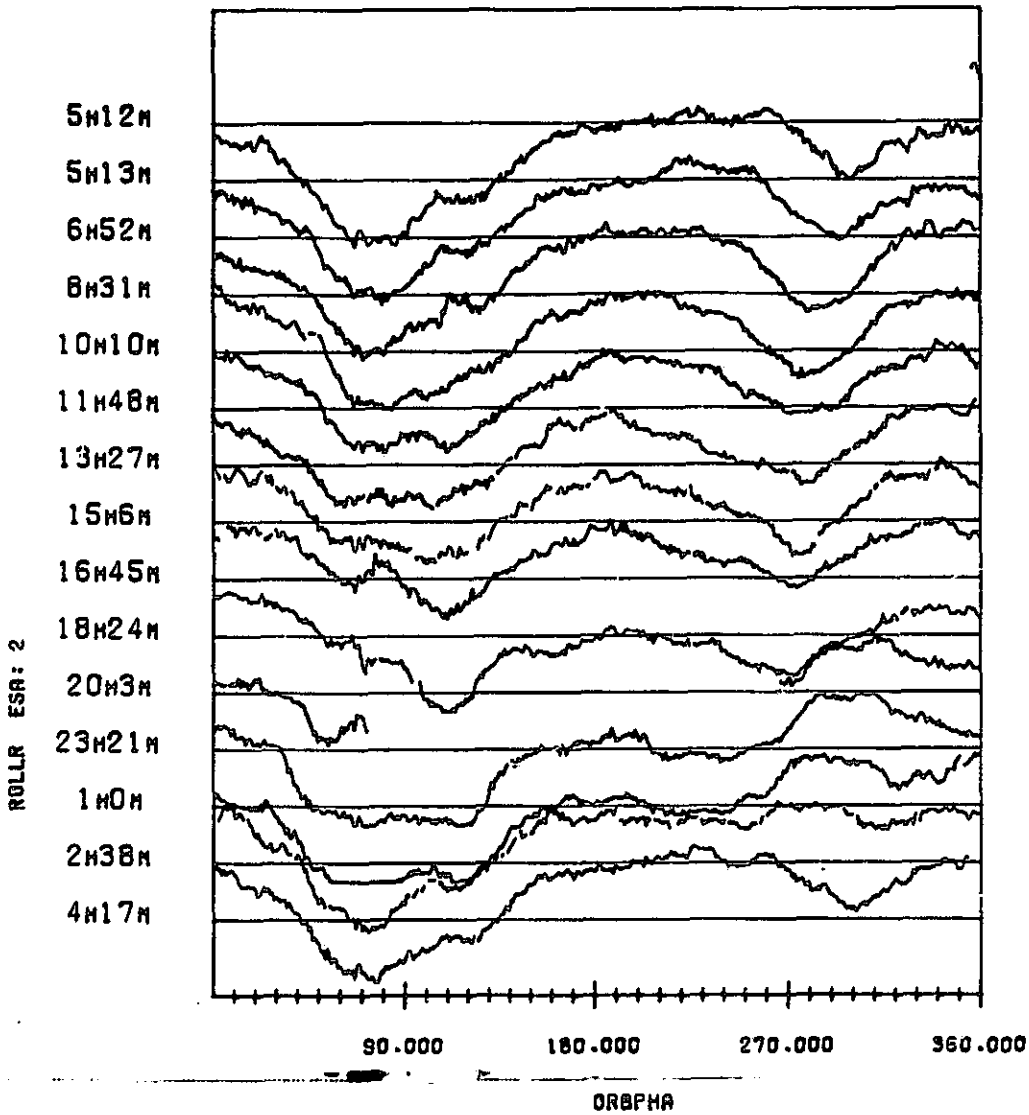

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821020.051211751
END TIME:821021.055456871

FIGURE D-5. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-5. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN V	Y-RMS/STDV	POINTS
1	821020.051211751	0.35601E+03,	0.1[illegible]208E+00,	1	0.35998E+03,	0.10578E+00,	5	0.13775D+00	0.13880D+00	5
	821020.051333671	0.35998E+03,	0.1[illegible]578E+00,	5	0.35800E+03,	0.15257E-00,	3		0.19014D-01	
2	821020.051333671	0.97820E+00,	0.1[illegible]440E+00,	6	0.35986E+03,	0.12052E+00,	367	0.59376D-01	0.11583D+00	362
	821020.065224679	0.66672E+02,	-0.17526E+00,	72	0.22789E+03,	0.19144E+00,	234		0.99595D-01	
3	821020.065224679	0.84988E+00,	0.10657E+00,	368	0.35973E+03,	0.10546E+00,	729	0.59155D-01	0.11228D+00	362
	821020.083115587	0.79497E-02,	-0.17609E+00,	447	0.22379E+03,	0.20991E+00,	592		0.95567D-01	
4	821020.083115587	0.72543E+00,	0.97814E-01,	730	0.35961E+03,	0.16893E+00,	1090	0.56089D-01	0.11233D+00	361
	821020.101006695	0.70405E+02,	-0.17074E+00,	800	0.35166E+03,	0.19087E+00,	1082		0.97459D-01	
5	821020.101006695	0.60228E+00,	0.17900E+00,	10[illegible]	0.35949E+03,	0.14924E+00,	1450	0.40610D-01	0.10308D+00	360
	821020.114857703	0.84230E+02,	-0.15453E+00,	117[illegible]	0.60228E+00,	0.17900E+00,	1091		0.94875D-01	
6	821020.114857703	0.48044E+00,	0.15233E+00,	1451	0.35936E+03,	0.11653E+00,	1812	0.46750D-01	0.93781D-01	362
	821020.132748711	0.80121E+02,	-0.11968E+00,	1531	0.33949E+03,	0.17771E+00,	1792		0.81411D-01	
7	821020.132748711	0.35697E+00,	0.13361E+00,	1813	0.35824E+03,	0.16914E+00,	2166	0.31652D-01	0.84784D-01	354
	821020.150639719	0.10291E+03,	-0.11550E+00,	1915	0.35824E+03,	0.16914E+00,	2166		0.78765D-01	
8	821020.150639719	0.22905E+00,	0.14380E+00,	2167	0.35910E+03,	0.86834E-01,	2504	0.35749D-01	0.83291D-01	338
	821020.164530727	0.99792E+02,	-0.11027E+00,	2262	0.34122E+03,	0.16585E+00,	2486		0.75340D-01	
9	821020.164530727	0.97500E-01,	0.10955E+00,	2505	0.35997E+03,	0.10765E+00,	2860	0.56280D-01	0.84240D-01	356
	821020.182438119	0.10962E+03,	-0.10589E+00,	2610	0.34208E+03,	0.15566E+00,	2842		0.62770D-01	
10	821020.182438119	0.96106E+00,	0.10463E+00,	2861	0.35984E+03,	0.45210E-01,	3216	-0.20489D-01	0.75516D-01	356
	821020.200329127	0.10750E+03,	-0.20000E+00,	2965	0.79212E+01,	0.11620E+00,	2868		0.72786D-01	
11	821020.200329127	0.83428E+00,	0.30743E-01,	3217	0.35960E+03,	0.65500E-01,	3383	0.35460D-01	0.83941D-01	167
	821020.232111143	0.54573E+02,	-0.14131E+00,	3270	0.31094E+03,	0.15054E+00,	3334		0.76312D-01	
12	821020.232111143	0.59568E+00,	0.51222E-01,	3384	0.35948E+03,	0.29098E-01,	3744	-0.19453D-01	0.10565D+00	361
	821021.010002151	0.66287E+02,	-0.20000E+00,	3450	0.30884E+03,	0.15204E+00,	3693		0.10398D+00	
13	821021.010002151	0.47406E+00,	0.26384E-01,	3745	0.35936E+03,	0.13630E+00,	4105	-0.24296D-01	0.10869D+00	361
	821021.023853159	0.58194E+02,	-0.20000E+00,	3803	0.35737E+03,	0.13774E+00,	4103		0.10608D+00	
14	821021.023853159	0.35028E+00,	0.11993E+00,	4106	0.35923E+03,	0.12870E+00,	4440	0.58205D-01	0.11198D+00	335
	821021.041744167	0.73013E+02,	-0.18120E+00,	4174	0.26495E+03,	0.16308E+00,	4351		0.95807D-01	
15	821021.041744167	0.22048E+00,	0.13416E+00,	4441	0.35413E+03,	0.15959E+00,	4796	0.63297D-01	0.11635D+00	356
	821021.055456871	0.76870E+02,	-0.16896E+00,	4518	0.22614E+03,	0.19397E+00,	4657		0.97761D-01	

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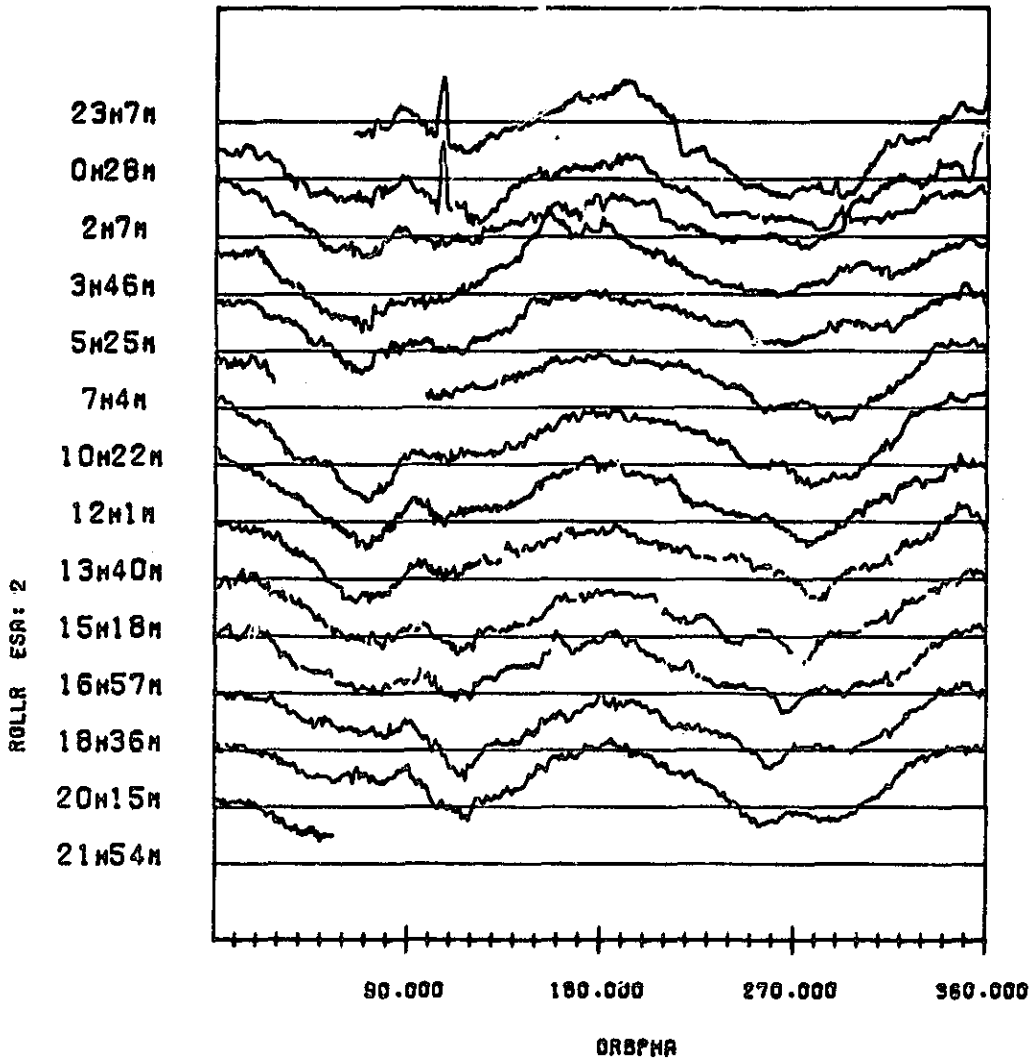

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821102.230736644
END TIME:821103.220936128

FIGURE D-6. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-6. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821102.230736644	0.64203E+02.	-0.31237E-01.	1	0.35939E+03.	0.61675E-01.	298	-0.43004D-01	0.96538D-01	298
	821103.002859076	0.26710E+03.	-0.20000E+00.	205	0.10606E+03.	0.11777E+00.	43		0.86576D-01	
2	821103.002859076	0.38859E+00.	0.76447E-01.	299	0.35928E+03.	0.12795E+00.	658	-0.21192D-01	0.62152D-01	360
	821103.020750084	0.28483E+03.	-0.13469E+00.	583	0.35928E+03.	0.12795E+00.	658		0.58509D-01	
3	821103.020750084	0.27494E+00.	0.13937E-00.	659	0.35916E+03.	0.11370E+00.	1020	0.39709D-01	0.64180D-01	362
	821103.034641092	0.68964E+02.	-0.56823E-01.	728	0.32579E+01.	0.15369E+00.	662		0.50490D-01	
4	821103.034641092	0.15641E+00.	0.11271E+00.	1021	0.35904E+03.	0.12982E+00.	1380	0.60114D-01	0.91352D-01	360
	821103.052532115	0.67850E+02.	-0.10123E+00.	1088	0.15452E+03.	0.22651E+00.	1174		0.68881D-01	
5	821103.052532115	0.35927E-01.	0.13291E+00.	1381	0.35992E+03.	0.12223E+00.	1742	0.75075D-01	0.92705D-01	362
	821103.070439522	0.67732E+02.	-0.59479E-01.	1449	0.35097E+03.	0.17812E+00.	1733		0.54463D-01	
6	821103.070439522	0.91320E+00.	0.13482E+00.	1743	0.35969E+03.	0.16558E+00.	2032	0.79720D-01	0.97123D-01	280
	821103.102221538	0.28821E+03.	-0.40571E-01.	1960	0.35373E+03.	0.18403E+00.	2026		0.55572D-01	
7	821103.102221538	0.68613E+00.	0.17191E+00.	2033	0.35958E+03.	0.19418E+00.	2394	0.57132D-01	0.91704D-01	362
	821103.120112546	0.70377E+02.	-0.98200E-01.	2103	0.35958E+03.	0.19418E+00.	2394		0.71832D-01	
8	821103.120112546	0.57445E+00.	0.18374E+00.	2395	0.35947E+03.	0.15222E+00.	2753	0.60798D-01	0.88518D-01	359
	821103.134003569	0.70264E+02.	-0.72088E-01.	2464	0.15688E+01.	0.19286E+00.	2396		0.64425D-01	
9	821103.134003569	0.46172E+00.	0.14418E+00.	2754	0.35935E+03.	0.12513E+00.	3097	0.63574D-01	0.86925D-01	344
	821103.151854577	0.66163E+02.	-0.61766E-01.	2820	0.34643E+03.	0.20130E+00.	3084		0.59368D-01	
10	821103.151854577	0.34327E+00.	0.13073E+00.	3098	0.35923E+03.	0.15687E+00.	3439	0.54296D-01	0.80361D-01	342
	821103.165745585	0.27486E-03.	-0.68173E-01.	3357	0.35227E+03.	0.17896E+00.	3432		0.59331D-01	
11	821103.165745585	0.22206E+00.	0.15853E-00.	3440	0.35911E+03.	0.16465E+00.	3789	0.67895D-01	0.90209D-01	350
	821103.183536608	0.25483E+03.	-0.53311E-01.	3697	0.71831E+01.	0.18341E+00.	3447		0.59482D-01	
12	821103.183636608	0.10293E+00.	0.15741E+00.	3790	0.35999E+03.	0.15708E+00.	4152	0.64451D-01	0.86876D-01	363
	821103.201544000	0.11762E+03.	-0.80806E-01.	3908	0.34905E+03.	0.18182E+00.	4141		0.58334D-01	
13	821103.201544000	0.98156E+00.	0.16570E+00.	4153	0.35988E+03.	0.16970E+00.	4513	0.74168D-01	0.98425D-01	361
	821103.215435008	0.25369E+03.	-0.50942E-01.	4406	0.18520E+03.	0.18156E+00.	4337		0.64793D-01	
14	821103.215435008	0.87050E+00.	0.17007E+00.	4514	0.55615E+02.	0.75846E-01.	4569	0.12285D+00	0.12809D+00	56
	821103.220936128	0.49539E+02.	0.57719E-01.	4563	0.48481E-01.	0.17248E+00.	4518		0.36604D-01	

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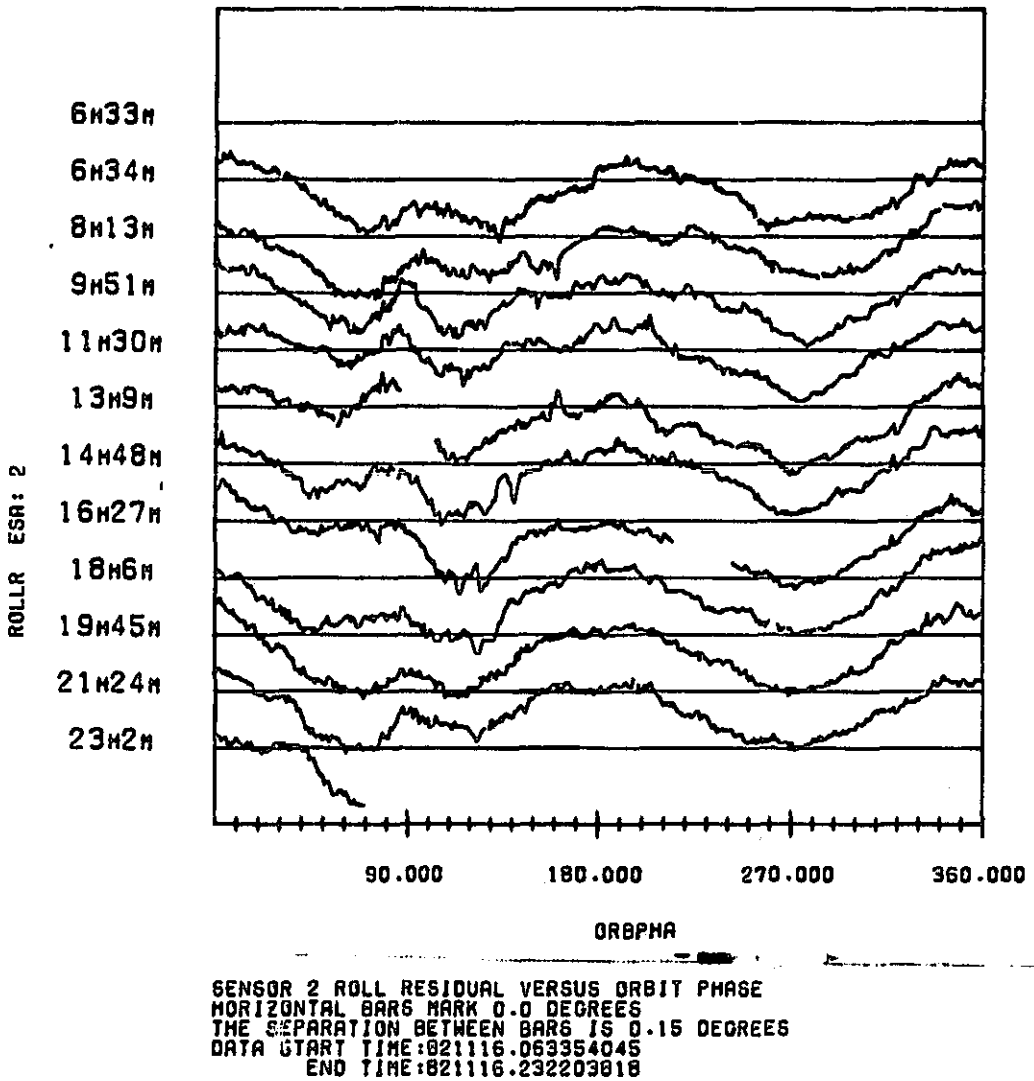

