NsG-87-60

51 p

CR-59408 SR 55

index

SMITHSONIAN INSTITUTION
ASTROPHYSICAL OBSERVATORY 29 Cambridge, Mass.

code 8104903

NASA CR 51116

Research in Space Science

SPECIAL REPORT

Number 55

N63 84797

Code 5

2 copy

(NASA Grant NsG-87-60)

(NASA CR-51116; SAO Special Rept. 55)

CATALOGUE OF SATELLITE OBSERVATIONS
No. 0-19

D. V. Mechay

December 19, 1960 51 p

CAMBRIDGE 38, MASSACHUSETTS

TABLE OF CONTENTS

Catalogue of Satellite Observations, No. C-19
Prepared by D. V. Mechau

Introduction 1

Explanation of Index Numbers 3

Observations of Satellite 1959 α1
June 1 through August 31, 1960 5
Additions to previous observation listings 15
Corrections to previous observation listings 15

Observations of Satellite 1959 α2
June 1 through August 31, 1960 16
Additions to previous observation listings 25
Corrections to previous observation listings 26

Observations of Satellite 1959 Eta
June 1 through August 31, 1960 26
Additions to previous observation listings 37
Corrections to previous observation listings 39

Observations of Satellite 1959 ζ1
June 1 through August 31, 1960 39
Additions to previous observation listings 46
Corrections to previous observation listings 47

CATALOGUE OF SATELLITE OBSERVATIONS, No. C-19

Prepared by D. V. Mechau[1]

INTRODUCTION

This report lists observations of Satellites 1959 $\alpha 1$, 1959 $\alpha 2$, 1959 Eta, and 1959 $\iota 1$ for the period June 1 through August 31, 1960, as well as additions and corrections to previous listings of observations of these satellites.

Minitrack and Doppler data, and observations from the Jokioinen Observatory received by SAO are not included. The observations listed include those from the Smithsonian Baker-Nunn camera stations, Moonwatch teams, U.S. and foreign observatories, military installations, Photo-track stations, and miscellaneous observers. A number of observations have been received from the National Space Surveillance Control Center (NSSCC), under an arrangement involving an exchange of observations of artificial earth satellites.

Units

The date given lists the month and day of the observation; the time (U.T.) is given in hours, minutes, and seconds; right ascension is in hours, minutes, and seconds; declination, azimuth, and altitude are in degrees, minutes, and seconds; azimuth is measured from north through east; the range is in meters.

An explanation of the Index Number appears on pages 3 and 4.

[1]Administrative Assistant, Computations Division, Smithsonian Astrophysical Observatory.

EXPLANATION OF INDEX NUMBER

The index number in the column to the extreme right consists of six digits. The first digit indicates the precision of the time of the observation; the second and third digits, the precision of position; the fourth digit, the coordinate system and corrections; the fifth digit, the equator and equinox; the sixth digit, the type of instrumentation used in making the observation.

Precision of Time (1st digit)

Code number	Standard error in timing (σ_t)	Code number	Standard error in timing (σ_t)
0	No estimate	5	$.02^s < \sigma_t \leqslant .05^s$
1	$\sigma_t \leqslant .0003^s$	6	$.05^s < \sigma_t \leqslant .2^s$
2	$.0003^s < \sigma_t \leqslant .002^s$	7	$.2^s < \sigma_t \leqslant .5^s$
3	$.002^s < \sigma_t \leqslant .005^s$	8	$.5^s < \sigma_t \leqslant 2^s$
4	$.005^s < \sigma_t \leqslant .02^s$	9	$\sigma_t > 2^s$

Precision of Position (2nd and 3rd digits)

Code number*	Standard error in direction (σ_D)	Code number*	Standard error in direction (σ_D)	Code number*	Standard error in direction (σ_D)
00	No estimate	17	$16''.5 < \sigma_D \leqslant 17''.5$	34	$2'.7 < \sigma_D \leqslant 3'.5$
01	$\sigma_D \leqslant 1''.5$	18	$17''.5 < \sigma_D \leqslant 18''.5$	35	$3'.5 < \sigma_D \leqslant 4'.4$
02	$1''.5 < \sigma_D \leqslant 2''.5$	19	$18''.5 < \sigma_D \leqslant 19''.5$	36	$4'.4 < \sigma_D \leqslant 5'.8$
03	$2''.5 < \sigma_D \leqslant 3''.5$	20	$19''.5 < \sigma_D \leqslant 20''.5$	37	$5'.8 < \sigma_D \leqslant 7'.5$
04	$3''.5 < \sigma_D \leqslant 4''.5$	21	$20''.5 < \sigma_D \leqslant 22''$	38	$7'.5 < \sigma_D \leqslant 9'.7$
05	$4''.5 < \sigma_D \leqslant 5''.5$	22	$22'' < \sigma_D \leqslant 23''.5$	39	$9'.7 < \sigma_D \leqslant 13'$
06	$5''.5 < \sigma_D \leqslant 6''.5$	23	$23''.5 < \sigma_D \leqslant 26''$	40	$13' < \sigma_D \leqslant 17'$
07	$6''.5 < \sigma_D \leqslant 7''.5$	24	$26'' < \sigma_D \leqslant 29''$	41	$17' < \sigma_D \leqslant 22'$
08	$7''.5 < \sigma_D \leqslant 8''.5$	25	$29'' < \sigma_D \leqslant 33''$	42	$22' < \sigma_D \leqslant 28'$
09	$8''.5 < \sigma_D \leqslant 9''.5$	26	$33'' < \sigma_D \leqslant 38''$	43	$28' < \sigma_D \leqslant 37'$
10	$9''.5 < \sigma_D \leqslant 10''.5$	27	$38'' < \sigma_D \leqslant 45''$	44	$37' < \sigma_D \leqslant 49'$
11	$10''.5 < \sigma_D \leqslant 11''.5$	28	$45'' < \sigma_D \leqslant 54''$	45	$49' < \sigma_D \leqslant 1^\circ.1$
12	$11''.5 < \sigma_D \leqslant 12''.5$	29	$54'' < \sigma_D \leqslant 1'.1$	46	$1^\circ.1 < \sigma_D \leqslant 1^\circ.4$
13	$12''.5 < \sigma_D \leqslant 13''.5$	30	$1'.1 < \sigma_D \leqslant 1'.3$	47	$1^\circ.4 < \sigma_D \leqslant 1^\circ.8$
14	$13''.5 < \sigma_D \leqslant 14''.5$	31	$1'.3 < \sigma_D \leqslant 1'.7$	48	$1^\circ.8 < \sigma_D \leqslant 2^\circ.4$
15	$14''.5 < \sigma_D \leqslant 15''.5$	32	$1'.7 < \sigma_D \leqslant 2'.1$	49	$2^\circ.4 < \sigma_D$
16	$15''.5 < \sigma_D \leqslant 16''.5$	33	$2'.1 < \sigma_D \leqslant 2'.7$		

* For electronic instruments, these code numbers (2nd and 3rd digits of the index in table 6) are increased by 50.

Coordinate System and Corrections (4th digit)

Code number	Coordinate System
0	Right ascension and declination corrected for refraction or not known to be corrected.
1	Azimuth and altitude corrected for refraction.
2	Right ascension and declination not corrected for refraction.
3	Azimuth and altitude not corrected for refraction or not known to be corrected.

Equator and Equinox (5th digit)

Code number	Equator and Equinox
0	Of date given
1	1855.0
2	1875.0
3	1900.0
4	1950.0

Type of Instrumentation (6th digit)