FIGURE D-7. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-7. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821116.063350045	0.35944E+03,	0.59035E-01,	1	0.35944E+03,	0.59035E-01,	1	0.59035D-01	0.59035D-01	1
	821116.063410429	0.35944E+03,	0.59035E-01,	1	0.35944E+03,	0.59035E-01,	1		0.0	
2	821116.063410429	0.43162E+00,	0.54430E-01,	2	0.35930E+03,	0.34929E-01,	362	-0.43704D-01	0.74255D-01	361
	821116.081301452	0.13389E+03,	-0.16609E+00,	135	0.63997E+01,	0.75394E-01,	8		0.60115D-01	
3	821116.081301452	0.29894E+00,	0.49789E-01,	363	0.35917E+03,	0.84597E-01,	722	-0.43959D-01	0.73621D-01	360
	821116.095152460	0.73983E+02,	-0.16474E+00,	437	0.35718E+03,	0.95379E-01,	720		0.59139D-01	
4	821116.095152460	0.16715E+00,	0.13577E-01,	723	0.35904E+03,	0.58155E-01,	1084	-0.21088D-01	0.59768D-01	362
	821116.113043468	0.27764E+03,	-0.14305E+00,	1002	0.11617E+01,	0.92254E-01,	724		0.56001D-01	
5	821116.113043468	0.37086E-01,	0.47126E-01,	1095	0.35991E+03,	0.53747E-01,	1446	-0.51696D-02	0.53866D-01	362
	821116.130950875	0.27454E+03,	-0.13691E+00,	1360	0.20311E+03,	0.92229E-01,	1288		0.53692D-01	
6	821116.130950875	0.90151E+00,	0.50827E-01,	1447	0.35977E+03,	0.61017E-01,	1789	-0.35969D-01	0.75796D-01	343
	821116.144841883	0.26945E+03,	-0.17839E+00,	1698	0.34884E+03,	0.90264E-01,	1778		0.66815D-01	
7	821116.144841883	0.76658E+00,	0.52982E-01,	1790	0.35963E+03,	0.10124E+00,	2150	-0.26605D-01	0.68089D-01	361
	821116.162732891	0.10633E+03,	-0.16304E+00,	1895	0.35963E+03,	0.10124E+00,	2150		0.62763D-01	
8	821116.162732891	0.62713E+00,	0.88150E-01,	2151	0.35949E+03,	0.30899E-01,	2485	-0.50137D-01	0.85410D-01	335
	821116.180623899	0.11515E+03,	-0.19306E+00,	2268	0.36107E+01,	0.11143E+00,	2154		0.69249D-01	
9	821116.180623899	0.48812E+00,	0.14640E-01,	2486	0.35936E+03,	0.10487E+00,	2844	-0.61337D-01	0.93824D-01	359
	821116.194514907	0.12498E+03,	-0.20000E+00,	2611	0.35936E+03,	0.10487E+00,	2844		0.71097D-01	
10	821116.194514907	0.35214E+00,	0.86579E-01,	2845	0.35923E+03,	0.57884E-01,	3205	-0.60243D-01	0.92377D-01	361
	821116.212405915	0.69050E+02,	-0.16846E+00,	2914	0.23412E+01,	0.98603E-01,	2847		0.70127D-01	
11	821116.212405915	0.22100E+00,	0.49018E-01,	3206	0.35910E+03,	0.29962E-01,	3564	-0.57333D-01	0.82673D-01	359
	821116.230256938	0.60948E+02,	-0.16367E+00,	3267	0.22100E+01,	0.63222E-01,	3208		0.59646D-01	
12	821116.230256938	0.93636E-01,	0.32881E-01,	3565	0.69787E+02,	-0.15213E+00,	3635	-0.35062D-01	0.70004D-01	71
	821116.232203818	0.69787E+02,	-0.15213E+00,	3635	0.10881E+01,	0.33910E-01,	3566		0.61022D-01	

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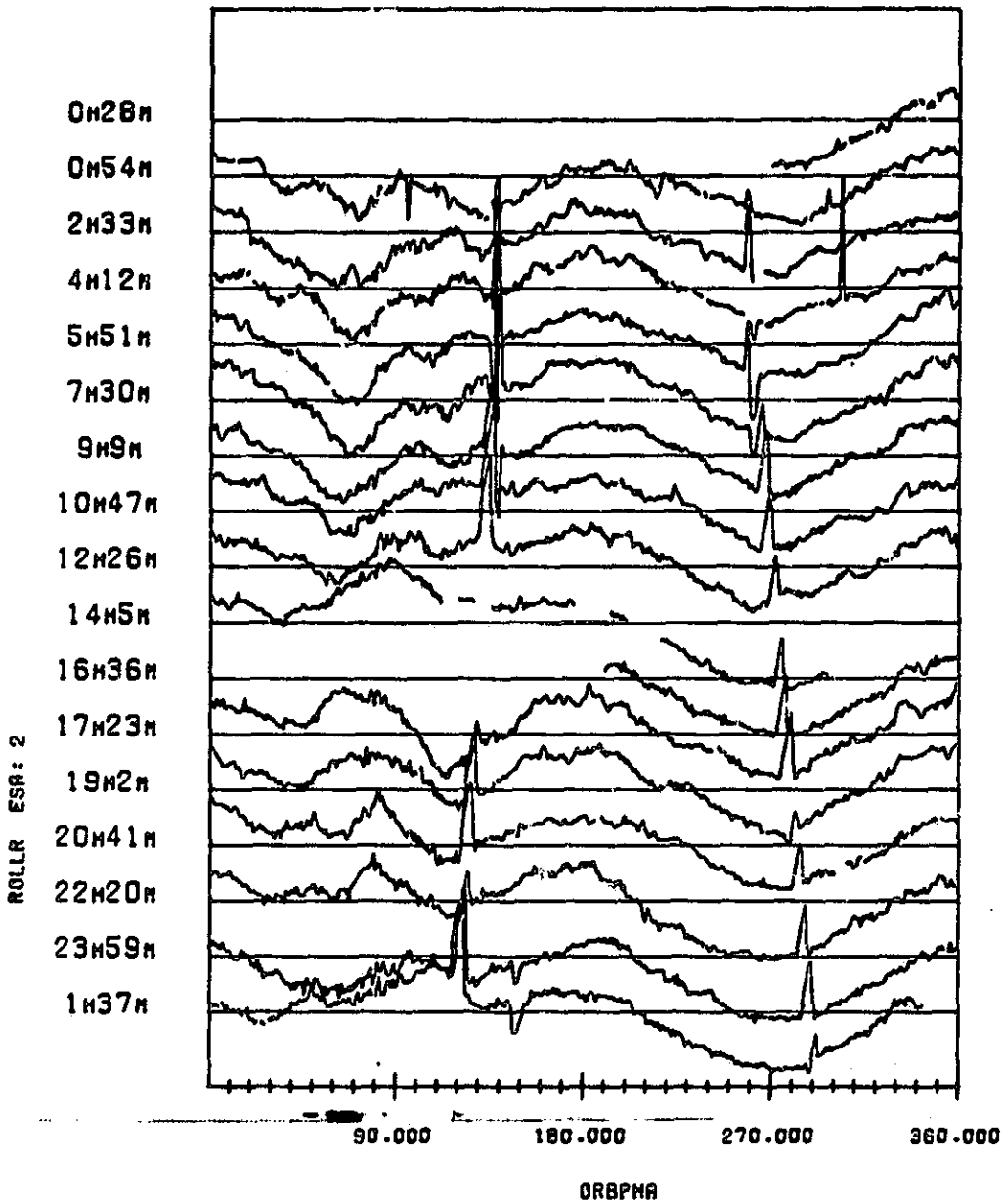

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:621201.002856720
END TIME:621202.031150860

FIGURE D-8. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-8. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821201.002856720	0.26704E+03,	-0.11346E+00,	1	0.35936E+03,	0.70031E-01,	89	-0.34181D-01	0.77656D-01	89
	821201.005436816	0.28588E+03,	-0.13116E+00,	18	0.35539E+03,	0.86291E-01,	85		0.70124D-01	
2	821201.005436816	0.35852E+00,	0.56025E-01,	90	0.35924E+03,	0.63279E-01,	442	-0.28218D-01	0.59268D-01	353
	821201.023327824	0.28377E+03,	-0.12915E+00,	368	0.35427E+03,	0.79226E-01,	437		0.52193D-01	
3	821201.023327824	0.23480E+00,	0.69925E-01,	443	0.35911E+03,	0.41550E-01,	799	-0.24911D-01	0.62344D-01	357
	821201.041218832	0.60959E+02,	-0.15238E+00,	504	0.17546E+03,	0.90922E-01,	619		0.57231D-01	
4	821201.041218832	0.10528E+00,	0.37051E-01,	800	0.35998E+03,	0.80806E-01,	1149	0.31821D-03	0.63319D-01	350
	821201.055126239	0.69797E+02,	-0.14368E+00,	867	0.13853E+03,	0.30000E+00,	935		0.63409D-01	
5	821201.055126239	0.97076E+00,	0.78388E-01,	1150	0.35985E+03,	0.11212E+00,	1509	0.63549D-03	0.72441D-01	360
	821201.073017262	0.13740E+03,	-0.20000E+00,	1285	0.13840E+03,	0.30000E+00,	1286		0.72539D-01	
6	821201.073017262	0.84504E+00,	0.10412E+00,	1510	0.35973E+03,	0.93274E-01,	1870	0.88005D-02	0.74714D-01	361
	821201.090908270	0.26145E+03,	-0.15027E+00,	1772	0.14026E+03,	0.30000E+00,	1650		0.74297D-01	
7	821201.090908270	0.72163E+00,	0.83881E-01,	1871	0.35961E+03,	0.97345E-01,	2232	0.58861D-02	0.63665D-01	362
	821201.104759278	0.13914E+03,	-0.16835E+00,	2010	0.13616E+03,	0.20881E+00,	2007		0.63482D-01	
8	821201.104759278	0.60016E+00,	0.90774E-01,	2233	0.35949E+03,	0.87138E-01,	2592	0.25709D-01	0.64033D-01	360
	821201.122650301	0.26418E+03,	-0.10757E+00,	2496	0.13604E+03,	0.25186E+00,	2369		0.58727D-01	
9	821201.122650301	0.47979E+00,	0.91086E-01,	2593	0.35936E+03,	0.54726E-01,	2954	0.26571D-01	0.68027D-01	362
	821201.140541309	0.26109E+03,	-0.12139E+00,	2855	0.13492E+03,	0.30000E+00,	2728		0.62710D-01	
10	821201.140541309	0.35569E+00,	0.68115E-01,	2955	0.29666E+03,	-0.14114E+00,	3203	0.36755D-02	0.99384D-01	249
	821201.163641661	0.27980E+03,	-0.17870E+00,	3187	0.86983E+02,	0.17524E+00,	3042		0.99498D-01	
11	821201.163641661	0.19036E+03,	0.22757E-01,	3204	0.35910E+03,	0.58764E-01,	3373	-0.55365D-01	0.86253D-01	170
	821201.172323325	0.27074E+03,	-0.15776E+00,	3285	0.34916E+03,	0.59973E-01,	3363		0.66333D-01	
12	821201.172323325	0.96549E-01,	0.83659E-01,	3374	0.35997E+03,	0.11698E+00,	3734	0.19561D-01	0.70313D-01	361
	821201.190230717	0.27359E+03,	-0.12259E+00,	3647	0.35897E+03,	0.13929E+00,	3733		0.67642D-01	
13	821201.190230717	0.96248E+00,	0.11008E+00,	3735	0.35984E+03,	0.11881E+00,	4093	0.29215D-01	0.71177D-01	359
	821201.204121740	0.27843E+03,	-0.14773E+00,	4011	0.12843E+03,	0.14616E+00,	3862		0.64995D-01	
14	821201.204121740	0.83949E+00,	0.12500E+00,	4094	0.35972E+03,	0.63386E-01,	4443	0.18460D-01	0.65242D-01	350
	821201.222012748	0.27532E+03,	-0.12200E+00,	4367	0.12632E+03,	0.16774E+00,	4220		0.62666D-01	
15	821201.222012748	0.71926E+00,	0.68691E-01,	4444	0.35960E+03,	0.40259E-01,	4805	-0.76309D-02	0.75596D-01	362
	821201.235903756	0.26529E+03,	-0.16428E+00,	4710	0.79379E+02,	0.12866E+00,	4523		0.75314D-01	
16	821201.235903756	0.59067E+00,	0.30126E-01,	4806	0.35947E+03,	0.21153E-01,	5166	-0.49004D-01	0.79614D-01	361
	821202.013754764	0.26219E+03,	-0.17793E+00,	5069	0.12308E+03,	0.17998E+00,	4929		0.62833D-01	
17	821202.013754764	0.46864E+00,	0.12756E-01,	5167	0.34245E+03,	0.19295E-01,	5504	-0.59216D-02	0.83125D-01	338
	821202.031150860	0.28785E+03,	-0.16216E+00,	5449	0.12096E+03,	0.30000E+00,	5281		0.83037D-01	

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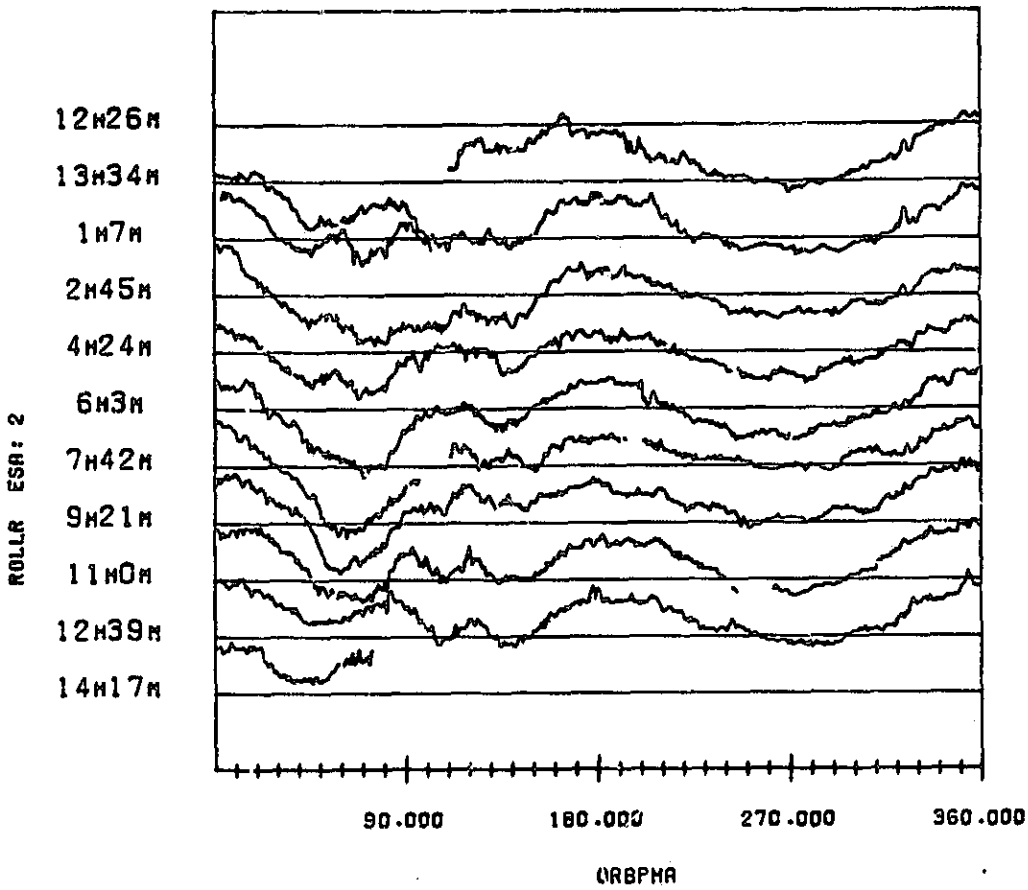

FIGURE D-9. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-9. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	821214.122507064	0.11096E+03.	-0.11645E+00.	1	0.35932E+03.	0.12682E-01.	251	-0.78314D-01	0.96195D-01	251
	821214.133439448	0.26996E+03.	-0.17977E+00.	161	0.16372E+03.	0.30044E-01.	54		0.55971D-01	
2	821214.133439448	0.31569E+00.	0.11770E-01.	252	0.10187E+03.	-0.18186E-00.	353	-0.57521D-01	0.77769D-01	102
	821215.010742070	0.10187E+03.	-0.18186E+00.	353	0.20214E+02.	0.31212E-01.	272		0.52597D-01	
3	821215.010742070	0.34892E+01.	0.10533E+00.	354	0.35940E+03.	0.12317E-00.	710	0.24560D-01	0.57847D-01	357
	821215.024543926	0.70187E+02.	-0.70706E-01.	421	0.35144E+03.	0.14061E-00.	702		0.52448D-01	
4	821215.024543926	0.39166E+00.	0.12420E+00.	711	0.35928E+03.	0.56247E-01.	1071	-0.14121D-01	0.61359D-01	361
	821215.042434934	0.76050E+02.	-0.13227E+00.	787	0.13862E-01.	0.13946E-00.	712		0.59795D-01	
5	821215.042434934	0.27155E-00.	0.72820E-01.	1072	0.35916E+03.	0.72943E-01.	1429	-0.10500D-01	0.49991D-01	358
	821215.060325957	0.67954E+02.	-0.12062E+00.	1138	0.35319E+03.	0.91514E-01.	1423		0.48945D-01	
6	821215.060325957	0.15280E+00.	0.71125E-01.	1430	0.35904E+03.	0.10291E+00.	1790	-0.15424D-01	0.65854D-01	361
	821215.074216965	0.70835E+02.	-0.18079E+00.	1501	0.35904E+03.	0.10291E+00.	1790		0.64111D-01	
7	821215.074216965	0.36613E-01.	0.10983E+00.	1791	0.35992E+03.	0.99294E-01.	2130	0.12230D-01	0.69018D-01	340
	821215.092124357	0.62750E+02.	-0.18869E+00.	1854	0.35396E+03.	0.12505E+00.	2124		0.68326D-01	
8	821215.092124357	0.91805E+00.	0.10568E+00.	2131	0.35981E+03.	0.14563E+00.	2491	0.46999D-01	0.76658D-01	361
	821215.110015380	0.59642E+02.	-0.13162E+00.	2190	0.35186E+03.	0.16625E+00.	2483		0.60644D-01	
9	821215.110015380	0.80796E+00.	0.13462E+00.	2492	0.35970E+03.	0.13851E+00.	2833	0.49033D-01	0.74526D-01	342
	821215.123906388	0.74478E+02.	-0.56634E-01.	2565	0.35572E+03.	0.15571E+00.	2829		0.56206D-01	
10	821215.123906388	0.69683E+00.	0.14937E+00.	2834	0.35959E+03.	0.13418E+00.	3195	0.52900D-01	0.71790D-01	362
	821215.141757396	0.28015E+03.	-0.28564E-01.	3115	0.35362E+03.	0.17189E+00.	3189		0.48600D-01	
11	821215.141757396	0.58257E+00.	0.12132E+00.	3196	0.74249E+02.	0.11616E+00.	3269	0.80272D-01	0.87385D-01	74
	821215.143809812	0.46362E+02.	0.27593E-01.	3242	0.75449E+01.	0.13876E+00.	3203		0.34766D-01	

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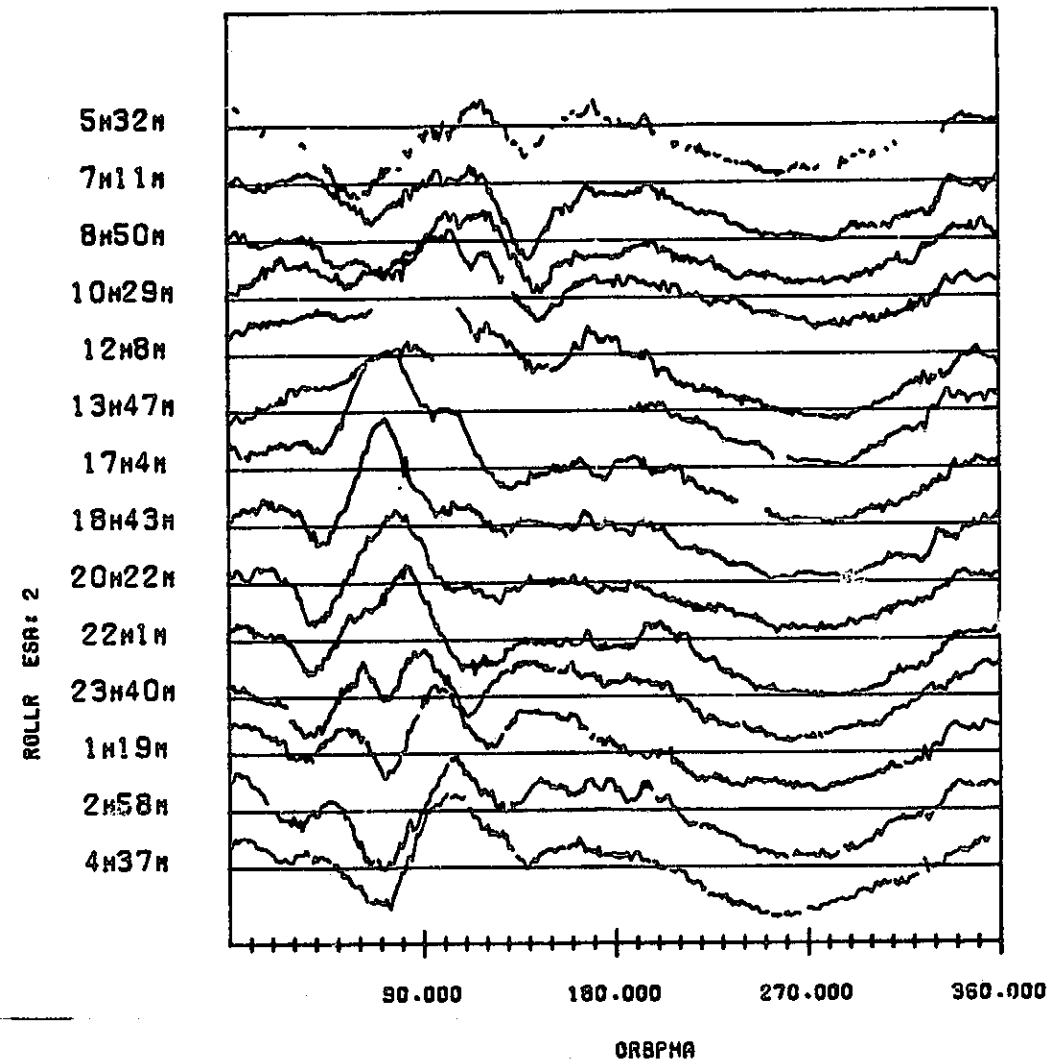

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:821228.053240480
END TIME:821229.061420139

FIGURE D-10. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-10. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	821228.053240480	0.54884E+00,	0.59948E-01,	1	0.35942E+03,	0.12074E-01,	261	-0.49233D-01	0.80575D-01	261
	821228.071131503	0.60265E+02,	-0.18781E+00,	34	0.11804E+03,	0.65224E-01,	83		0.63907D-01	
2	821228.071131503	0.41262E+00,	0.14722E-02,	262	0.35928E+03,	0.14064E-01,	623	-0.58731D-01	0.82856D-01	362
	821228.085022511	0.14080E+03,	-0.20000E+00,	403	0.11292E+03,	0.48467E-01,	375		0.58525D-01	
3	821228.085022511	0.27913E+00,	0.38162E-02,	624	0.35915E+03,	0.13217E-01,	985	-0.37694D-01	0.63603D-01	362
	821228.102913519	0.14664E+03,	-0.13904E+00,	771	0.11976E+03,	0.81052E-01,	744		0.51301D-01	
4	821228.102913519	0.14712E+00,	0.10297E-01,	986	0.35902E+03,	0.41344E-01,	1343	0.24253D-01	0.65795D-01	358
	821228.120804527	0.27464E+03,	-0.87180E-01,	1258	0.10269E+03,	0.18906E+00,	1089		0.61247D-01	
5	821228.120804527	0.15908E-01,	0.56971E-01,	1344	0.35988E+03,	-0.29032E-01,	1662	-0.25559D-01	0.95088D-01	319
	821228.134711934	0.28442E+03,	-0.17651E+00,	1587	0.41806E+02,	0.12263E-00,	1385		0.91732D-01	
6	821228.134711934	0.87757E+00,	-0.28473E-01,	1663	0.35960E+03,	0.51444E-01,	1926	-0.49929D-02	0.90478D-01	264
	821228.170453950	0.28613E+03,	-0.15282E+00,	1852	0.83498E+02,	0.18609E+00,	1744		0.90512D-01	
7	821228.170453950	0.59855E+00,	0.67490E-01,	1927	0.35946E+03,	0.21137E-01,	2275	0.12284D-01	0.11234D+00	349
	821228.184344958	0.28202E+03,	-0.15205E+00,	2197	0.66285E+02,	0.30000E+00,	1993		0.11183D+00	
8	821228.184344958	0.45906E+00,	0.16967E-01,	2276	0.35933E+03,	0.28078E-01,	2634	-0.12094D-01	0.91113D-01	359
	821228.202235981	0.25313E+03,	-0.15201E+00,	2527	0.72123E+02,	0.28370E+00,	2348		0.90432D-01	
9	821228.202235981	0.32495E+00,	0.29822E-01,	2635	0.35920E+03,	0.21269E-01,	2996	-0.22256D-01	0.73037D-01	362
	821228.220126989	0.25597E+03,	-0.13348E+00,	2892	0.76970E+02,	0.19385E+00,	2712		0.69660D-01	
10	821228.220126989	0.19368E+00,	0.23695E-01,	2997	0.35907E+03,	0.12279E-01,	3359	-0.26941D-01	0.82058D-01	363
	821228.234017997	0.27766E+03,	-0.15404E+00,	3277	0.81818E+02,	0.19869E+00,	3080		0.77616D-01	
11	821228.234017997	0.62472E-01,	0.30365E-01,	3360	0.35993E+03,	0.89935E-0.,	3713	-0.[illegible]D-02	0.65927D-01	354
	821229.011925389	0.26167E+03,	-0.12328E+00,	3617	0.90652E+02,	0.12819E-00,	3450		0.65999D-01	
12	821229.011925389	0.92527E+00,	0.72030E-01,	3714	0.35980E+03,	0.71668E-01,	4065	0.12645D-01	0.71405D-01	352
	821229.025816412	0.27541E+03,	-0.10113E+00,	3981	0.96494E+02,	0.18103E+00,	3806		0.70376D-01	
13	821229.025816412	0.79197E+00,	0.81258E-01,	4066	0.35966E+03,	0.66783E-01,	4414	-0.77722D-02	0.73482D-01	349
	821229.043707420	0.71459E+02,	-0.15705E+00,	4135	0.10533E+03,	0.14890E+00,	4168		0.73175D-01	
14	821229.043707420	0.65157E+00,	0.57555E-01,	4415	0.35455E+03,	0.71767E-01,	4751	0.23049D-02	0.77816D-01	337
	821229.061420139	0.25629E+03,	-0.13294E+00,	4659	0.10120E+03,	0.19583E+00,	4513		0.77898D-01	

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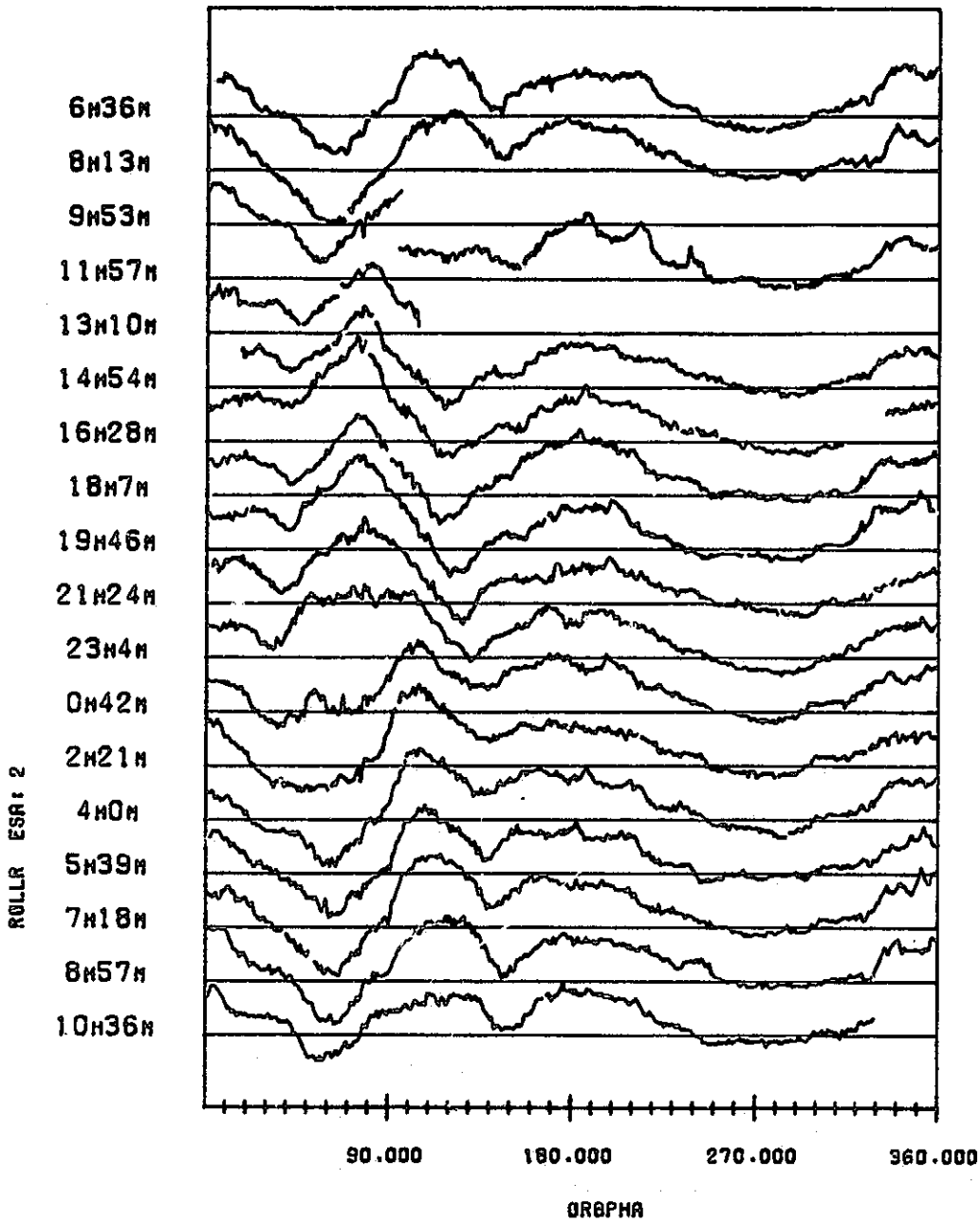

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:890119.063608627
END TIME:890120.120626114

FIGURE D-11. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-11. Data Statistics by Orbit

ORBIT	TIME START/END	(F,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830119.063608627	0.41493E+01,	0.97559E-01,	1	0.35905E+03,	0.13818E-00,	356	0.49084D-01	0.84926D-01	356
	830119.081354114	0.67853E+02,	-0.10540E+00,	65	0.11169E+03,	0.18416E+00,	108		0.69402D-01	
2	830119.081354114	0.45614E-01,	0.14128E+00,	357	0.35992E+03,	0.90083E-01,	719	0.41938D-01	0.84661D-01	363
	830119.095301506	0.60754E+02,	-0.15002E+00,	419	0.12152E+03,	0.16755E+00,	479		0.73645D-01	
3	830119.095301506	0.91422E+00,	0.97600E-01,	720	0.95492E+02,	0.93841E-01,	815	0.99647D-02	0.63488D-01	96
	830119.115732610	0.55648E+02,	-0.10697E+00,	775	0.58859E+01,	0.11403E+00,	725		0.63030D-01	
4	830119.115732610	0.94371E+02,	0.84367E-01,	816	0.35967E+03,	0.93570E-01,	1080	0.61822D-01	0.80861D-01	265
	830119.131043522	0.28918E+03,	-0.26828E-01,	1010	0.18596E+03,	0.18216E+00,	907		0.52219D-01	
5	830119.131043522	0.66545E+00,	0.10177E+00,	1081	0.10421E+03,	0.18094E-01,	1183	0.98421D-01	0.10717D+00	103
	830119.145413058	0.10421E+03,	0.18094E-01,	1183	0.81292E+02,	0.19527E+00,	1160		0.42611D-01	
6	830119.145413058	0.17442E+02,	0.10503E+00,	1184	0.35941E+03,	0.85263E-01,	1525	0.60858D-01	0.81625D-01	342
	830119.162825538	0.11702E+03,	-0.60656E-01,	1282	0.77177E+02,	0.22511E+00,	1243		0.54475D-01	
7	830119.162825538	0.40334E+00,	0.83084E-01,	1526	0.35928E+03,	0.10627E-00,	1862	0.73989D-01	0.10427D+00	337
	830119.180716546	0.11589E+03,	-0.43096E-01,	1641	0.74054E+02,	0.29457E+00,	1600		0.73585D-01	
8	830119.180716546	0.27042E+00,	0.97682E-01,	1863	0.35915E+03,	0.10971E+00,	2222	0.68494D-01	0.94010D-01	360
	830119.194607554	0.11476E+03,	-0.79736E-01,	1977	0.73922E+02,	0.22573E+00,	1937		0.64482D-01	
9	830119.194607554	0.14053E+00,	0.10300E+00,	2223	0.35803E+03,	0.10960E+00,	2580	0.67239D-01	0.10001D+00	358
	830119.212458562	0.11962E+03,	-0.77022E-01,	2342	0.74790E+02,	0.26338E+00,	2297		0.74131D-01	
10	830119.212458562	0.15487E-01,	0.10792E+00,	2581	0.35989E+03,	0.91358E-01,	2939	0.63285D-01	0.88053D-01	359
	830119.230405954	0.12647E+03,	-0.56757E-01,	2707	0.77653E+02,	0.23939E+00,	2658		0.61308D-01	
11	830119.230405954	0.88570E+00,	0.87879E-01,	2940	0.35977E+03,	0.89910E-01,	3301	0.72208D-01	0.96523D-01	362
	830120.004256962	0.28234E+03,	-0.49232E-01,	3223	0.77529E+02,	0.20317E+00,	3017		0.64141D-01	
12	830120.004256962	0.76622E+00,	0.86941E-01,	3302	0.35965E+03,	0.12838E+00,	3663	0.64499D-01	0.86698D-01	362
	830120.022147970	0.35583E+02,	-0.45662E-01,	3337	0.10430E+03,	0.19924E+00,	3406		0.58015D-01	
13	830120.022147970	0.64051E+00,	0.12861E+00,	3664	0.35952E+03,	0.77244E-01,	4019	0.52869D-01	0.85591D-01	356
	830120.040038978	0.47403E+02,	-0.72523E-01,	3711	0.10517E+03,	0.22640E+00,	3767		0.67562D-01	
14	830120.040038978	0.50941E-00,	0.75764E-01,	4020	0.35938E+03,	0.11792E+00,	4380	0.45640D-01	0.87428D-01	361
	830120.053929986	0.61215E+02,	-0.13220E+00,	4081	0.10505E+03,	0.19872E+00,	4125		0.74673D-01	
15	830120.053929986	0.37675E+00,	0.99434E-01,	4381	0.35925E+03,	0.79621E-01,	4740	0.46517D-01	0.80905D-01	360
	830120.071820994	0.61084E+02,	-0.12267E+00,	4442	0.10790E+03,	0.19251E+00,	4489		0.66287D-01	
16	830120.071820994	0.24739E+00,	0.97896E-01,	4741	0.35913E+03,	0.15580E+00,	5099	0.56286D-01	0.94489D-01	359
	830120.085712002	0.65936E+02,	-0.13825E+00,	4804	0.11575E+03,	0.20535E+00,	4854		0.76001D-01	
17	830120.085712002	0.12135E+00,	0.14866E+00,	5100	0.36000E+03,	0.12028E+00,	5462	0.53553D-01	0.86236D-01	363
	830120.103619394	0.63817E+02,	-0.12046E+00,	5164	0.11861E+03,	0.18466E+00,	5219		0.67685D-01	
18	830120.103619394	0.99127E-00,	0.10994E+00,	5463	0.32907E+03,	0.49577E-01,	5792	0.42334D-01	0.68088D-01	330
	830120.120626114	0.57717E+02,	-0.71117E-01,	5520	0.17622E+03,	0.14754E+00,	5638		0.53409D-01	

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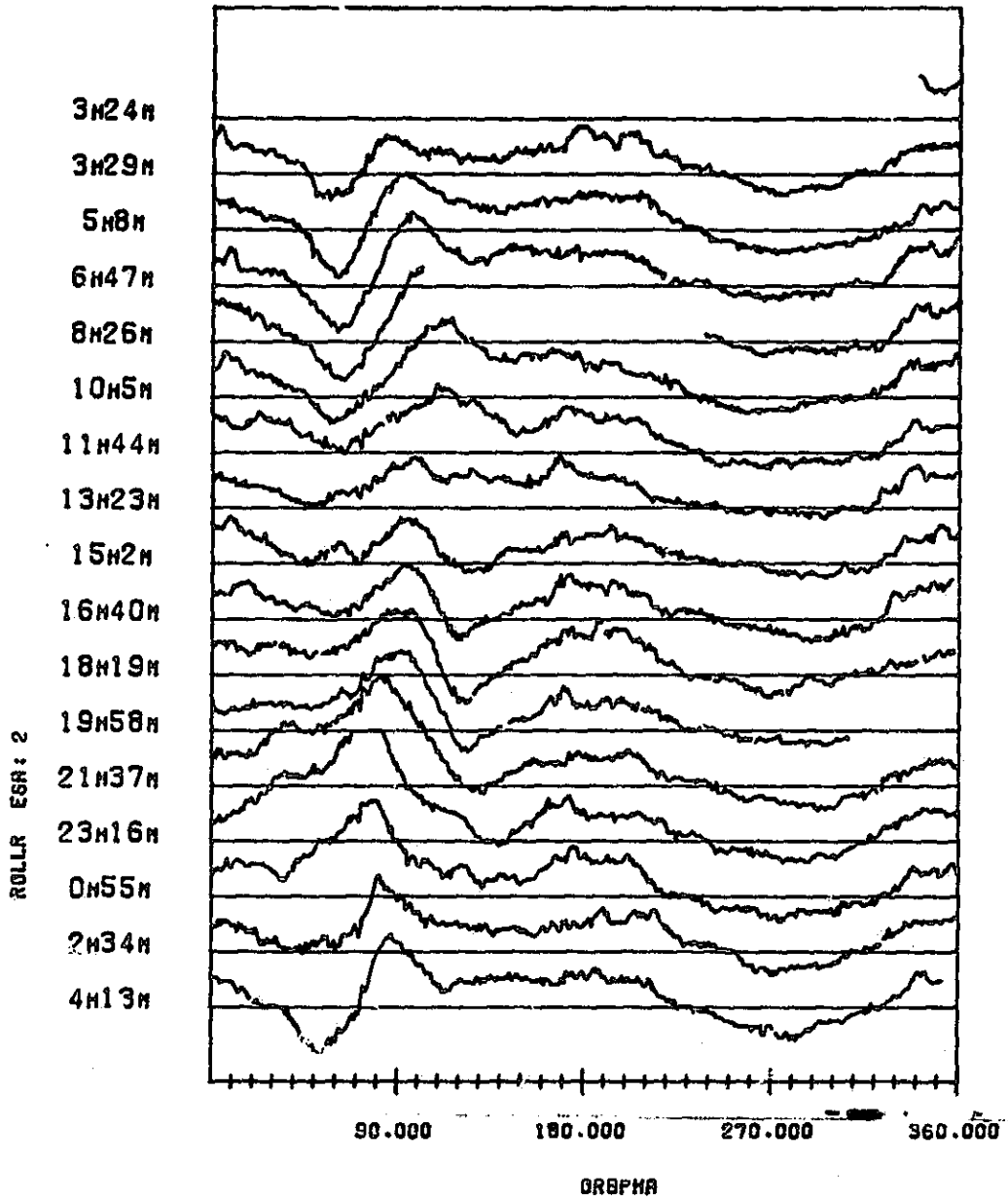

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830202.032425071
END TIME:830203.054960590

FIGURE D-12. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-12. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/V			(X,Y,REC) AT MAX X/V			MEAN Y	Y-RMS/STDV	POINTS
1	830202.032425071	0.34053E+03,	0.11796E+00,	1	0.35941E+03,	0.10004E+00,	20	0.87057D-01	0.88041D-01	20
	830202.032952751	0.35246E+03,	0.67852E-01,	13	0.34053E+03,	0.11796E+00,	1		0.13465D-01	
2	830202.032952751	0.40758E+00,	0.96473E-01,	21	0.35928E+03,	0.72762E-01,	380	0.37929D-01	0.62291D-01	360
	830202.050843759	0.56136E+02,	-0.71142E-01,	76	0.17863E+03,	0.13291E+00,	199		0.49481D-01	
3	830202.050843759	0.27601E+00,	0.81579E-01,	381	0.35915E+03,	0.56889E-01,	742	0.29597D-01	0.68668D-01	362
	830202.064734767	0.59991E+02,	-0.12657E+00,	441	0.93863E+02,	0.15460E+00,	475		0.62048D-01	
4	830202.064734767	0.14781E+00,	0.56963E-01,	743	0.35903E+03,	0.12849E+00,	1102	0.43178D-01	0.77100D-01	360
	830202.082625775	0.59863E+02,	-0.12456E+00,	803	0.95729E+02,	0.19790E+00,	839		0.63965D-01	
5	830202.082625775	0.23231E-01,	0.10904E+00,	1103	0.35990E+03,	0.80921E-01,	1329	0.20534D-01	0.67197D-01	227
	830202.100533167	0.63723E+02,	-0.10596E+00,	1167	0.10158E+03,	0.20386E+00,	1205		0.64124D-01	
6	830202.100533167	0.89430E+00,	0.76537E-01,	1330	0.35978E+03,	0.89405E-01,	1690	0.53268D-01	0.84439D-01	361
	830202.114424175	0.58619E+02,	-0.70410E-01,	1388	0.11640E+03,	0.21859E+00,	1445		0.65607D-01	
7	830202.114424175	0.77258E+00,	0.80088E+00,	1691	0.35966E+03,	0.78536E-01,	2051	0.53613D-01	0.76916D-01	361
	830202.132315183	0.26934E+03,	-0.43154E-01,	1960	0.10931E+03,	0.18800E+00,	1799		0.55228D-01	
8	830202.132315183	0.64957E+00,	0.17335E-01,	2052	0.35953E+03,	0.94417E-01,	2413	0.51038D-01	0.66699D-01	362
	830202.150206191	0.29599E+03,	-0.10003E-01,	2349	0.16793E+03,	0.14638E+00,	2220		0.43000D-01	
9	830202.150206191	0.52232E+00,	0.10096E+00,	2414	0.35940E+03,	0.81801E-01,	2774	0.34629D-01	0.54231D-01	361
	830202.164057199	0.28495E+03,	-0.40201E-01,	2699	0.91115E+02,	0.12679E+00,	2504		0.41793D-01	
10	830202.164057199	0.39104E+00,	0.84891E-01,	2775	0.35927E+03,	0.92673E-01,	3132	0.36266D-01	0.62934D-01	358
	830202.181948207	0.28878E+03,	-0.61922E-01,	3064	0.95964E+02,	0.15223E+00,	2870		0.51506D-01	
11	830202.181948207	0.26029E+00,	0.87459E-01,	3133	0.35815E+03,	0.61511E-01,	3483	0.46672D-01	0.75944D-01	351
	830202.195839215	0.11975E+03,	-0.76677E-01,	3250	0.96832E+02,	0.17966E+00,	3227		0.59996D-01	
12	830202.195839215	0.13326E+00,	0.92196E-01,	3484	0.35902E+03,	0.81949E-01,	3787	0.49697D-01	0.81098D-01	304
	830202.213730223	0.12460E+03,	-0.56017E-01,	3609	0.95710E+02,	0.21561E+00,	3580		0.64193D-01	
13	830202.213730223	0.11103E-01,	0.78865E-01,	3788	0.35989E+03,	0.56790E-01,	4149	0.65591D-01	0.10737D+00	362
	830202.231637615	0.29238E+03,	-0.68025E-01,	4082	0.84628E+02,	0.29618E+00,	3873		0.85129D-01	
14	830202.231637615	0.88346E+00,	0.50811E-01,	4150	0.35977E+03,	0.63263E-01,	4511	0.73330D-01	0.11612D+00	362
	830203.005528623	0.27640E+03,	-0.58040E-01,	4427	0.67570E+02,	0.30000E+00,	4217		0.90157D-01	
15	830203.005528623	0.76823E+00,	0.65804E-01,	4512	0.35965E+03,	0.62366E-01,	4872	0.58729D-01	0.93615D-01	361
	830203.023419631	0.27429E+03,	-0.70163E-01,	4786	0.79407E+02,	0.26193E+00,	4590		0.73003D-01	
16	830203.023419631	0.64455E+00,	0.67827E-01,	4873	0.35952E+03,	0.93035E-01,	5233	0.49257D-01	0.71560D-01	361
	830203.041310639	0.27020E+03,	-0.64217E-01,	5144	0.81276E+02,	0.20787E+00,	4954		0.51982D-01	
17	830203.041310639	0.51504E+00,	0.81867E-01,	5234	0.35243E+03,	0.72943E-01,	5584	0.28529D-01	0.73485D-01	351
	830203.054950590	0.53258E+02,	-0.12203E+00,	5285	0.87127E+02,	0.20101E+00,	5319		0.67818D-01	