Code number	Optical Observations	Code number	Electronic Observations
0	Naked eye and binoculars, visual.	0	Minitrack Mark 1.
1	Standard Moonwatch telescope, visual.	1	Minitrack Mark 2.
2	Apogee telescope, astronomical refractor or reflector, theodolite, visual.	2	Interferometer observations from radio observatories.
3	Baker-Nunn camera, photographic.	3	Doppler observations from radio observatories.
4	Small missile telecamera, tracking cameras with focal length 20 inches or greater, photographic.	4	Microlock.
5	Cinetheodolite, tracking cameras with focal length less than 20 inches, photographic.	5	Doppler observations from communications systems.
6	Harvard meteor camera (Super-Schmidt) photographic.	6	Doppler observations from missile ranges.
7	Stationary telescope or camera with focal length equal to or less than 10 inches, photographic.	7	Radar.
8	Stationary telescope or camera with focal length greater than 10 inches, photographic.	8	Unused digit.
9	Other instruments, or instrument unknown.	9	Miscellaneous.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01309	AREQUIPA-BN, PERU	9007	6 01	1 48 21.92	12 16 54	-38 24				434023
01307	VILLA DOLORES-BN,ARG	9011	6 01	8 50 02.92	19 21 48	12 44				434013
01310	AREQUIPA-BN, PERU	9007	6 01	8 51 02.84	20 18 24	-13 54				434013
01311	OLIFANTSFNTN-BN,S.AF	9002	6 01	18 31 00.84	12 56 00	-17 21				434013
01314	WOOMERA-BN, AUSTR.	9003	6 01	19 17 08.08	19 11 18	11 38				434013
01316	AREQUIPA-BN, PERU	9007	6 02	0 36 12.79	8 36 30	5 52				434013
01320	VILLA DOLORES-BN,ARG	9011	6 02	0 46 58.15	12 32 54	- 3 37				434013
01317	AREQUIPA-BN, PERU	9007	6 02	0 48 01.99	14 07 06	-39 32				434023
01312	OLIFANTSFNTN-BN,S.AF	9002	6 02	1 30 43.70	19 34 30	- 6 00				434013
01313	OLIFANTSFNTN-BN,S.AF	9002	6 02	3 46 09.20	19 38 30	27 39				434013
01318	AREQUIPA-BN, PERU	9007	6 02	7 46 50.08	20 09 24	-27 28				434023
01319	AREQUIPA-BN, PERU	9007	6 02	10 04 03.79	20 29 24	23 44				434013
01315	WOOMERA-BN, AUSTR.	9003	6 02	11 16 22.85	13 24 36	-12 29				434013
01321	WOOMERA-BN, AUSTR.	9003	6 02	18 14 43.26	19 29 24	5 38				434013
01329	AREQUIPA-BN, PERU	9007	6 02	23 41 41.87	12 44 30	-21 39				434013
01330	AREQUIPA-BN, PERU	9007	6 03	1 55 33.59	11 39 48	-44 09				434023
01331	AREQUIPA-BN, PERU	9007	6 03	8 59 46.52	20 15 12	5 03				434013