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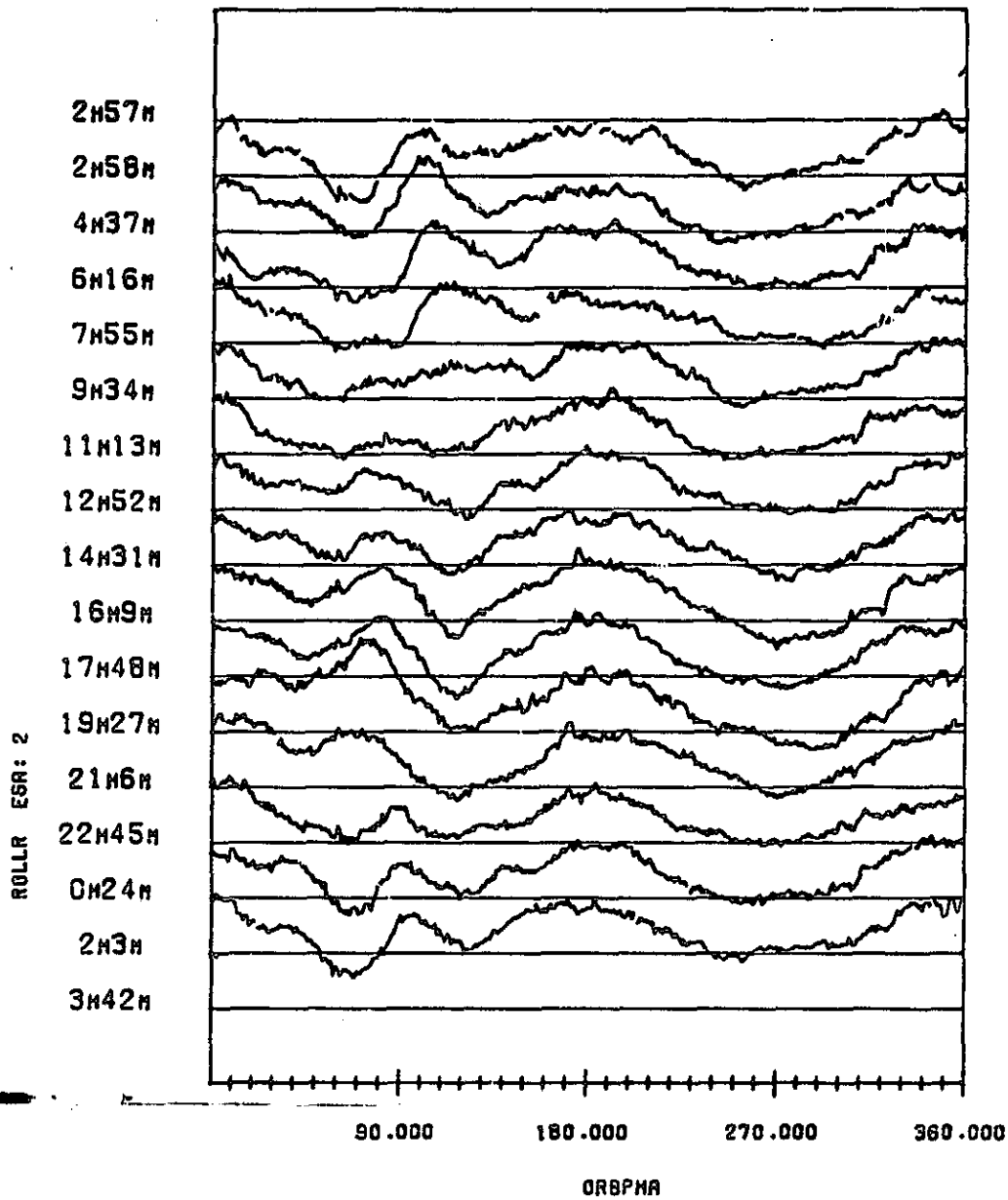

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830303.025744694
END TIME:830304.034257270

FIGURE D-13. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-13. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830303.025744694	0.35661E+03.	0.12020E+00.	1	0.35959E+03.	0.14066E-00.	4	0.12960D+00	0.12981D+00	4
	830303.025850230	0.35661E+03.	0.12020E+00.	1	0.35959E+03.	0.14066E-00.	4		0.84196D-02	
2	830303.025850230	0.58539E+00.	0.12141E+00.	5	0.35947E+03.	0.12206E+00.	348	0.66095D-01	0.87203D-01	344
	830303.043741238	0.71270E+02.	-0.69999E-01.	72	0.34853E+03.	0.17677E+00.	337		0.56967D-01	
3	830303.043741238	0.46040E+00.	0.11699E+00.	349	0.35934E+03.	0.10895E+00.	704	0.69793D-01	0.87399D-01	356
	830303.061632246	0.24026E+03.	-0.29838E-01.	587	0.98051E+02.	0.20456E+00.	445		0.52681D-01	
4	830303.061632246	0.33694E+00.	0.10128E+00.	705	0.35922E+03.	0.16096E+00.	1066	0.76219D-01	0.96771D-01	362
	830303.075523254	0.68036E+02.	-0.40103E-01.	773	0.10690E+03.	0.18133E+00.	812		0.59709D-01	
5	830303.075523254	0.21692E+00.	0.15567E+00.	1067	0.35910E+03.	0.11399E+00.	1415	0.74295D-01	0.90058D-01	349
	830303.093430646	0.58950E+02.	-0.23119E-01.	1124	0.81738E+01.	0.18546E+00.	1075		0.50971D-01	
6	830303.093430646	0.10939E+01.	0.13028E+00.	1416	0.35998E+03.	0.14596E+00.	1770	0.73739D-01	0.88928D-01	355
	830303.111321654	0.25379E+03.	-0.23242E-01.	1663	0.34408E+03.	0.16533E+00.	1754		0.49776D-01	
7	830303.111321654	0.97844E+00.	0.15045E+00.	1771	0.35987E+03.	0.12546E+00.	2132	0.62119D-01	0.80499D-01	362
	830303.125212662	0.24475E+03.	-0.17090E-01.	2016	0.19115E+03.	0.18115E+00.	1962		0.51269D-01	
8	830303.125212662	0.86256E+00.	0.12339E+00.	2133	0.35975E+03.	0.15406E+00.	2494	0.68714D-01	0.84519D-01	362
	830303.143103670	0.12236E+03.	-0.28802E-01.	2255	0.18010E+03.	0.17246E+00.	2313		0.49281D-01	
9	830303.143103670	0.74333E+00.	0.14914E+00.	2495	0.35962E+03.	0.12713E+00.	2856	0.62359D-01	0.79843D-01	362
	830303.160954678	0.27723E+03.	-0.45391E-01.	2773	0.74333E+00.	0.14914E+00.	2495		0.49931D-01	
10	830303.160954678	0.61908E+00.	0.14176E+00.	2857	0.35950E+03.	0.14258E+00.	3218	0.66381D-01	0.92818D-01	362
	830303.174845586	0.27017E+03.	-0.77804E-01.	3128	0.17587E+03.	0.19524E+00.	3033		0.64964D-01	
11	830303.174845686	0.49470E+00.	0.14154E+00.	3219	0.35938E+03.	0.13139E+00.	3579	0.70317D-01	0.92599D-01	361
	830303.192736694	0.11801E+03.	-0.60360E-01.	3336	0.17475E+03.	0.17745E+00.	3393		0.60333D-01	
12	830303.192736694	0.37253E+00.	0.13894E+00.	3580	0.35926E+03.	0.17308E+00.	3941	0.87815D-01	0.11418D+00	362
	830303.210627702	0.28679E+03.	-0.49849E-01.	3868	0.71058E+02.	0.25469E+00.	3651		0.73073D-01	
13	830303.210627702	0.25511E+00.	0.17491E+00.	3942	0.35915E-03.	0.17069E+00.	4302	0.83958D-01	0.10504D+00	361
	830303.224518710	0.11777E+03.	-0.35045E-01.	4059	0.42329E+01.	0.20226E+00.	3946		0.63214D-01	
14	830303.224518710	0.14006E+00.	0.16459E+00.	4303	0.35903E+03.	0.12481E+00.	4664	0.65569D-01	0.79940D-01	362
	830304.002409718	0.27268E+03.	-0.11152E-01.	4577	0.90908E+01.	0.18021E+00.	4312		0.45791D-01	
15	830304.002409718	0.24927E-01.	0.12256E+00.	4665	0.35992E+03.	0.14616E+00.	5024	0.66814D-01	0.85969D-01	360
	830304.020317110	0.66723E+02.	-0.45292E-01.	4732	0.34402E+03.	0.16815E-00.	5008		0.54174D-01	
16	830304.020317110	0.91633E+00.	0.14503E+00.	5025	0.35980E+03.	0.14864E+00.	5382	0.60171D-01	0.80412D-01	358
	830304.034224502	0.68612E+02.	-0.67613E-01.	5091	0.19107E+01.	0.16233E+00.	5026		0.53418D-01	
17	830304.034224502	0.17898E+01.	0.14761E-00.	5383	0.37787E+01.	0.14633E+00.	5385	0.14145D+00	0.14450D+00	3
	830304.034257270	0.27843E+01.	0.13942E+00.	5384	0.17898E+01.	0.14761E+00.	5383		0.44060D-02	

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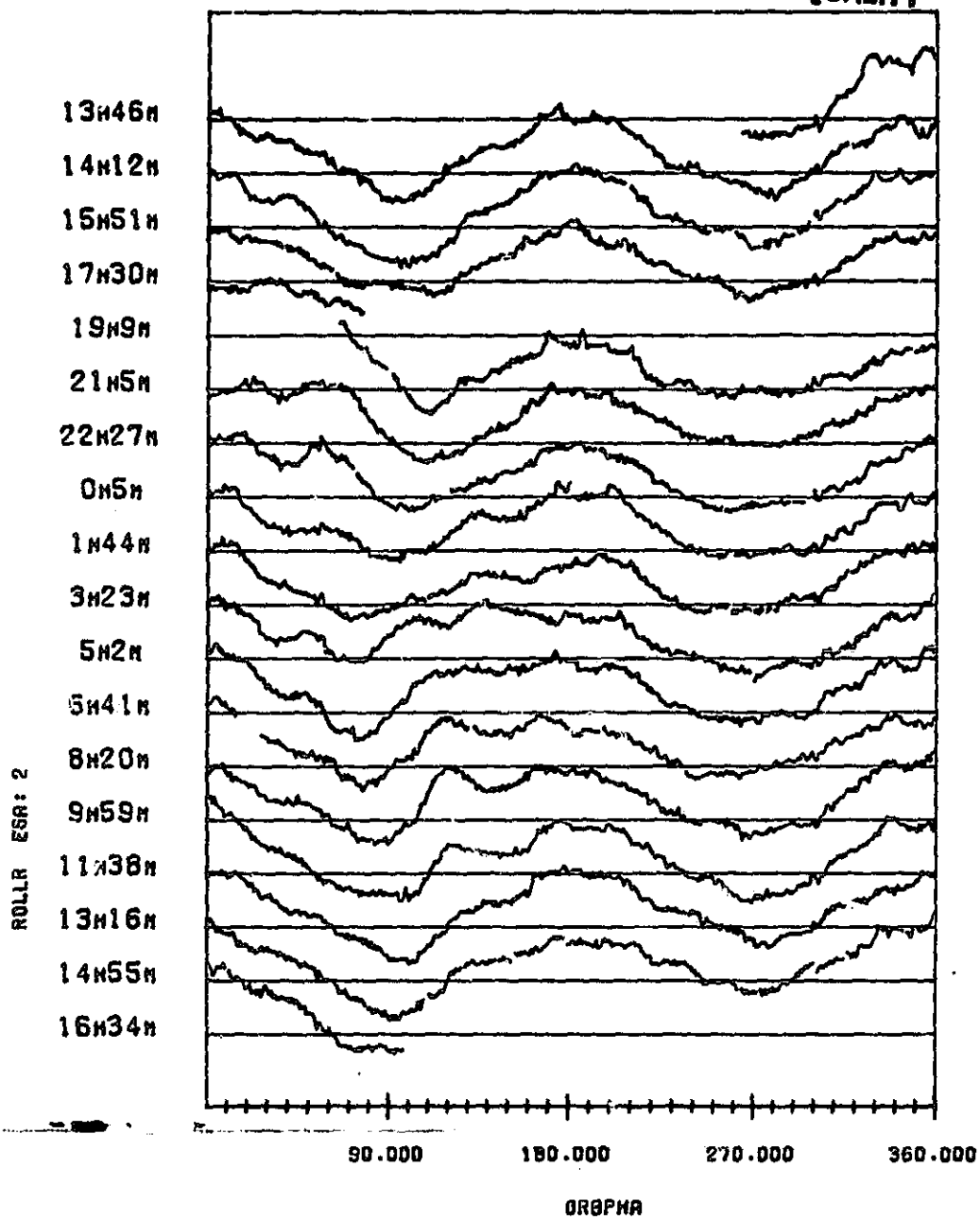

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830314.134603442
END TIME:830315.170127218

FIGURE D-14. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-14. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830314.134603442	0.26427E+03,	-0.36689E-01,	1	0.35955E+03,	0.16991E+00,	97	0.63354D-01	0.11214D+00	97
	830314.141232690	0.27319E+03,	-0.56741E-01,	10	0.35458E+03,	0.20171E+00,	92		0.93008D-01	
2	830314.141232690	0.54192E+00,	0.16468E+00,	98	0.35941E+03,	0.14837E+00,	459	0.54902D-01	0.91194D-01	362
	830314.155123698	0.96137E+02,	-0.81151E-01,	194	0.17479E+03,	0.19351E+00,	273		0.72916D-01	
3	830314.155123698	0.40570E+00,	0.14834E+00,	460	0.35927E+03,	0.15113E+00,	812	0.46331D-01	0.92089D-01	353
	830314.173014706	0.95002E+02,	-0.11372E+00,	555	0.18360E+03,	0.17610E+00,	644		0.79698D-01	
4	830314.173014706	0.26854E+00,	0.13525E+00,	813	0.35914E+03,	0.13247E+00,	1172	0.53319D-01	0.80013D-01	360
	830314.190905714	0.26782E+03,	-0.57275E-01,	1080	0.18347E+03,	0.17354E+00,	995		0.59742D-01	
5	830314.190905714	0.13303E+00,	0.13710E+00,	1173	0.76798E+02,	0.63880E-01,	1250	0.11920D+00	0.12201D+00	78
	830314.210541682	0.75801E+02,	0.58246E-01,	1249	0.29983E+02,	0.16196E+00,	1203		0.26193D-01	
6	830314.210541682	0.64711E+02,	0.18520E+00,	1251	0.35987E+03,	0.11573E+00,	1544	0.49844D-01	0.76186D-01	294
	830314.222704114	0.11055E-03,	-0.69900E-01,	1295	0.65707E+02,	0.38925E+00,	1252		0.57716D-01	
7	830314.222704114	0.86924E+00,	0.13027E+00,	1545	0.35975E+03,	0.16003E+00,	1905	0.75151D-01	0.10034D+00	361
	830315.000555122	0.10942E+03,	-0.54923E-01,	1653	0.22757E+02,	0.18580E+00,	1567		0.66585D-01	
8	830315.000555122	0.74404E+00,	0.16826E+00,	1906	0.35962E+03,	0.16322E+00,	2257	0.63893D-01	0.91536D-01	352
	830315.014446130	0.25839E+03,	-0.42776E-01,	2160	0.18650E+02,	0.18266E+00,	1924		0.65641D-01	
9	830315.014446130	0.61526E+00,	0.16539E+00,	2258	0.35949E+03,	0.16326E+00,	2617	0.69533D-01	0.93036D-01	360
	830315.032337138	0.95214E+02,	-0.30488E-01,	2353	0.17487E+03,	0.19458E+00,	2433		0.61899D-01	
10	830315.032337138	0.48243E+00,	0.15854E+00,	2618	0.35935E+03,	0.16067E+00,	2969	0.58582D-01	0.84173D-01	352
	830315.050228146	0.70173E+02,	-0.44429E-01,	2688	0.74443E+01,	0.18985E+00,	2625		0.60528D-01	
11	830315.050228146	0.34457E+00,	0.15360E+00,	2970	0.35922E+03,	0.17543E+00,	3328	0.67764D-01	0.90494D-01	359
	830315.064119154	0.27087E+03,	-0.62268E-01,	3239	0.53173E+01,	0.17815E+00,	2975		0.60061D-01	
12	830315.064119154	0.20997E+00,	0.18542E+00,	3329	0.35908E+03,	0.16887E+00,	3590	0.67936D-01	0.96154D-01	362
	830315.082010162	0.72893E+02,	-0.78100E-01,	3402	0.41880E+01,	0.19606E+00,	3333		0.68140D-01	
13	830315.082010162	0.79209E-01,	0.17371E+00,	3691	0.35995E+03,	0.13225E+00,	4037	0.60643D-01	0.85412D-01	347
	830315.095917554	0.76748E+02,	-0.67030E-01,	3756	0.40573E+01,	0.19650E+00,	3695		0.60234D-01	
14	830315.095917554	0.94436E+00,	0.13162E+00,	4038	0.35982E+03,	0.19277E+00,	4399	0.61446D-01	0.92565D-01	362
	830315.113808562	0.83592E+02,	-0.68888E-01,	4121	0.35982E+03,	0.19277E+00,	4399		0.69325D-01	
15	830315.113808562	0.81660E+00,	0.21367E+00,	4400	0.35969E+03,	0.14553E+00,	4761	0.44367D-01	0.87335D-01	362
	830315.131659570	0.26937E+03,	-0.82294E-01,	4670	0.18111E+01,	0.21982E+00,	4401		0.75331D-01	
16	830315.131659570	0.68762E+00,	0.14397E+00,	4762	0.35956E+03,	0.14539E+00,	5122	0.50210D-01	0.87963D-01	361
	830315.145550578	0.10027E+03,	-0.10382E+00,	4862	0.17793E+03,	0.17287E+00,	4940		0.72325D-01	
17	830315.145550578	0.55461E+00,	0.16382E+00,	5123	0.35942E+03,	0.19128E+00,	5470	0.46306D-01	0.82130D-01	348
	830315.163441586	0.91167E+02,	-0.11000E+00,	5213	0.35942E+03,	0.19128E+00,	5470		0.67932D-01	
18	830315.163441586	0.41741E+00,	0.19855E+00,	5471	0.98003E+02,	-0.44865E-01,	5568	0.55914D-01	0.10011D+00	98
	830315.170127218	0.93021E+02,	-0.53254E-01,	5563	0.83738E+01,	0.20127E+00,	5479		0.83469D-01	

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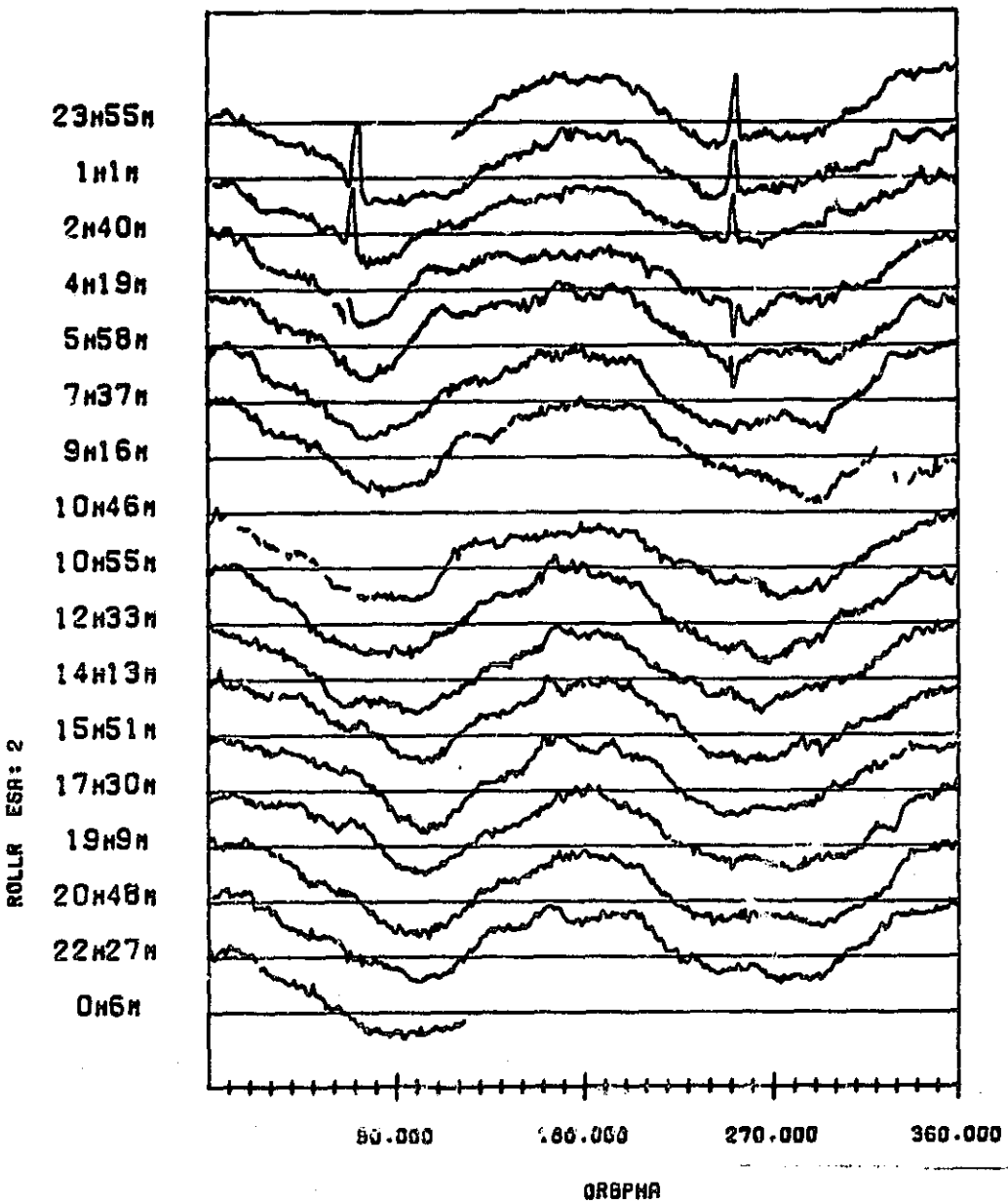

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830329.236506990
END TIME:830331.003946798

FIGURE D-15. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-15. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830329.235506990	0.11764E+03,	-0.40974E-01,	1	0.35901E+03,	0.14821E+00,	244	0.45683D-01	0.82071D-01	244
	830330.010144686	0.24388E+03,	-0.73288E-01,	128	0.35503E+03,	0.15603E+00,	240		0.68321D-01	
2	830330.010144686	0.15801E-02,	0.14399E+00,	245	0.35987E+03,	0.13589E+00,	607	0.44436D-01	0.82189D-01	363
	830330.024052078	0.76661E+02,	-0.70928E-01,	322	0.99477E+01,	0.18950E+00,	255		0.69236D-01	
3	830330.024052078	0.86833E+00,	0.14679E+00,	608	0.35974E+03,	0.13664E+00,	967	0.53627D-01	0.79807D-01	360
	830330.041943086	0.76534E+02,	-0.90634E-01,	683	0.34284E+03,	0.17852E+00,	950		0.53187D-01	
4	830330.041943085	0.73464E+00,	0.14993E+00,	968	0.35961E+03,	0.14602E-00,	1325	0.38358D-01	0.77367D-01	358
	830330.055834094	0.25142E+03,	-0.13145E+00,	1216	0.86918E+01,	0.17110E+00,	976		0.67283D-01	
5	830330.055834094	0.60100E+00,	0.13549E+00,	1326	0.35948E+03,	0.11613E+00,	1686	0.50983D-01	0.88163D-01	361
	830330.073725102	0.25129E+03,	-0.11573E+00,	1578	0.16788E+03,	0.17273E+00,	1494		0.72026D-01	
6	830330.073725102	0.47052E+00,	0.11708E+00,	1687	0.35935E+03,	0.15719E+00,	2048	0.33591D-01	0.86345D-01	362
	830330.091616110	0.76141E+02,	-0.10206E+00,	1763	0.10418E+02,	0.16363E+00,	1697		0.79653D-01	
7	830330.091616110	0.34306E+00,	0.14278E+00,	2049	0.34062E+03,	0.10636E+00,	2362	0.28373D-01	0.89307D-01	314
	830330.104639214	0.29070E+03,	-0.12616E+00,	2331	0.43216E+01,	0.16495E+00,	2053		0.84815D-01	
8	830330.104639214	0.32941E+03,	0.10109E+00,	2363	0.35922E+03,	0.13214E+00,	2386	0.10864D+00	0.11066D+00	24
	830330.105507118	0.33239E+03,	0.72622E-01,	2365	0.34928E+03,	0.15179E+00,	2378		0.21513D-01	
9	830330.105507118	0.2176[illegible]E+00,	0.12472E+00,	2387	0.35910E+03,	0.15679E+00,	2734	0.28121D-01	0.75653D-01	348
	830330.123358126	0.27372E+03,	-0.87731E-01,	2648	0.41961E+01,	0.16863E+00,	2391		0.70333D-01	
10	830330.123358126	0.92321E-01,	0.13964E+00,	2735	0.35998E+03,	0.13645E+00,	3097	0.33079D-01	0.89017D-01	363
	830330.141305518	0.26764E+03,	-0.10913E+00,	3004	0.16538E+03,	0.18402E+00,	2901		0.82756D-01	
11	830330.141305518	0.95849E+00,	0.15421E+00,	3098	0.35983E+03,	0.14471E+00,	3459	0.28121D-01	0.77991D-01	362
	830330.155156526	0.26454E+03,	-0.91580E-01,	3363	0.34989E+03,	0.15745E+00,	3449		0.72845D-01	
12	830330.155156526	0.82515E+00,	0.13896E+00,	3469	0.35970E+03,	0.12753E+00,	3816	0.45414D-01	0.84055D-01	357
	830330.173047534	0.25746E-03,	-0.80041E-01,	3713	0.57980E+01,	0.18193E+00,	3465		0.70830D-01	
13	830330.173047534	0.69087E+00,	0.13658E+00,	3817	0.35956E+03,	0.12492E+00,	4176	0.40326D-01	0.83892D-01	360
	830330.190938542	0.10525E+03,	-0.11288E+00,	3922	0.16995E+03,	0.15238E+00,	3987		0.73667D-01	
14	830330.190938542	0.55823E+00,	0.14417E+00,	4177	0.35944E+03,	0.17980E+00,	4534	0.45171D-01	0.85127D-01	358
	830330.204829550	0.10412E+03,	-0.15986E-01,	4281	0.35944E+03,	0.17980E+00,	4534		0.72255D-01	
15	830330.204829550	0.43032E+00,	0.16734E+00,	4535	0.35932E+03,	0.15049E+00,	4895	0.35363D-01	0.86537D-01	361
	830330.222720558	0.10599E+03,	-0.[illegible]0100E+00,	4640	0.24194E+01,	0.17940E+00,	4537		0.79091D-01	
16	830330.222720558	0.31033E+00,	0.[illegible]9969E+00,	4896	0.35919E+03,	0.13560E+00,	5256	0.45375D-01	0.85324D-01	361
	830331.000611565	0.27382E+03,	-0.[illegible]1553E-01,	5170	0.92621E+01,	0.18915E+00,	4905		0.72358D-01	
17	830331.000611566	0.18571E+00,	0.15359E+00,	5257	0.12267E+03,	-0.20512E-01,	5379	0.31710D-01	0.89162D-01	123
	830331.003946798	0.93785E+02,	-0.71956E-01,	5350	0.10132E+02,	0.18390E+00,	5267		0.83673D-01	

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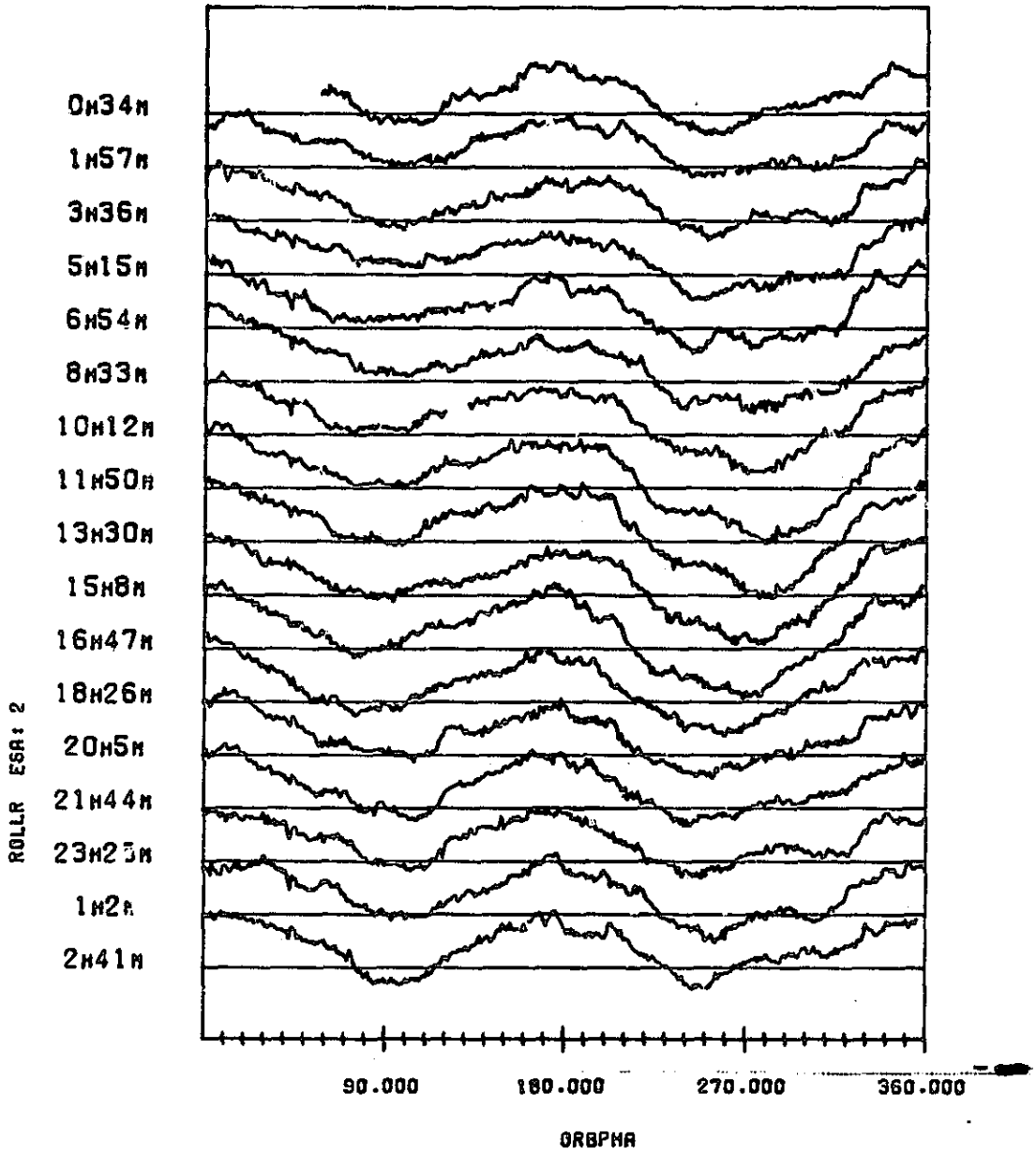

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:030414.003417145
END TIME:030415.041837625

FIGURE D-16. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-16. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830414.003417145	0.56736E+02,	0.53846E-01,	1	0.35988E+03,	0.98768E-01,	306	0.44239D-01	0.71000D-01	306
	830414.015750649	0.25764E+03,	-0.58624E-01,	203	0.17523E+03,	0.14979E+00,	120		0.55624D-01	
2	830414.015750649	0.87437E+00,	0.11544E+00,	307	0.35975E+03,	0.12674E+00,	662	0.64342D-01	0.81631D-01	356
	830414.033641657	0.24263E+03,	-0.28465E-01,	550	0.20770E+02,	0.16271E+00,	327		0.50307D-01	
3	830414.033641657	0.74381E+00,	0.12945E+00,	663	0.35962E+03,	0.15718E+00,	1024	0.55926D-01	0.77455D-01	362
	830414.051532665	0.23043E+03,	-0.51880E-01,	914	0.35465E+03,	0.17618E+00,	1019		0.53661D-01	
4	830414.051532665	0.61327E+00,	0.15179E+00,	1025	0.35943E+03,	0.19009E+00,	1386	0.55724D-01	0.81264D-01	362
	830414.065423673	0.24931E+03,	-0.70484E-01,	1275	0.35949E+03,	0.19009E+00,	1386		0.59231D-01	
5	830414.065423673	0.48404E+00,	0.18989E+00,	1387	0.35936E+03,	0.[illegible]E+00,	1748	0.59162D-01	0.88227D-01	362
	830414.083314681	0.24323E+03,	-0.70821E-01,	1631	0.34678E+01,	0.20270E+00,	1390		0.65543D-01	
6	830414.083314681	0.35859E+00,	0.18328E+00,	1749	0.35924E+03,	0.12958E+00,	2110	0.50839D-01	0.88408D-01	362
	830414.101205689	0.27385E+03,	-0.89375E-01,	2024	0.23477E+01,	0.21859E+00,	1751		0.72428D-01	
7	830414.101205689	0.23455E+00,	0.14456E+00,	2111	0.35912E+03,	0.16485E+00,	2460	0.48994D-01	0.88101D-01	350
	830414.115056697	0.27076E+03,	-0.11040E+00,	2371	0.81917E+01,	0.17738E+00,	2119		0.73326D-01	
8	830414.115056697	0.11182E+00,	0.15846E+00,	2461	0.35999E+03,	0.15344E+00,	2823	0.36072D-01	0.95475D-01	363
	830414.133004089	0.27956E+03,	-0.15659E+00,	2742	0.50846E+01,	0.18537E+00,	2466		0.88520D-01	
9	830414.133004089	0.98198E+00,	0.16847E+00,	2824	0.35986E+03,	0.16617E+00,	3185	0.42295D-01	0.99121D-01	362
	830414.150855097	0.27646E+03,	-0.15850E+00,	310[illegible]	0.19764E+01,	0.18244E+00,	2825		0.89768D-01	
10	830414.150855097	0.85310E+00,	0.16354E+00,	3186	0.35973E+03,	0.16141E+00,	3547	0.36273D-01	0.89610D-01	362
	830414.164746105	0.27930E+03,	-0.13787E+00,	3466	0.28420E+01,	0.17206E+00,	3188		0.82054D-01	
11	830414.164746105	0.72063E+00,	0.15856E+00,	3548	0.35959E+03,	0.17511E+00,	3910	0.45065D-01	0.99371D-01	363
	830414.182637113	0.26925E+03,	-0.14232E+00,	3819	0.86772E+01,	0.16882E+00,	3556		0.88688D-01	
12	830414.182637113	0.58902E+00,	0.18517E+00,	3911	0.35947E+03,	0.14201E+00,	4271	0.45226D-01	0.83947D-01	361
	830414.200528121	0.25921E+03,	-0.94088E-01,	4171	0.15835E+01,	0.19736E+00,	3912		0.70819D-01	
13	830414.200528121	0.46132E+00,	0.15261E+00,	4272	0.35934E+03,	0.14658E+00,	4633	0.55995D-01	0.83336D-01	362
	830414.214419129	0.25313E+03,	-0.66404E-01,	4526	0.10407E+02,	0.18883E+00,	4282		0.61807D-01	
14	830414.214419129	0.33837E+00,	0.15114E+00,	4634	0.35923E+03,	0.15063E+00,	4994	0.61134D-01	0.86317D-[illegible]	361
	830414.232310137	0.23913E+03,	-0.49799E-01,	4874	0.11279E+02,	0.18473E+00,	4645		0.61021D-[illegible]	
15	830414.232310137	0.21960E+00,	0.14361E+00,	4995	0.35910E+03,	0.12356E+00,	5355	0.60506D-01	0.81465D-01	361
	830415.010201145	0.24794E+03,	-0.49174E-01,	5243	0.41975E+01,	0.15233E+00,	4999		0.54624D-01	
16	830415.010201145	0.96876E-01,	0.13233E+00,	5356	0.35997E+03,	0.13163E+00,	5718	0.59686D-01	0.85882D-01	363
	830415.024108537	0.25475E+03,	-0.79210E-01,	5612	0.17631E-03,	0.17581E+00,	5533		0.61837D-01	
17	830415.024108537	0.95617E+00,	0.14612E+00,	5719	0.35586E+03,	0.14143E+00,	6071	0.58697D-01	0.83938D-01	353
	830415.041837525	0.24371E+03,	-0.60302E-01,	5959	0.17519E+03,	0.16153E+00,	5891		0.60087D-01	

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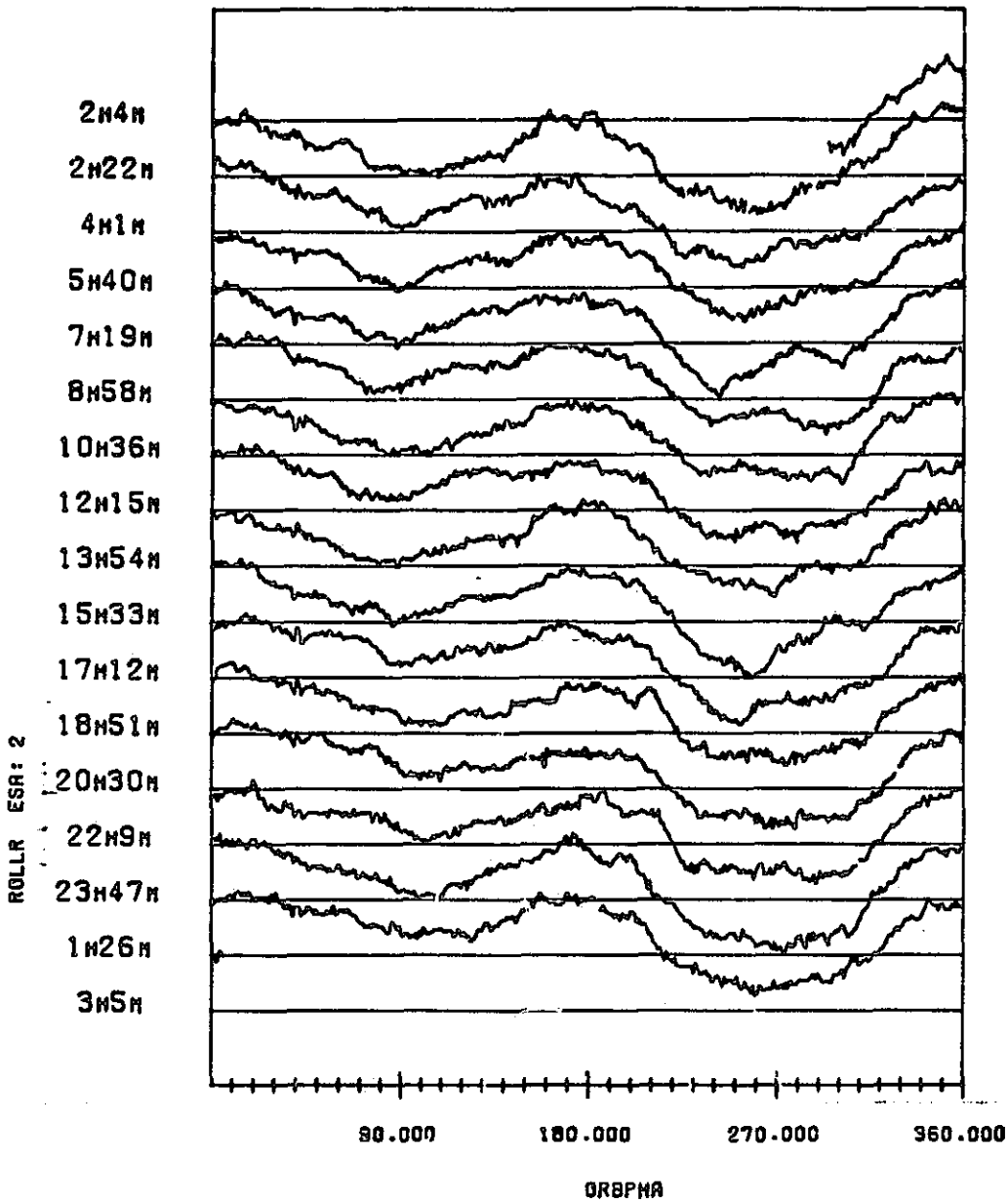

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830426.020419829
END TIME:830427.030700981

FIGURE D-17. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-17. Data Statistics by Orbit