01322	CURACAO-BN, N.W.I.	9009	6 03	9 07 32.67	23 37 18	-26 35				434023
01323	WOOMERA-BN, AUSTR.	9003	6 03	10 12 10.30	12 59 30	0 08				434013
01324	OLIFANTSFNTN-BN,S.AF	9002	6 03	16 23 39.97	12 38 42	10 30				434013
01325	OLIFANTSFNTN-BN,S.AF	9002	6 03	18 37 26.90	12 01 54	-23 30				434023
01328	WOOMERA-BN, AUSTR.	9003	6 03	19 24 56.66	19 01 24	19 44				434013
01332	AREQUIPA-BN, PERU	9007	6 04	0 53 04.37	12 15 48	-44 16				434023
01333	AREQUIPA-BN, PERU	9007	6 04	7 54 52.14	19 50 48	-13 22				434013
01338	VILLA DOLORES-BN,ARG	9011	6 04	7 55 11.09	19 19 12	15 28				434013
01334	AREQUIPA-BN, PERU	9007	6 04	10 11 14.85	19 46 30	29 37				434013
01335	AREQUIPA-BN, PERU	9007	6 04	23 48 00.91	11 19 18	-30 24				434023
01336	AREQUIPA-BN, PERU	9007	6 05	2 03 06.92	11 19 36	-48 47				434023
01326	OLIFANTSFNTN-BN,S.AF	9002	6 05	2 50 55.10	19 23 36	27 59				434013
01337	AREQUIPA-BN, PERU	9007	6 05	9 07 48.00	20 52 48	18 54				434013
01327	OLIFANTSFNTN-BN,S.AF	9002	6 05	16 30 37.01	11 51 36	1 15				434013
01340	VILLA DOLORES-BN,ARG	9011	6 06	0 53 50.12	9 46 30	- 2 20				434013
01564	AREQUIPA-BN, PERU	9007	6 06	1 00 50.02	11 52 42	-52 09				434023
01341	VILLA DOLORES-BN,ARG	9011	6 06	1 04 27.10	13 22 30	-24 45				434023
01342	OLIFANTSFNTN-BN,S.AF	9002	6 06	1 45 57.56	18 56 42	14 46				434013
01563	AREQUIPA-BN, PERU	9007	6 06	8 02 40.86	19 28 12	0 48				434013
01339	WOOMERA-BN, AUSTR.	9003	6 06	9 16 06.87	12 23 12	4 15				434013
01527	MAUI-BN, HAWAII	9012	6 06	14 31 40.01	23 05 18	-26 21				434023
01344	OLIFANTSFNTN-BN,S.AF	9002	6 06	17 42 34.90	12 06 24	-28 23				434023
01343	WOOMERA-BN, AUSTR.	9003	6 06	18 30 28.04	19 06 06	23 51				434013
01349	VILLA DOLORES-BN,ARG	9011	6 06	23 55 30.98	10 07 18	0 39				434013
01348	AREQUIPA-BN, PERU	9007	6 06	23 58 44.12	12 24 00	-49 46				434023
01350	VILLA DOLORES-BN,ARG	9011	6 07	0 02 31.59	13 51 48	-22 30				434013
01345	OLIFANTSFNTN-BN,S.AF	9002	6 07	2 57 54.90	18 56 12	31 28				434013
01346	OLIFANTSFNTN-BN,S.AF	9002	6 07	16 36 05.10	11 34 24	- 0 38				434013
01347	OLIFANTSFNTN-BN,S.AF	9002	6 07	18 53 49.30	12 05 30	-40 55				434023
01351	OLIFANTSFNTN-BN,S.AF	9002	6 08	1 54 43.90	19 09 30	26 46				434013
01352	AREQUIPA-BN, PERU	9007	6 08	8 10 29.34	19 07 00	13 41				434013
01354	AREQUIPA-BN, PERU	9011	6 09	0 03 00.00	9 41 36	-46 29				434023
01353	WOOMERA-BN, AUSTR.	9003	6 09	10 35 57.54	12 52 48	-26 41				434023
01355	CURACAO-BN, N.W.I.	9009	6 10	8 26 46.89	21 28 30	2 10				434013
01356	WOOMERA-BN, AUSTR.	9003	6 10	9 31 52.50	12 03 42	-18 39				434013
01357	WOOMERA-BN, AUSTR.	9003	6 10	11 46 42.97	12 53 18	-35 47				434023
01358	OLIFANTSFNTN-BN,S.AF	9002	6 10	17 58 59.90	12 22 06	-46 28				434023
01364	AREQUIPA-BN, PERU	9007	6 11	0 13 13.50	11 18 42	-63 11				434023
01362	WOOMERA-BN, AUSTR.	9003	6 11	10 43 57.98	13 03 30	-35 28				434023
01359	OLIFANTSFNTN-BN,S.AF	9002	6 11	16 55 07.50	11 37 18	-41 23				434023
01360	OLIFANTSFNTN-BN,S.AF	9002	6 11	19 08 24.00	12 11 12	-46 07				434023
01365	VILLA DOLORES-BN,ARG	9011	6 11	23 12 35.22	12 11 54	-25 43				434023
01368	CURACAO-BN, N.W.I.	9009	6 12	8 36 34.59	22 01 06	26 56				434013
01361	WOOMERA-BN, AUSTR.	9003	6 12	9 39 55.66	12 09 06	-28 59				434023
01363	WOOMERA-BN, AUSTR.	9003	6 12	11 53 48.53	12 33 48	-35 05				434023
01366	AREQUIPA-BN, PERU	9007	6 13	0 20 45.50	10 44 12	-65 33				434023
01369	WOOMERA-BN, AUSTR.	9003	6 13	10 52 02.64	13 22 18	-37 47				434023
01370	MAUI-BN, HAWAII	9012	6 13	13 51 18.09	21 39 30	2 08				434013
01371	OLIFANTSFNTN-BN,S.AF	9002	6 13	17 03 09.68	11 40 30	-49 18				434023
01367	OLIFANTSFNTN-BN,S.AF	9002	6 13	18 07 31.20	13 01 12	-50 36				434023
01372	OLIFANTSFNTN-BN,S.AF	9002	6 13	19 15 39.85	11 22 24	-41 39				434023
01375	AREQUIPA-BN, PERU	9007	6 13	23 16 16.79	8 46 42	-61 07				434023
01373	VILLA DOLORES-BN,ARG	9011	6 13	23 17 46.01	9 59 54	-22 58				434013
01419	SAN JOSE, CAL.	8573	6 14	10 37 56.4			180	19 01 48		845304
01374	OLIFANTSFNTN-BN,S.AF	9002	6 14	18 16 47.60	14 24 36	-48 55				434023
01382	AREQUIPA-BN, PERU	9007	6 15	0 30 57.62	13 44 48	-68 67				434023
01376	VILLA DOLORES-BN,ARG	9011	6 15	0 32 52.39	13 46 30	-34 07				434023
01378	JUPITER-BN, FLA.	9010	6 15	7 37 03.78	21 22 42	-13 16				434013
01379	MAUI-BN, HAWAII	9012	6 15	11 43 39.24	21 21 06	-13 36				434013
01380	MAUI-BN, HAWAII	9012	6 15	13 59 41.15	21 39 12	18 32				434013
01377	OLIFANTSFNTN-BN,S.AF	9002	6 15	17 11 51.40	12 39 18	-50 47				434023
01381	AREQUIPA-BN, PERU	9007	6 15	23 26 10.04	11 12 00	-72 57				434023
01428	SAN JOSE, CAL.	8573	6 16	10 48 00.7			180	48 20 24		845304