ORBIT	TIME START/END	(P,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN Y	Y-RMS/STDV	POINTS
1	830426.020419829	0.29430E+03,	-0.60672E-01,	1	0.35984E+03,	0.11361E+00,	67	0.50331D-01	0.94564D-01	67
	830426.022237557	0.30124E+03,	-0.95009E-01,	8	0.35188E+03,	0.17581E+00,	59		0.80661D-01	
2	830426.022237557	0.83217E+00,	0.13989E+00,	68	0.35971E+03,	0.17405E+00,	426	0.56213D-01	0.96365D-01	359
	830426.040128565	0.26045E+03,	-0.10435E+00,	328	0.34977E+03,	0.19504E-00,	416		0.78380D-01	
3	830426.040128565	0.70482E+00,	0.18366E+00,	427	0.35958E+03,	0.13137E+00,	788	0.54098D-01	0.91052D-01	362
	830426.054019573	0.25337E+03,	-0.96366E-01,	681	0.16992E+01,	0.20272E+00,	428		0.73340D-01	
4	830426.054019573	0.57591E+00,	0.13210E+00,	789	0.35946E+03,	0.16747E-00,	1149	0.55630D-01	0.85291D-01	361
	830426.071910581	0.25424E+03,	-0.92016E-01,	1043	0.35946E+03,	0.16747E+00,	1149		0.64742D-01	
5	830426.071910581	0.45036E+00,	0.15422E+00,	1150	0.35933E+03,	0.16764E+00,	1511	0.47767D-01	0.89540D-01	362
	830426.085801589	0.24320E+03,	-0.14355E+00,	1394	0.35635E+03,	0.17167E+00,	1508		0.75839D-01	
6	830426.085801589	0.32813E+00,	0.15887E+00,	1512	0.35921E-03,	0.12805E+00,	1872	0.59222D-01	0.94850D-01	361
	830426.103652597	0.29367E+03,	-0.94582E-01,	1807	0.17238E+02,	0.19438E+00,	1529		0.74192D-01	
7	830426.103652597	0.20760E+00,	0.14211E+00,	1873	0.35909E+03,	0.15220E+00,	2234	0.52523D-01	0.86067D-01	362
	830426.121543605	0.30149E+03,	-0.78420E-01,	2178	0.34816E+03,	0.16588E+00,	2223		0.68277D-01	
8	830426.121543605	0.87651E-01,	0.15056E+00,	2235	0.35997E+03,	0.13447E+00,	2597	0.58517D-01	0.91141D-01	363
	830426.135450997	0.27954E+03,	-0.88561E-01,	2516	0.14012E+02,	0.18031E+00,	2249		0.69971D-01	
9	830426.135450997	0.95956E+00,	0.14962E+00,	2598	0.35984E+03,	0.15355E+00,	2959	0.59726D-01	0.89474D-01	362
	830426.153342005	0.26851E+03,	-0.83380E-01,	2867	0.35089E+03,	0.18239E+00,	2950		0.66714D-01	
10	830426.153342005	0.83226E+00,	0.16025E+00,	2960	0.35971E+03,	0.13132E+00,	3321	0.42792D-01	0.88281D-01	362
	830426.171233013	0.25945E+03,	-0.15137E+00,	3220	0.13761E+02,	0.17059E+00,	2973		0.77324D-01	
11	830426.171233013	0.70300E+00,	0.13275E+00,	3322	0.35859E+03,	0.14956E+00,	3682	0.54135D-01	0.95[illegible]86D-01	361
	830426.185124021	0.25238E+03,	-0.12839E+00,	3575	0.16617E+02,	0.17422E+00,	3338		0.79253D-01	
12	830426.185124021	0.57497E+00,	0.14566E+00,	3683	0.35946E+03,	0.13663E+00,	4043	0.56482D-01	0.92875D-01	361
	830426.203015029	0.27408E+03,	-0.90025E-01,	3957	0.10520E+02,	0.19523E-00,	3693		0.73828D-01	
13	830426.203015029	0.45158E+00,	0.14305E+00,	4044	0.35934E+03,	0.12385E+00,	4404	0.49801D-01	0.96393D-01	361
	830426.220906037	0.26801E+03,	-0.10994E+00,	4313	0.10397E+02,	0.19175E+00,	4054		0.82646D-01	
14	830426.220906037	0.33305E+00,	0.12888E+00,	4405	0.35922E+03,	0.14965E+00,	4765	0.43550D-01	0.86805D-01	361
	830426.234757045	0.28872E+03,	-0.10849E+00,	4695	0.20227E-02,	0.17655E+00,	4425		0.75194D-01	
15	830426.234757045	0.21331E+00,	0.15385E+00,	4756	0.35910E+03,	0.14419E+00,	5127	0.41060D-01	0.10026D+00	362
	830427.012648053	0.27372E+03,	-0.14462E+00,	5041	0.17245E+03,	0.17962E+00,	4939		0.91594D-01	
16	830427.012648053	0.93092E-01,	0.13767E+00,	5128	0.35997E+03,	0.13204E+00,	5488	0.59513D-01	0.10110D+00	361
	830427.030555445	0.25971E+03,	-0.10920E+00,	5387	0.13022E+02,	0.17516E+00,	5141		0.81838D-01	
17	830427.030555445	0.96401E+00,	0.14714E+00,	5489	0.49416E+01,	0.15740E+00,	5493	0.14694D+00	0.14743D+00	5
	830427.030700981	0.19584E+01,	0.13165E+00,	5490	0.39472E+01,	0.16282E+00,	5492		0.13437D-01	

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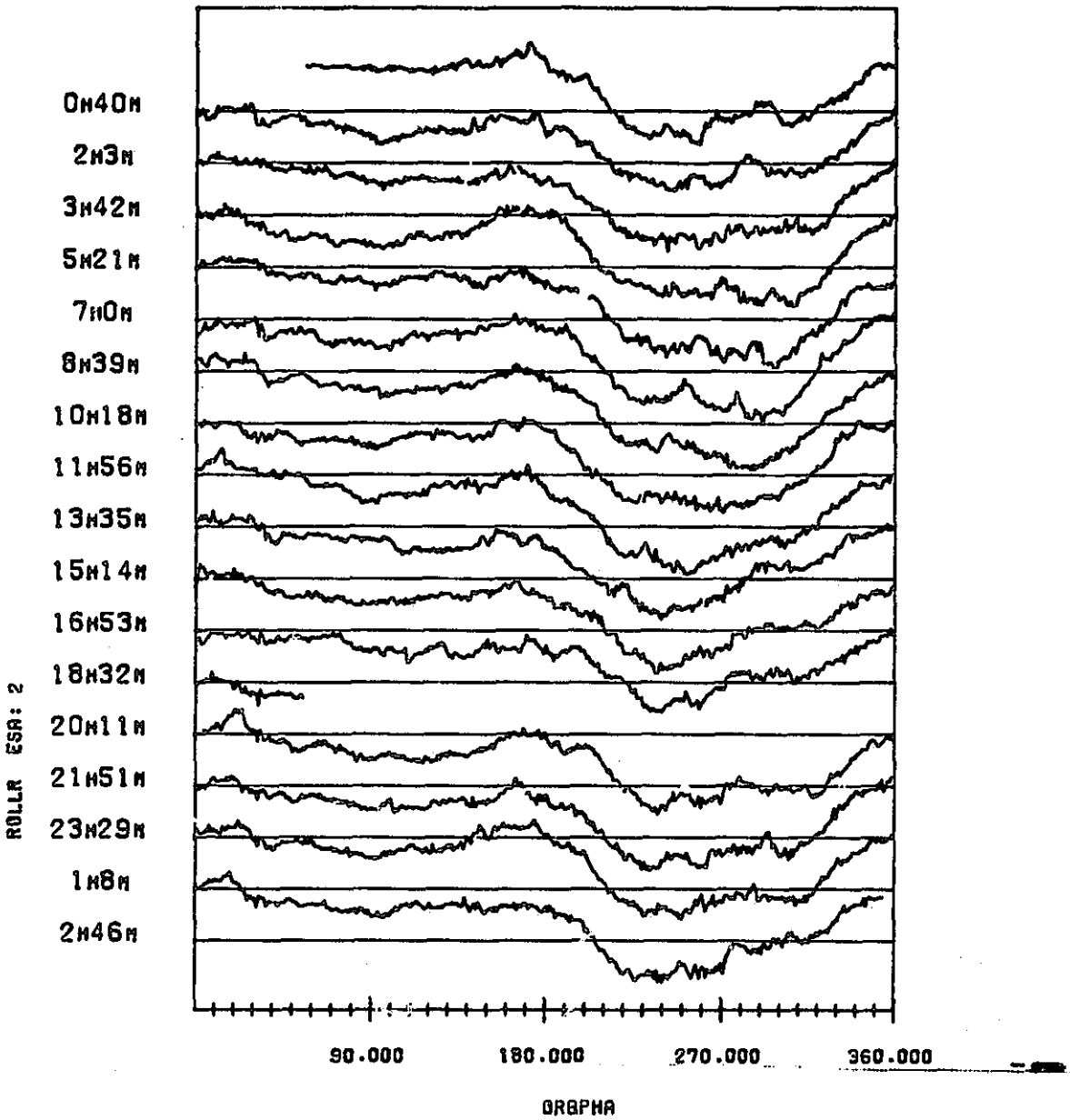

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830523.004000365
END TIME:830524.042404476

FIGURE D-18. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-18. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830523.004000365	0.56024E+02.	0.13085E+00.	1	0.35919E+03.	0.13082E+00.	306	0.62491D-01	0.10063D+00	306
	830523.020333869	0.25796E+03.	-0.96819E-01.	204	0.17156E+03.	0.19895E+00.	117		0.79010D-01	
2	830523.020333869	0.18354E+00.	0.13635E+00.	307	0.35907E+03.	0.15653E+00.	667	0.59561D-01	0.92514D-01	361
	830523.034224877	0.24594E+03.	-0.80444E-01.	553	0.28033E+02.	0.17363E+00.	335		0.70888D-01	
3	830523.034224877	0.63375E-01.	0.14677E+00.	668	0.35994E+03.	0.14171E+00.	1029	0.57129D-01	0.98705D-01	362
	830523.052132269	0.24185E+03.	-0.10460E+00.	910	0.11001E+02.	0.18272E+00.	679		0.80604D-01	
4	830523.052132269	0.93404E+00.	0.15948E+00.	1030	0.35982E+03.	0.14659E+00.	1390	0.47833D-01	0.99687D-01	361
	830523.070023277	0.30619E+03.	-0.11224E+00.	1336	0.14857E+02.	0.18391E+00.	1044		0.87583D-01	
5	830523.070023277	0.81416E+00.	0.15287E+00.	1391	0.35970E+03.	0.10638E+00.	1748	0.53229D-01	0.10836D+00	358
	830523.083914285	0.29715E+03.	-0.14133E+00.	1685	0.17721E+02.	0.18161E+00.	1408		0.94514D-01	
6	830523.083914285	0.69796E+00.	0.10579E+00.	1749	0.35959E+03.	0.17002E+00.	2110	0.49896D-01	0.10454D+00	362
	830523.101805293	0.29108E+03.	-0.15058E+00.	2041	0.35959E+03.	0.17002E+00.	2110		0.91995D-01	
7	830523.101805293	0.58298E+00.	0.18875E+00.	2111	0.35947E+03.	0.13665E+00.	2471	0.57882D-01	0.11082D+00	361
	830523.115656301	0.28502E+03.	-0.13451E+00.	2396	0.25450E+02.	0.20463E+00.	2136		0.94631D-01	
8	830523.115656301	0.46914E+00.	0.15080E+00.	2472	0.35936E+03.	0.14718E+00.	2832	0.58402D-01	0.10402D+00	361
	830523.133547309	0.27102E+03.	-0.10857E+00.	2743	0.16874E+03.	0.16766E+00.	2641		0.86195D-01	
9	830523.133547309	0.35346E+00.	0.16878E+00.	2833	0.35924E+03.	0.15307E+00.	3194	0.59439D-01	0.11140D+00	362
	830523.151438317	0.25206E+03.	-0.13950E+00.	3086	0.13281E+02.	0.22783E+00.	2846		0.94345D-01	
10	830523.151438317	0.23325E+00.	0.16654E+00.	3195	0.35912E+03.	0.14576E+00.	3555	0.66626D-01	0.10163D+00	361
	830523.165329325	0.23904E+03.	-0.11805E+00.	3435	0.91817E+01.	0.19660E+00.	3204		0.76850D-01	
11	830523.165329325	0.10984E+00.	0.12781E+00.	3556	0.35999E+03.	0.11645E+00.	3918	0.57755D-01	0.93528D-01	363
	830523.183236717	0.23693E+03.	-0.12472E+00.	3794	0.20981E+01.	0.19359E+00.	3558		0.73667D-01	
12	830523.183236717	0.98137E+00.	0.12252E+00.	3919	0.35987E+03.	0.13442E+00.	4280	0.68384D-01	0.91943D-01	362
	830523.201127725	0.23979E+03.	-0.87739E-01.	4159	0.35788E+03.	0.15806E+00.	4278		0.61543D-01	
13	830523.201127725	0.86293E+00.	0.14612E+00.	4281	0.55595E+02.	0.10515E+00.	4336	0.13072D+00	0.13235D+00	56
	830523.215124269	0.32695E+02.	0.83363E-01.	4313	0.88176E+01.	0.17893E+00.	4289		0.20898D-01	
14	830523.215124269	0.47262E+01.	0.16215E+00.	4337	0.35965E+03.	0.13486E+00.	4693	0.71700D-01	0.10094D+00	357
	830523.232909741	0.23759E+03.	-0.83076E-01.	4570	0.20640E+02.	0.23327E+00.	4353		0.71146D-01	
15	830523.232909741	0.64148E+00.	0.13716E+00.	4694	0.35953E+03.	0.17535E+00.	5054	0.62384D-01	0.99885D-01	361
	830524.010800749	0.23351E+03.	-0.97838E-01.	4927	0.19537E+02.	0.17794E+00.	4713		0.78116D-01	
16	830524.010800749	0.52793E+00.	0.17454E+00.	5055	0.35942E+03.	0.16052E+00.	5416	0.78727D-01	0.11405D+00	362
	830524.024651757	0.25026E+03.	-0.16456E-01.	5306	0.17477E+03.	0.20131E+00.	5230		0.82637D-01	
17	830524.024651757	0.41204E+00.	0.15201E+00.	5417	0.35433E+03.	0.12662E+00.	5772	0.51772D-01	0.95326D-01	356
	830524.042404476	0.24021E+03.	-0.12127E+00.	5657	0.18313E+02.	0.19999E+00.	5435		0.80154D-01	

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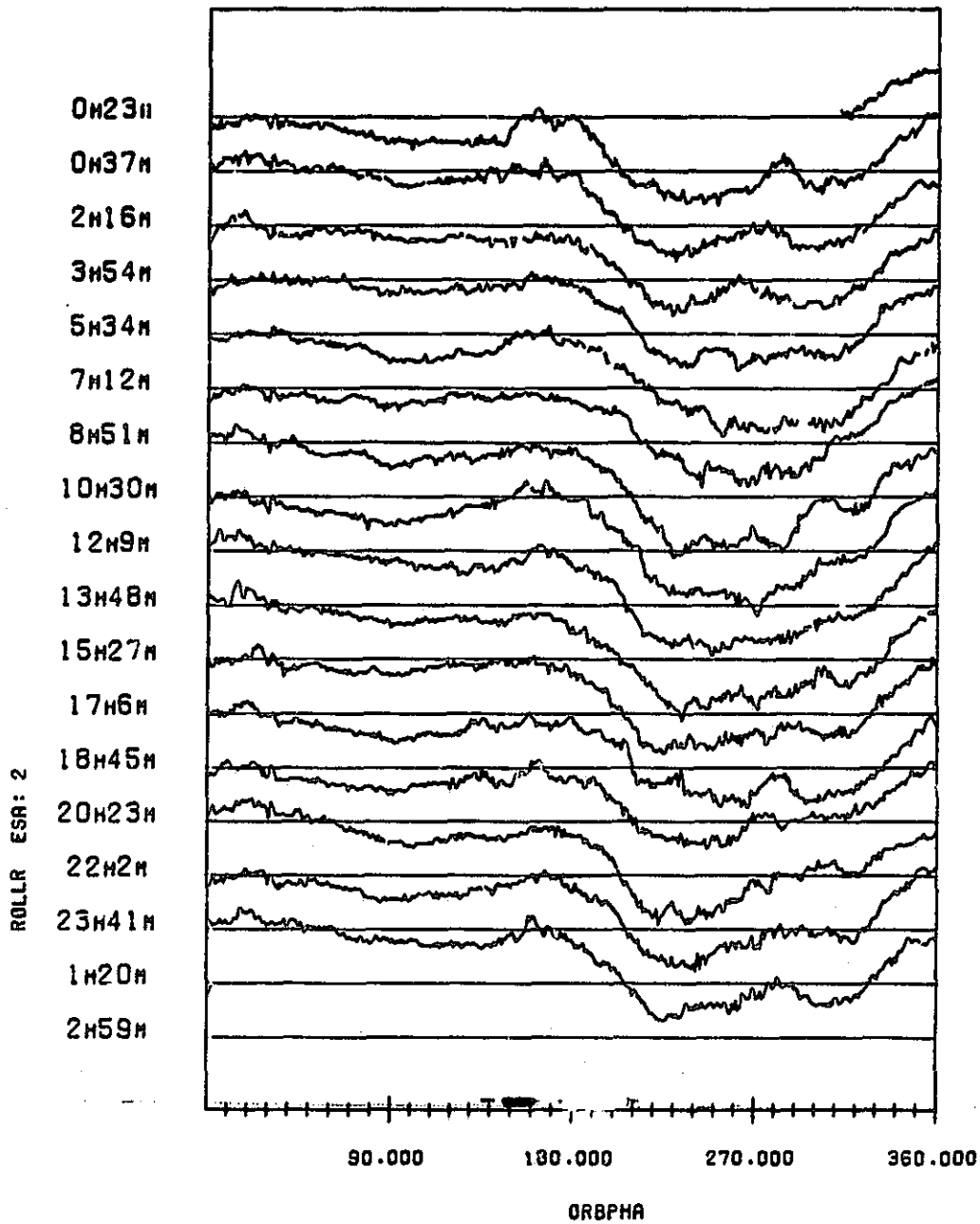

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830606.002351736
END TIME:830607.025956216

FIGURE D-19. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-19. Data Statistics by Orbit

ORBIT	TIME START	TIME END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830606.002351736	830606.003714552	0.31167E+03,	-0.17584E-01,	1	0.35934E+03,	0.12435E+00,	49	0.74638D-01	0.85882D-01	49
			0.31663E+03,	-0.48689E-02,	6	0.35238E+03,	0.13309E-00,	42		0.42924D-01	
2	830606.003714552	830606.021605560	0.33127E+00,	0.13310E+00,	50	0.35921E+03,	0.15122E+00,	411	0.57560D-01	0.95605D-01	362
			0.25105E+03,	-0.94384E-01,	302	0.16165E+03,	0.17281E+00,	212		0.76441D-01	
3	830606.021605560	830606.035456568	0.20545E+00,	0.15373E+00,	412	0.35908E+03,	0.10759E+00,	769	0.71564D-01	0.11454D+00	358
			0.23009E+03,	-0.97592E-01,	640	0.18107E+02,	0.20734E-00,	430		0.89560D-01	
4	830606.035456568	830606.053403960	0.74377E-01,	0.10434E+00,	770	0.35994E+03,	0.13127E-00,	1124	0.58357D-01	0.99375D-01	355
			0.22896E+03,	-0.99977E-01,	993	0.17976E+02,	0.19281E-00,	787		0.80549D-01	
5	830606.053403960	830606.071254968	0.93524E+00,	0.12483E+00,	1125	0.35981E+03,	0.13691E-00,	1486	0.66400D-01	0.10950D+00	362
			0.26156E+03,	-0.99648E-01,	1387	0.15927E+03,	0.17167E+00,	1284		0.67191D-01	
6	830606.071254968	830606.085145976	0.80523E+00,	0.14487E+00,	1487	0.35968E+03,	0.12565E+00,	1837	0.49847D-01	0.10538D+00	351
			0.25350E+03,	-0.13332E+00,	1737	0.16810E+03,	0.17491E+00,	1655		0.92974D-01	
7	830606.085145976	830606.103036984	0.67887E+00,	0.11786E+00,	1838	0.35956E+03,	0.17396E+00,	2197	0.65390D-01	0.10798D+00	360
			0.24346E+03,	-0.12483E+00,	2081	0.35857E+03,	0.17749E+00,	2196		0.86048D-01	
8	830606.103036384	830606.120927992	0.55405E+00,	0.16535E+00,	2198	0.35944E+03,	0.12831E+00,	2559	0.48366D-01	0.11481D+00	362
			0.22945E+03,	-0.16869E+00,	2428	0.13483E+02,	0.19938E+00,	2211		0.10427D+00	
9	830606.120927992	830606.134819000	0.43003E+00,	0.14496E+00,	2560	0.35931E+03,	0.17072E+00,	2920	0.49872D-01	[illegible]11D+00	361
			0.27098E+03,	-0.17805E+00,	2831	0.16673E+03,	0.19574E+00,	2726		[illegible]277D+00	
10	830606.134819000	830606.152710008	0.30366E+00,	0.16794E+00,	2921	0.35918E+03,	0.17396E+00,	3281	0.55309D-01	0.11601D+00	361
			0.24904E+03,	-0.14163E+00,	3171	0.52751E+01,	0.21055E+00,	2926		0.10212D+00	
11	830606.152710008	830606.170601016	0.17238E+00,	0.17686E+00,	3282	0.35904E+03,	0.13891E-00,	3642	0.43490D-01	0.10998D+00	361
			0.23402E-03,	-0.16868E+00,	3517	0.15089E+02,	0.21880E+00,	3297		0.10116D+00	
12	830606.170601016	830606.184508408	0.38814E-01,	0.14748E+00,	3643	0.35991E+03,	0.14391E+00,	4005	0.57719D-01	0.10794D+00	363
			0.22496E+03,	-0.11003E+00,	3869	0.24905E+02,	0.19069E-00,	3668		0.91335D-01	
13	830606.184508408	830606.202359416	0.90063E+00,	0.14668E+00,	4006	0.35978E+03,	0.12023E+00,	4367	0.51537D-01	0.10007D+00	362
			0.26649E+03,	-0.11189E+00,	4273	0.20793E+02,	0.18518E+00,	4026		0.85902D-01	
14	830606.202359416	830606.220250424	0.77272E+00,	0.13012E+00,	4368	0.35965E+03,	0.16854E+00,	4729	0.70933D-01	0.97964D-01	362
			0.24654E+03,	-0.75863E-01,	4615	0.16408E+03,	0.17235E+00,	4532		0.67662D-01	
15	830606.220250424	830606.234141432	0.64919E+00,	0.17323E+00,	4730	0.35953E+03,	0.12040E+00,	5090	0.64376D-01	0.11055D+00	361
			0.22260E+03,	-0.13738E+00,	4952	0.22531E+02,	0.21534E+00,	4752		0.89999D-01	
16	830606.234141432	830607.012032440	0.52700E-00,	0.12139E+00,	5091	0.35941E+03,	0.17055E+00,	5451	0.61969D-01	0.10087D+00	361
			0.24133E+03,	-0.11421E+00,	5332	0.35344E+03,	0.17233E+00,	5445		0.79706D-01	
17	830607.012032440	830607.025923448	0.40288E+00,	0.17359E+00,	5452	0.35928E+03,	0.13042E+00,	5813	0.66325D-01	0.11115D+00	362
			0.22434E+03,	-0.10304E+00,	5677	0.16315E+02,	0.21109E-00,	5468		0.89320D-01	
18	830607.025923448	830607.025956216	0.27588E+00,	0.12215E+00,	5814	0.22643E+01,	0.14405E+00,	5816	0.13308D+00	0.13338D+00	3
			0.27588E+00,	0.12215E+00,	5814	0.22643E+01,	0.14405E+00,	5816		0.10951D-01	

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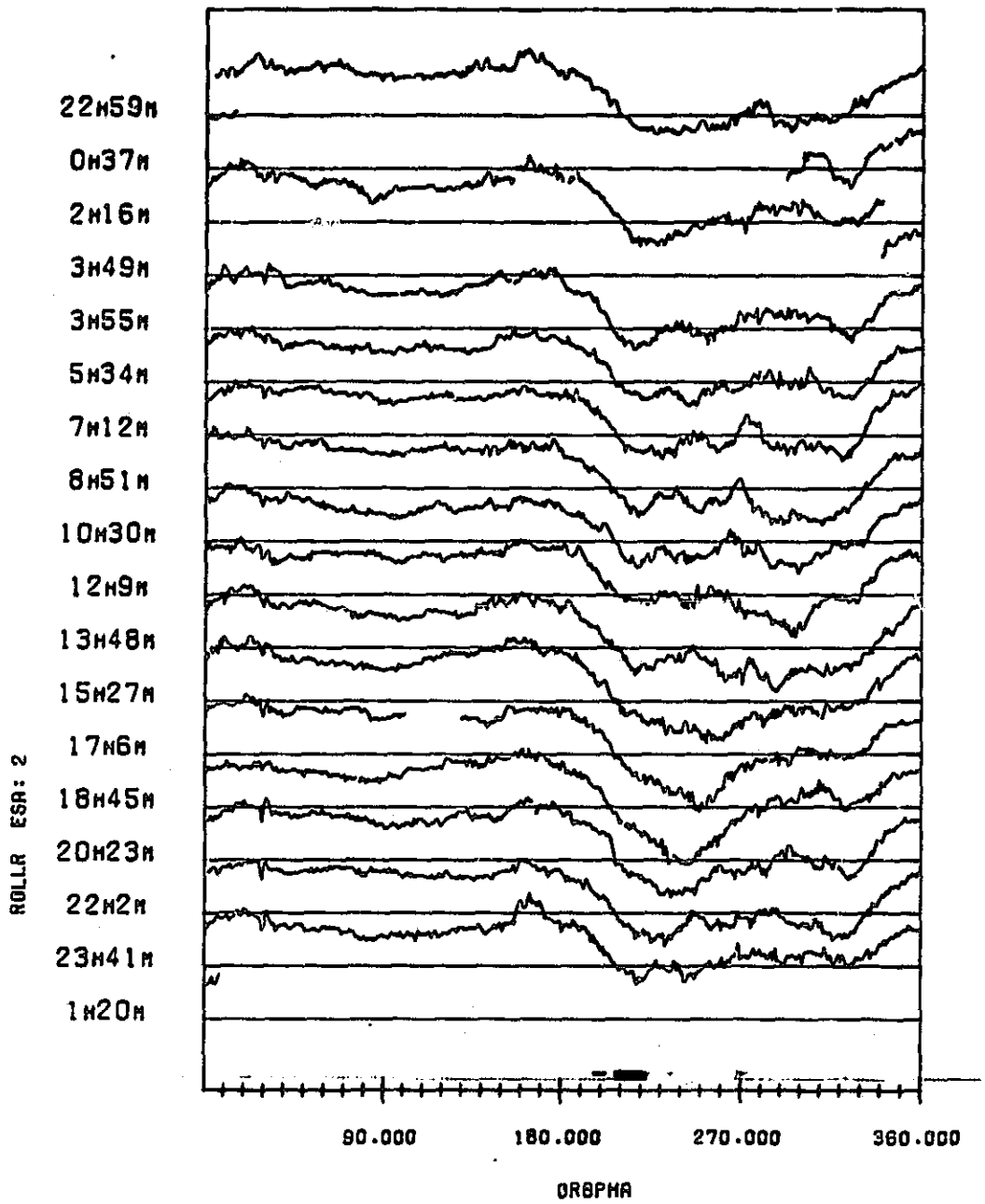

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830621.225929155
END TIME:830623.012243607

FIGURE D-20. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-20. Data Statistics by Orbit

ORBIT	TIME START/END	(X,V,REC) AT MIN X/V			(X,V,REC) AT MAX X/V			MEAN V	V-RMS/STDV	POINTS
1	830621.225929155	0.37950E+01.	0.11249E+00.	1	0.35970E+03.	0.12769E-00.	359	0.73645D-01	0.10171D+00	359
	830622.003731011	0.23666E+03.	-0.54792E-01.	235	0.16215E+03.	0.18717E-00.	160		0.70248D-01	
2	830622.003731011	0.69377E+00.	0.14344E+00.	360	0.35958E+03.	0.10043E-00.	443	0.53136D-01	0.82938D-01	84
	830622.021622019	0.32381E+03.	-0.53557E-01.	409	0.14518E+02.	0.15388E-00.	374		0.62880D-01	
3	830622.021622019	0.57116E+00.	0.10053E+00.	444	0.34057E+03.	0.61692E-01.	782	0.69036D-01	0.92799D-01	339
	830622.034928963	0.21855E+03.	-0.58461E-01.	659	0.16289E+03.	0.18767E-00.	606		0.62106D-01	
4	830622.034928963	0.33957E+03.	0.55211E-01.	783	0.35945E+03.	0.11641E-00.	803	0.10149D+00	0.10338D+00	21
	830622.035513027	0.33957E+03.	0.55211E-01.	783	0.35647E+03.	0.13066E-00.	800		0.20176D-01	
5	830622.035513027	0.44334E+00.	0.12801E+00.	804	0.35932E+03.	0.12053E-00.	1163	0.77896D-01	0.99871D-01	360
	830622.053404035	0.21643E+03.	-0.61281E-01.	1019	0.31286E+02.	0.18207E-00.	835		0.62588D-01	
6	830622.053404035	0.31323E-00.	0.10923E+00.	1154	0.35919E+03.	0.95379E-01.	1524	0.58842D-01	0.86047D-01	361
	830622.071255043	0.24309E+03.	-0.69069E-01.	1408	0.23194E+02.	0.15746E-00.	1187		0.62870D-01	
7	830622.071255043	0.18647E+00.	0.[illegible]7493E-01.	1525	0.35907E+03.	0.14793E-00.	1886	0.62983D-01	0.93207D-01	362
	830622.085146051	0.32032E+03.	-0.[illegible]0336E-01.	1847	0.22073E+02.	0.15691E-00.	1547		0.68803D-01	
8	830622.085146051	0.63380E-01.	0.14367E+00.	1887	0.35994E+03.	0.12228E-00.	2249	0.51609D-01	0.95849D-01	363
	830622.103053443	0.31028E+03.	-0.10305E+00.	2199	0.20954E+02.	0.17412E+00.	1908		0.80881D-01	
9	830622.103053443	0.93621E+00.	0.12556E+00.	2250	0.35982E+03.	0.12634E-00.	2611	0.50969D-01	0.84857D-01	362
	830622.120944451	0.29826E+03.	-0.88898E-01.	2549	0.11877E+02.	0.16587E+00.	2261		0.67938D-01	
10	830622.120944451	0.81547E+00.	0.13070E+00.	2612	0.35970E+03.	0.10626E-00.	2973	0.63111D-01	0.95274D-01	362
	830622.134835459	0.29714E+03.	-0.11942E+00.	2910	0.17726E+02.	0.16217E-00.	2629		0.71472D-01	
11	830622.134835459	0.69240E+00.	0.11416E+00.	2974	0.35957E+03.	0.12296E+00.	3335	0.49929D-01	0.96847D-01	362
	830622.152726467	0.28809E+03.	-0.12291E+00.	3263	0.19592E+02.	0.17943E+00.	2993		0.83100D-01	
12	830622.152726467	0.56441E+00.	0.12025E+00.	3336	0.35944E+03.	0.12086E+00.	3695	0.60723D-01	0.10535D+00	360
	830622.170617475	0.25227E+03.	-0.11658E+00.	3588	0.23444E+02.	0.18435E+00.	3358		0.86209D-01	
13	830622.170617475	0.43417E+00.	0.12364E+00.	3696	0.35931E+03.	0.96564E-01.	4027	0.51341D-01	0.99859D-01	332
	830622.184508483	0.24916E+03.	-0.16313E+00.	3918	0.21323E+02.	0.17078E-00.	3717		0.85779D-01	
14	830622.184508483	0.30516E+00.	0.97871E-01.	4028	0.35919E+03.	0.10540E+00.	4385	0.53781D-01	0.97201D-01	358
	830622.202359491	0.24408E+03.	-0.16151E+00.	4269	0.16064E+03.	0.16786E+00.	4187		0.81080D-01	
15	830622.202359491	0.18062E+00.	0.11257E+00.	4386	0.35907E+03.	0.11366E+00.	4744	0.65262D-01	0.10245D+00	359
	830622.220250499	0.23503E+03.	-0.10503E+00.	4621	0.16350E+03.	0.17875E+00.	4550		0.79080D-01	
16	830622.220250499	0.60458E-01.	0.11496E+00.	4745	0.35994E+03.	0.11907E+00.	5106	0.57631D-01	0.92621D-01	362
	830622.234157891	0.23194E+03.	-0.91950E-01.	4977	0.16039E+03.	0.15302E+00.	4905		0.72608D-01	
17	830622.234157891	0.93035E+00.	0.11022E+00.	5107	0.35981E+03.	0.10117E+00.	5468	0.77510D-01	0.90810D-01	362
	830623.012048899	0.21792E+03.	-0.51321E-01.	5325	0.16425E+03.	0.20475E+00.	5271		0.54744D-01	
18	830623.012048899	0.80906E+00.	0.96909E-01.	5469	0.77702E+01.	0.12853E+00.	5476	0.10768D+00	0.10824D+00	8
	830623.012243587	0.80906E+00.	0.96909E-01.	5469	0.77702E+01.	0.12853E+00.	5476		0.11837D-01	

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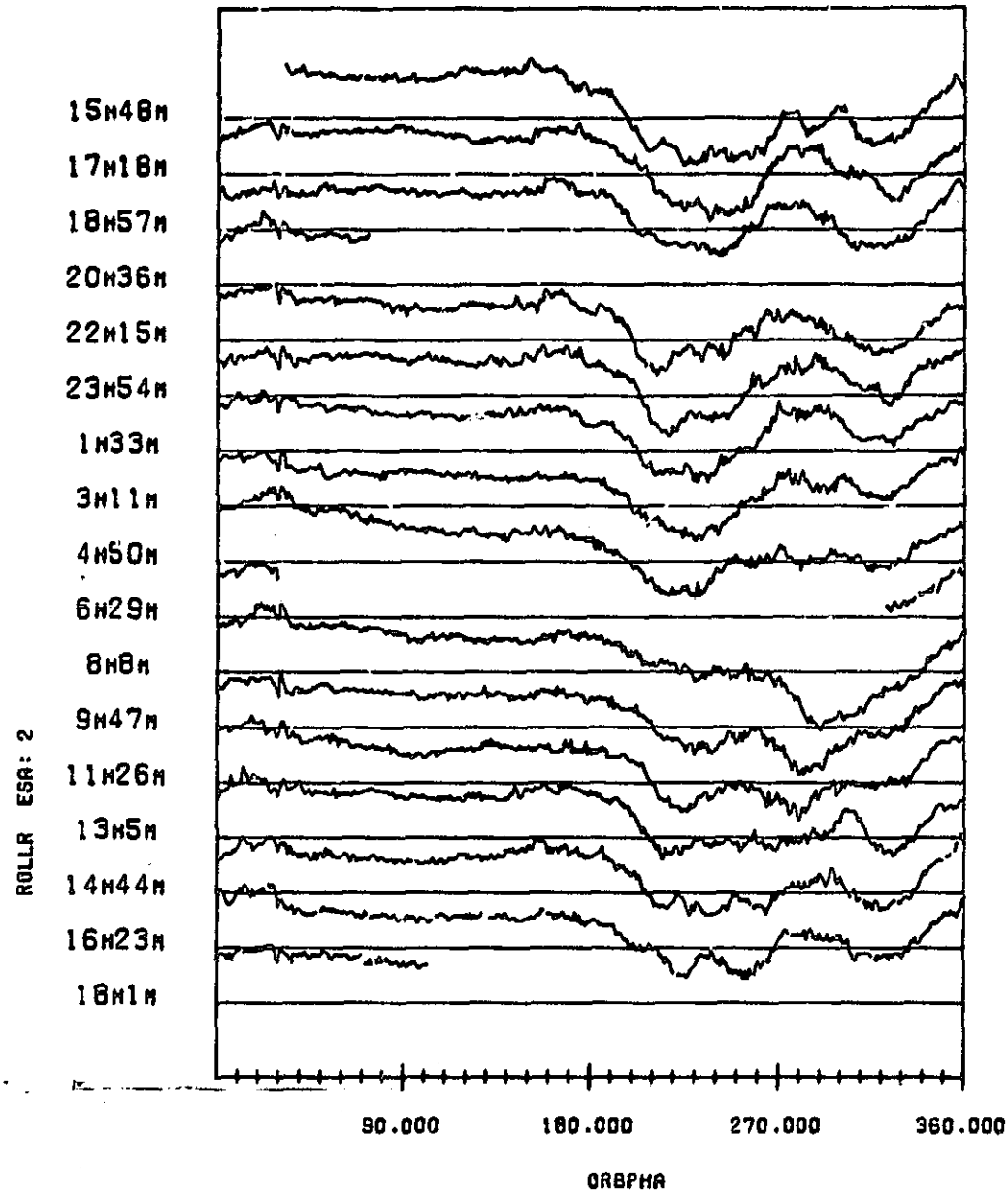

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830706.154825062
END TIME:830707.182940838

FIGURE D-21. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-21. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830705.154825062	0.32076E+02.	0.14719E+00.	1	0.35911E+03.	0.82368E-01.	326	0.37173D-01	0.95336D-01	326
	830705.171848165	0.22416E+03.	-0.12891E+00.	192	0.15061E+03.	0.16312E+00.	118		0.87926D-01	
2	830706.171848166	0.11023E+01.	0.89836E-01.	327	0.35998E+03.	0.79054E-01.	688	0.52805D-01	0.90936D-01	362
	830706.185739174	0.23693E+03.	-0.12857E+00.	565	0.23985E+02.	0.14739E+00.	350		0.74136D-01	
3	830706.185739174	0.97611E+00.	0.10200E+00.	689	0.35986E+03.	0.11388E+00.	1059	0.57422D-01	0.83672D-01	362
	830706.203630182	0.24177E+03.	-0.73617E-01.	931	0.16230E+03.	0.14376E+00.	851		0.60943D-01	
4	830706.203630182	0.85451E+00.	0.11667E+00.	1051	0.72540E+02.	0.14135E+00.	1123	0.14418D+00	0.14538D+00	73
	830706.221521190	0.63573E+02.	0.11465E+00.	1114	0.21747E+02.	0.20059E+00.	1072		0.18821D-01	
5	830706.221521190	0.73685E+00.	0.12070E+00.	1124	0.35962E+03.	0.86028E-01.	1484	0.60296D-01	0.84417D-01	361
	830706.235412198	0.21177E+03.	-0.95601E-01.	1335	0.27601E+02.	0.15996E+00.	1151		0.59164D-01	
6	830706.235412198	0.61879E+00.	0.90527E-01.	1485	0.35950E+03.	0.11705E+00.	1846	0.63459D-01	0.86412D-01	362
	830707.013303206	0.21760E-03.	-0.11056E-00.	1703	0.15697E+03.	0.13625E+00.	1642		0.58734D-01	
7	830707.013303206	0.49560E+00.	0.12522E+00.	1847	0.35938E+03.	0.12577E+00.	2208	0.75624D-01	0.95756D-01	362
	830707.031154214	0.23137E+03.	-0.84696E-01.	2079	0.21386E+02.	0.16677E+00.	1868		0.58820D-01	
8	830707.031154214	0.37296E+00.	0.12681E+00.	2209	0.35925E+03.	0.14052E+00.	2570	0.62203D-01	0.83476D-01	362
	830707.045045222	0.23025E+03.	-0.94656E-01.	2440	0.35826E+03.	0.15597E+00.	2569		0.55745D-01	
9	830707.045045222	0.24459E+00.	0.14012E+00.	2571	0.35912E+03.	0.91399E-01.	2932	0.55555D-01	0.89031D-01	362
	830707.062936230	0.23012E+03.	-0.97213E-01.	2802	0.27109E+02.	0.20270E+00.	2598		0.69668D-01	
10	830707.062936230	0.11891E+00.	0.11445E+00.	2933	0.36000E+03.	0.11823E+00.	2998	0.96405D-01	0.10456D+00	66
	830707.080843622	0.32422E+03.	0.15306E-01.	2965	0.22007E+02.	0.14909E+00.	2955		0.40802D-01	
11	830707.080843622	0.99142E+00.	0.12773E+00.	2999	0.35988E+03.	0.10635E+00.	3360	0.49592D-01	0.95157D-01	362
	830707.094734630	0.29037E+03.	-0.15908E+00.	3290	0.18899E+02.	0.18658E+00.	3017		0.81325D-01	
12	830707.094734630	0.87127E+00.	0.10997E+00.	3361	0.35976E+03.	0.11246E+00.	3722	0.45483D-01	0.84015D-01	362
	830707.112625638	0.28033E+03.	-0.12906E+00.	3642	0.30724E+02.	0.14793E+00.	3391		0.70736D-01	
13	830707.112625638	0.75295E+00.	0.14520E+00.	3723	0.35964E+03.	0.11939E+00.	4084	0.55931D-01	0.88250D-01	362
	830707.130516646	0.28022E+03.	-0.10186E+00.	4004	0.16670E+02.	0.18413E+00.	3739		0.68355D-01	
14	830707.130516646	0.63379E+00.	0.11075E+00.	4085	0.35952E+03.	0.10120E+00.	4446	0.71891D-01	0.97307D-01	362
	830707.144407654	0.21463E+03.	-0.60475E-01.	4300	0.12570E+02.	0.19486E+00.	4097		0.65667D-01	
15	830707.144407654	0.51099E+00.	0.90658E-01.	4447	0.35939E+03.	0.14490E+00.	4801	0.59908D-01	0.85896D-01	355
	830707.162315046	0.23634E+03.	-0.60804E-01.	4694	0.35839E+03.	0.16085E+00.	4800		0.61644D-01	
16	830707.162315046	0.13780E-01.	0.15714E+00.	4802	0.35926E+03.	0.13456E+00.	5149	0.50331D-01	0.78659D-01	348
	830707.180149670	0.25397E+03.	-0.84753E-01.	5045	0.27247E+02.	0.17355E+00.	4826		0.60765D-01	
17	830707.180149670	0.25622E+00.	0.12331E+00.	5150	0.10183E+03.	0.10244E+00.	5248	0.12616D+00	0.12716D+00	99
	830707.182940838	0.97843E+02.	0.94137E-01.	5244	0.25129E+02.	0.16028E+00.	5174		0.16004D-01	

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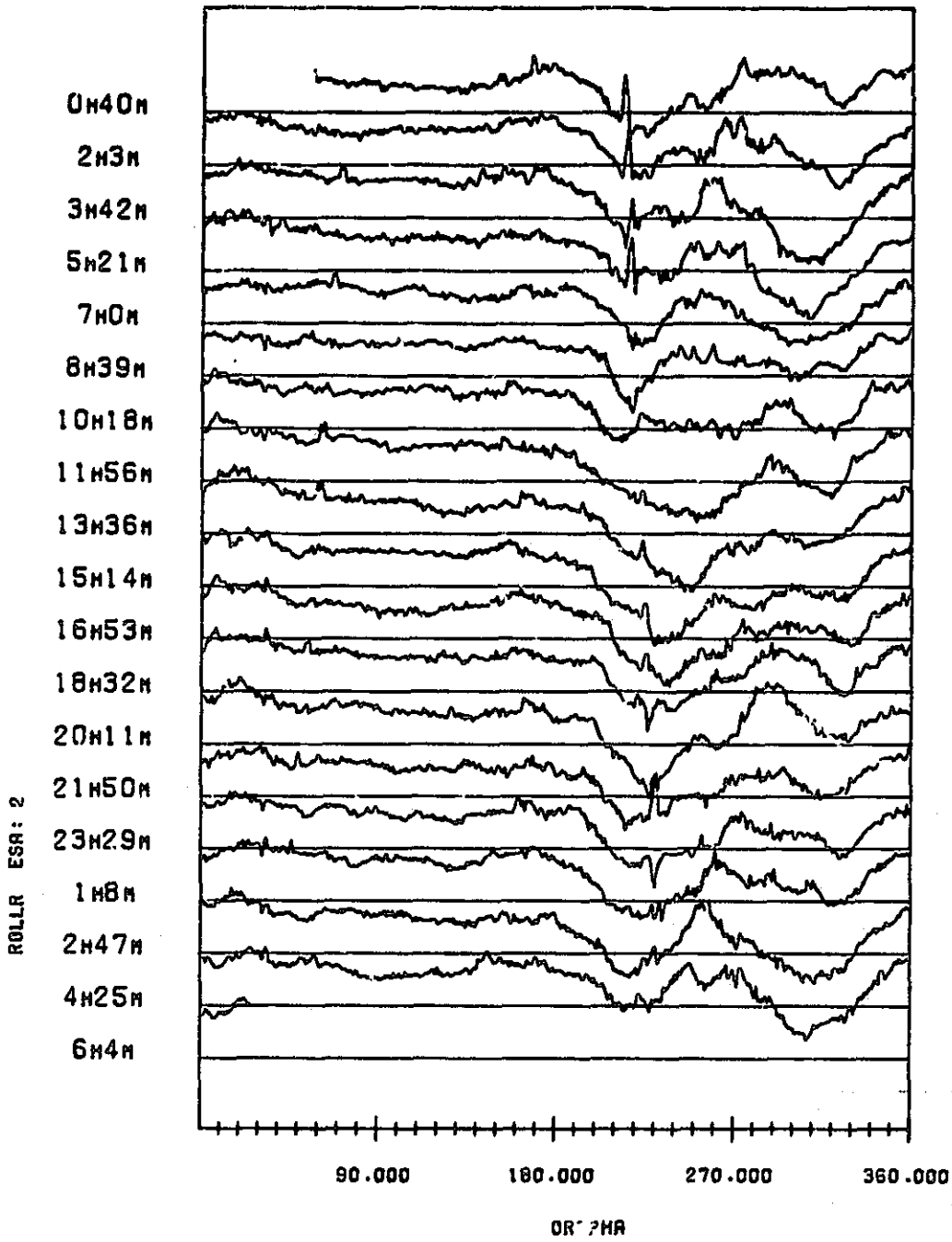

FIGURE D-22. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-22. Data Statistics by Orbit

ORBIT	TIME START/END	(R,V,REC) AT MIN R/V			(R,V,REC) AT MAX R/V			MEAN V	V-RMS/STDV	POINTS
1	830726.004016064	0.56601E+02,	0.12221E+00,	1	0.35975E+03,	0.13798E+00,	306	0.72536D-01	0.85394D-01	306
	830726.020349568	0.22477E+03,	-0.68288E-01,	170	0.16715E+03,	0.16400E+00,	112		0.45136D-01	
2	830726.020349568	0.74253E+00,	0.13540E+00,	307	0.35963E+03,	0.10933E+00,	668	0.76244D-01	0.91579D-01	362
	830726.034240576	0.32286E+03,	-0.65697E-01,	631	0.20639E+02,	0.14993E+00,	327		0.50801D-01	
3	830726.034240576	0.62044E+00,	0.11731E+00,	669	0.35950E+03,	0.12509E+00,	1030	0.64416D-01	0.97874D-01	362
	830726.052131584	0.31380E+03,	-0.13089E+00,	984	0.18527E+02,	0.16854E+00,	687		0.73790D-01	
4	830726.052131584	0.49501E+00,	0.12798E+00,	1031	0.35938E+03,	0.10018E+00,	1392	0.58522D-01	0.91566D-01	362
	830726.070022592	0.30673E+03,	-0.13741E+00,	1339	0.13427E+02,	0.17298E+00,	1044		0.70521D-01	
5	830726.070022592	0.37318E+00,	0.10049E+00,	1393	0.35926E+03,	0.10957E+00,	1753	0.59849D-01	0.79779D-01	361
	830726.083913600	0.21833E+03,	-0.72425E-01,	1611	0.68072E+02,	0.14356E+00,	1461		0.52825D-01	
6	830726.083913600	0.25503E+00,	0.11214E+00,	1754	0.35914E+03,	0.13417E+00,	2114	0.69872D-01	0.81468D-01	361
	830726.101804608	0.21821E+03,	-0.10306E+00,	1972	0.35914E+03,	0.13417E+00,	2114		0.41949D-01	
7	830726.101804608	0.13812E+00,	0.12140E+00,	2115	0.35903E+03,	0.12504E+00,	2476	0.75959D-01	0.91538D-01	362
	830726.115655616	0.21313E+03,	-0.35957E-01,	2329	0.61059E+01,	0.17100E+00,	2121		0.51154D-01	
8	830726.115655616	0.22354E-01,	0.14149E+00,	2477	0.35990E+03,	0.12639E+00,	2839	0.61357D-01	0.97991D-01	363
	830726.133603008	0.25072E+03,	-0.11599E+00,	2729	0.69848E+01,	0.19431E+00,	2484		0.76510D-01	
9	830726.133603008	0.89922E+00,	0.12222E+00,	2840	0.35978E+03,	0.14739E+00,	3201	0.46067D-01	0.93664D-01	362
	830726.151454016	0.24862E+03,	-0.16479E+00,	3089	0.16816E+02,	0.19296E+00,	2856		0.91665D-01	
10	830726.151454016	0.77704E+00,	0.14184E+00,	3202	0.35966E+03,	0.12061E+00,	3562	0.41972D-01	0.92130D-01	361
	830726.165345024	0.23064E+03,	-0.16610E+00,	3432	0.23659E+02,	0.16511E+00,	3224		0.82127D-01	
11	830726.165345024	0.65170E+00,	0.12352E+00,	3563	0.35953E+03,	0.12530E+00,	3924	0.58045D-01	0.90411D-01	362
	830726.183236032	0.23746E+03,	-0.13414E+00,	3801	0.76138E+01,	0.18051E+00,	3570		0.69414D-01	
12	830726.183236032	0.52717E+00,	0.11686E+00,	3925	0.35941E+03,	0.13001E+00,	4285	0.80563D-01	0.97133D-01	361
	830726.201127040	0.22642E+03,	-0.11155E+00,	4151	0.74894E+01,	0.18026E+00,	3932		0.54338D-01	
13	830726.201127040	0.40681E+00,	0.13578E+00,	4286	0.35930E+03,	0.89310E-01,	4646	0.72107D-01	0.97167D-01	361
	830726.215018048	0.22730E+03,	-0.15432E+00,	4513	0.20304E+02,	0.18980E+00,	4305		0.65221D-01	
14	830726.215018048	0.29117E+00,	0.10142E+00,	4647	0.35918E+03,	0.14274E+00,	5007	0.62352D-01	0.79747D-01	361
	830726.232909056	0.21528E+03,	-0.97863E-01,	4863	0.31137E+02,	0.15170E+00,	4678		0.49786D-01	
15	830726.232909056	0.17577E+00,	0.12800E+00,	5008	0.35907E+03,	0.10193E+00,	5369	0.72407D-01	0.90571D-01	362
	830727.010800064	0.23005E+03,	-0.11016E+00,	5239	0.15097E+02,	0.16434E+00,	5023		0.54385D-01	
16	830727.010800064	0.59891E-01,	0.12107E+00,	5370	0.35994E+03,	0.13299E+00,	5732	0.86880D-01	0.10347D+00	363
	830727.024707456	0.23390E+03,	-0.54166E-01,	5605	0.33891E+02,	0.18153E+00,	5404		0.56271D-01	
17	830727.024707456	0.93606E+00,	0.15075E+00,	5733	0.35982E+03,	0.12502E+00,	6093	0.66843D-01	0.93356D-01	361
	830727.042558464	0.31114E+03,	-0.85214E-01,	6044	0.15857E+02,	0.18744E+00,	5748		0.65262D-01	
18	830727.042558464	0.81160E+00,	0.13416E+00,	6094	0.35969E+03,	0.13755E+00,	6455	0.75370D-01	0.95598D-01	362
	830727.060449472	0.30704E+03,	-0.95897E-01,	6402	0.33649E+02,	0.16706E+00,	6127		0.58889D-01	
19	830727.060449472	0.68754E+00,	0.12447E+00,	6456	0.29544E+02,	0.14950E+00,	6485	0.14110D+00	0.14210D+00	30
	830727.061244608	0.66555E+01,	0.11366E+00,	6462	0.22576E+02,	0.17127E+00,	6478		0.17117D-01	

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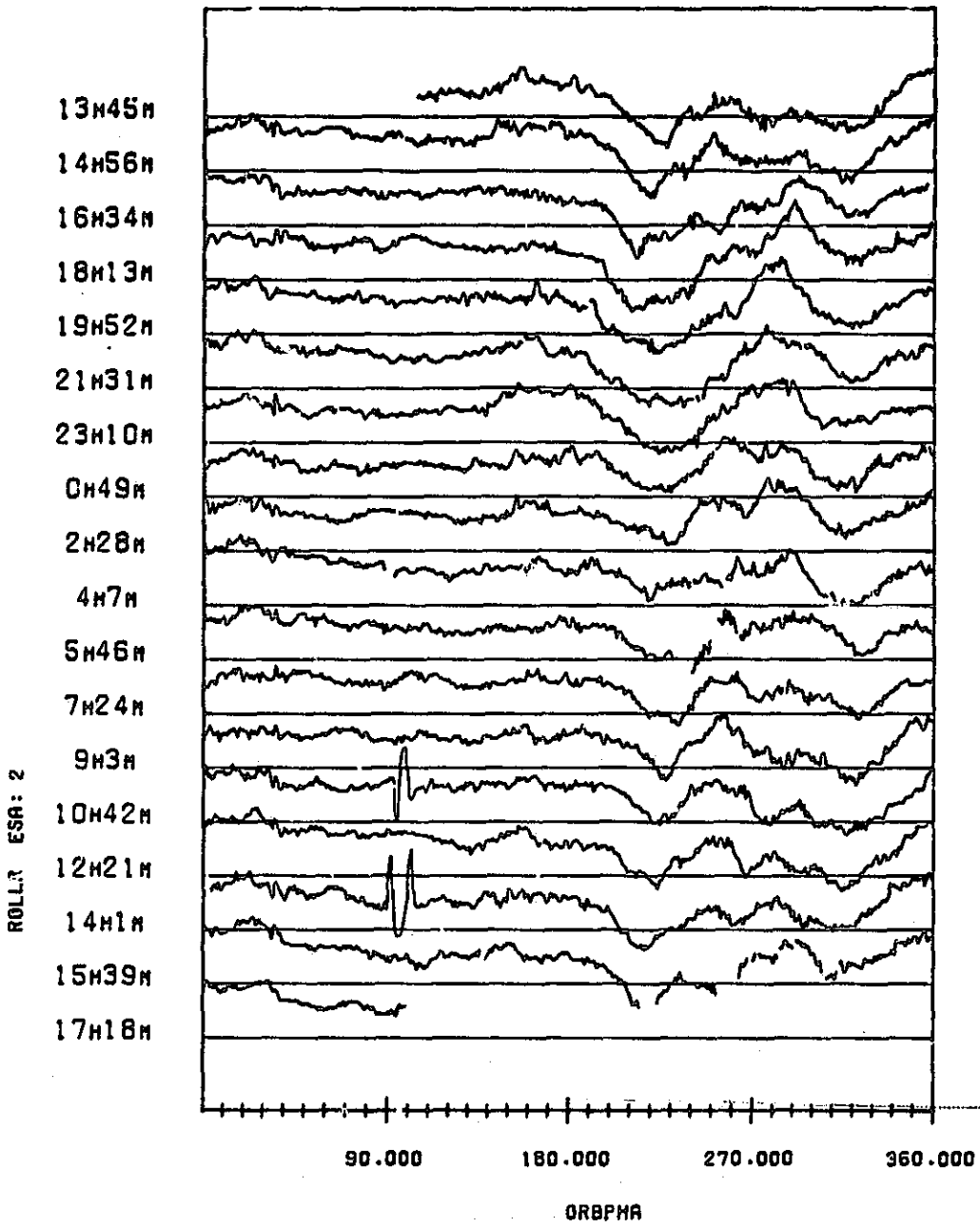

SENSOR 2 ROLL RESIDUAL VERSUS ORBIT PHASE
HORIZONTAL BARS MARK 0.0 DEGREES
THE SEPARATION BETWEEN BARS IS 0.15 DEGREES
DATA START TIME:830806.134523196
END TIME:830807.174517564

FIGURE D-23. Sensor Two Roll Residuals for Consecutive Orbits

TABLE D-23. Data Statistics by Orbit

ORBIT	TIME START/END	(X,Y,REC) AT MIN X/Y			(X,Y,REC) AT MAX X/Y			MEAN Y	Y-RMS/STDV	POINTS
1	830805.134523196	0.10331E+03.	0.54430E-6	1	0.35964E+03.	0.12382E+00.	259	0.36282D-01	0.63327D-01	259
	830806.145606652	0.22764E+03.	-0.26637E-01.	126	0.15708E+03.	0.13887E+00.	55		0.52003D-01	
2	830806.145606652	0.63222E+00.	0.14000E+00.	260	0.35951E+03.	0.13996E+00.	619	0.72637D-01	0.88419D-01	360
	830806.163457660	0.21957E+03.	-0.74966E-01.	478	0.23513E+02.	0.15818E+00.	283		0.50486D-01	
3	830806.163457660	0.50848E+00.	0.14807E+00.	620	0.35939E+03.	0.95108E-01.	979	0.69553D-01	0.83750D-01	360
	830806.181348668	0.21349E+03.	-0.91761E-01.	834	0.50848E+00.	0.14807E+00.	620		0.46718D-01	
4	830806.181348668	0.38517E+00.	0.91119E-01.	980	0.35927E+03.	0.14728E+00.	1341	0.80165D-01	0.97587D-01	362
	830806.195239676	0.21039E+03.	-0.85049E-01.	1191	0.29075E+03.	0.22089E+00.	1272		0.55726D-01	
5	830806.195239676	0.26517E+00.	0.12833E+00.	1342	0.35916E+03.	0.12563E+00.	1702	0.83510D-01	0.98169D-01	361
	830806.213130684	0.22120E+03.	-0.52744E-01.	1563	0.28369E+03.	0.21215E+00.	1626		0.51678D-01	
6	830806.213130684	0.15049E+00.	0.12403E+00.	1703	0.35904E+03.	0.11675E+00.	2060	0.81183D-01	0.95379D-01	358
	830806.231021692	0.23597E+03.	-0.51419E-01.	1939	0.27664E+03.	0.17249E+00.	1978		0.5[illegible]134D-01	
7	830806.231021692	0.36017E-01.	0.10124E+00.	2061	0.35992E+03.	0.87467E-01.	2422	0.89650D-01	0.99389D-01	362
	830807.004929084	0.22395E+03.	-0.29789E-01.	2285	0.28446E+03.	0.17671E+00.	2346		0.42967D-01	
8	830807.004929084	0.91605E+00.	0.81521E-01.	2423	0.35981E+03.	0.12275E+00.	2783	0.90288D-01	0.95742D-01	361
	830807.022820092	0.22979E+03.	0.11350E-01.	2653	0.26054E+03.	0.16604E+00.	2684		0.31895D-01	
9	830807.022820092	0.79971E+00.	0.13698E+00.	2784	0.35968E+03.	0.16953E+00.	3145	0.10513D+00	0.11015D+00	362
	830807.040711100	0.22867E+03.	0.16836E-01.	3013	0.27728E+03.	0.20308E+00.	3062		0.32921D-01	
10	830807.040711100	0.67772E+00.	0.16493E+00.	3146	0.35956E+03.	0.10139E+00.	3498	0.97053D-01	0.10464D+00	353
	830807.054602108	0.31684E-03.	-0.29032E-02.	3456	0.19983E+02.	0.19601E+00.	3164		0.39165D-01	
11	830807.054602108	0.55453E+00.	0.11861E+00.	3499	0.35944E+03.	0.72466E-01.	3847	0.84788D-01	0.91018D-01	349
	830807.072453116	0.24033E+03.	-0.35916E-01.	3731	0.21446E+02.	0.15244E+00.	3520		0.33143D-01	
12	830807.072453116	0.43448E+00.	0.74037E-01.	3848	0.35932E+03.	0.53998E-01.	4208	0.73571D-01	0.81439D-01	361
	830807.090344124	0.23327E+03.	-0.32684E-01.	4082	0.36258E+02.	0.13285E+00.	3884		0.34972D-01	
13	830807.090344124	0.31784E+00.	0.89910E-01.	4209	0.35921E+03.	0.13144E+00.	4570	0.71900D-01	0.82150D-01	362
	830807.104235132	0.32145E+03.	-0.47883E-01.	4532	0.25498E+03.	0.15028E+00.	4465		0.39793D-01	
14	830807.104235132	0.20308E+00.	0.12958E+00.	4571	0.35909E+03.	0.15145E+00.	4932	0.78632D-01	0.91480D-01	362
	830807.122126140	0.31736E+03.	-0.36328E-01.	4890	0.98777E+02.	0.20856E+00.	4670		0.46813D-01	
15	830807.122125140	0.88791E-01.	0.14622E+00.	4933	0.35699E+03.	0.14210E+00.	5292	0.81405D-01	0.96317D-01	360
	830807.140122684	0.31427E+03.	-0.42216E-01.	5249	0.36952E+02.	0.19170E+00.	4960		0.51551D-01	
16	830807.140122684	0.39497E+01.	0.10930E+00.	5293	0.35985E+03.	0.14056E+00.	5651	0.70055D-01	0.84993D-01	359
	830807.153924540	0.21593E+03.	-0.54940E-01.	5507	0.10153E+03.	0.22408E+00.	5391		0.48193D-01	
17	830807.153924540	0.84416E+00.	0.15571E+00.	5652	0.35973E+03.	0.13173E+00.	5988	0.77851D-01	0.91530D-01	337
	830807.171815548	0.21482E+03.	-0.66084E-01.	5866	0.24720E+02.	0.18660E+00.	5675		0.49207D-01	
18	830807.171815548	0.72057E+00.	0.13998E+00.	5989	0.99289E+02.	0.88940E-01.	6088	0.10873D+00	0.11254D+00	100
	830807.174517564	0.94309E+02.	0.59965E-01.	6083	0.32559E+02.	0.15996E+00.	6021		0.29171D-01	

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TABLE D-24. Summary Statistics for the Period from 8/10/82 to 8/6/83

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SEGMENT NUMBER	SEGMENT[1] DATE	MEAN FULL ORBIT AVERAGE	p-p	σ	NO. OF ORBITS
1	8/10/82	0.0588	0.1078	0.0422	8
2	9/8/82	0.0874	0.0275	0.0077	11
3	9/22/82	0.0982	0.0475	0.0185	8
4	10/5/82	0.0758	0.0577	0.0277	8
5	10/20/82	0.0317	0.0876	0.0354	11
6	11/2/82	0.0531	0.0963	0.0298	9
7	11/16/82	-0.0399	0.0562	0.0205	8
8	12/1/82	0.0020	0.0782	0.0240	13
9	12/14/82	0.0141	0.0683	0.0315	6
10	12/28/82	-0.0153	0.0830	0.0270	8
11	1/19/83	0.0568	0.0303	0.0101	12
12	2/2/83	0.0473	0.0448	0.0133	14
13	3/3/83	0.0703	0.0276	0.0083	13
14	3/14/83	0.0595	0.0308	0.0098	12
15	3/29/83	0.0412	0.0255	0.0077	12
16	4/14/83	0.0522	0.0283	0.0090	16
17	4/26/83	0.0527	0.0187	0.0063	15
18	5/23/83	0.0600	0.0309	0.0084	15
19	6/6/83	0.0587	0.0281	0.0085	16
20	6/21/83	0.0615	0.0280	0.0090	13
21	7/6/83	0.0592	0.0301	0.0086	12
22	7/26/83	0.0664	0.0449	0.0117	17
23	8/6/83	0.0818	0.0356	0.0106	14

1 Segment date refers to the start date of each segment. Each segment is approximately 24 hours in length.

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