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01403	SHIRAZ-BN, IRAN	9008	6 16	23 25 16.28	21 21 30	- 1 54				434013
01398	AREQUIPA-BN, PERU	9007	6 17	0 39 06.45	14 11 24	-67 07				434023
01383	SAN FERNANDO-BN, SP.	9004	6 17	1 23 24.50	21 11 12	-22 02				434023
01384	SAN FERNANDO-BN, SP.	9004	6 17	3 39 28.70	22 00 36	- 4 53				434013
01385	ORGAN PASS-BN, N.M.	9001	6 17	7 37 29.00	21 03 48	-21 40				434013
01386	ORGAN PASS-BN, N.M.	9001	6 17	9 53 08.10	21 35 24	- 3 50				434013
01387	WOOMERA-BN, AUSTR.	9003	6 17	11 08 01.99	13 53 06	-31 19				434023
01409	MAUI-BN, HAWAII	9012	6 17	11 49 04.88	20 28 06	- 9 08				434013
01410	MAUI-BN, HAWAII	9012	6 17	14 07 23.33	21 23 30	31 17				434013
01391	OLIFANTSFNTN-BN,S.AF	9002	6 17	17 19 10.97	12 04 30	-54 18				434023
01404	SHIRAZ-BN, IRAN	9008	6 17	22 20 37.73	20 54 42	-10 13				434013
01396	NAINI TAL-BN, INDIA	9006	6 17	22 31 43.76	22 21 30	18 25				434013
01411	VILLA DOLORES-BN,ARG	9011	6 17	23 34 11.86	10 30 48	-32 10				434023
01401	AREQUIPA-BN, PERU	9007	6 17	23 34 55.63	12 59 36	-50 15				434023
01412	VILLA DOLORES-BN,ARG	9011	6 17	23 38 34.56	14 31 42	-30 43				434023
01392	SAN FERNANDO-BN, SP.	9004	6 18	2 34 30.40	21 16 24	-11 55				434013
01406	CURACAO-BN, N.W.I.	9009	6 18	6 39 57.05	19 36 06	14 52				434013
01389	ORGAN PASS-BN, N.M.	9001	6 18	8 49 11.40	21 17 24	- 9 36				434013
01408	JUPITER-BN, FLA.	9010	6 18	9 01 34.41	23 58 12	28 19				434013
01415	MAUI-BN, HAWAII	9012	6 18	13 01 45.86	20 35 30	15 28				434013
01390	OLIFANTSFNTN-BN,S.AF	9002	6 18	18 31 29.10	13 44 00	-40 32				434023
01397	NAINI TAL-BN, INDIA	9006	6 18	21 25 36.86	21 01 42	4 46				434013
01413	VILLA DOLORES-BN,ARG	9011	6 18	22 33 01.30	11 47 00	-36 35				434023
01405	SHIRAZ-BN, IRAN	9008	6 18	23 32 43.09	21 06 30	- 8 43				434013
01402	AREQUIPA-BN, PERU	9007	6 19	0 47 57.82	15 08 24	-59 57				434023
01414	VILLA DOLORES-BN,ARG	9011	6 19	0 48 25.20	13 53 18	-21 30				434013
01394	SAN FERNANDO-BN, SP.	9004	6 19	1 29 50.60	20 46 18	-17 29				434013
01393	SAN FERNANDO-BN, SP.	9004	6 19	3 46 46.90	21 48 36	3 23				434013
01416	MAUI-BN, HAWAII	9012	6 19	11 57 39.89	20 29 18	5 19				434013
01417	MAUI-BN, HAWAII	9012	6 19	14 13 55.61	20 34 12	37 42				434013
01388	OLIFANTSFNTN-BN,S.AF	9002	6 19	17 28 17.30	13 38 18	-48 55				434023
01399	NAINI TAL-BN, INDIA	9006	6 19	20 21 26.00	20 40 42	- 2 59				434013
01400	NAINI TAL-BN, INDIA	9006	6 19	22 39 16.00	22 06 24	27 47				434013
01395	SAN FERNANDO-BN, SP.	9004	6 20	2 41 42.20	21 02 48	- 4 08				434013
01407	CURACAO-BN, N.W.I.	9009	6 20	6 47 44.92	19 19 06	28 02				434013
01418	WOOMERA-BN, AUSTR.	9003	6 20	10 12 02.18	13 09 06	-31 46				434023
01424	SHIRAZ-BN, IRAN	9008	6 20	21 23 59.37	20 30 06	- 7 01				434013
01426	VILLA DOLORES-BN,ARG	9011	6 20	22 41 10.51	12 14 24	-35 42				434023
01425	SHIRAZ-BN, IRAN	9008	6 20	23 41 37.11	21 35 12	22 03				434013
01427	VILLA DOLORES-BN,ARG	9011	6 21	0 56 05.24	13 45 36	-11 23				434013
01421	SAN FERNANDO-BN, SP.	9004	6 21	3 54 48.00	21 58 42	12 23				434013
01420	CURACAO-BN, N.W.I.	9009	6 21	5 44 07.00	19 38 36	19 54				434013
01422	WOOMERA-BN, AUSTR.	9003	6 21	9 08 29.98	12 07 30	-39 12				434023
01423	WOOMERA-BN, AUSTR.	9003	6 21	11 23 42.87	13 53 30	-11 40				434013
01431	MAUI-BN, HAWAII	9012	6 21	12 03 29.95	19 41 30	13 11				434013
01436	OLIFANTSFNTN-BN,S.AF	9002	6 21	17 36 17.10	13 44 06	-40 43				434023
01430	SAN FERNANDO-BN, SP.	9004	6 22	2 49 53.50	21 13 24	5 38				434013
01429	ORGAN PASS-BN, N.M.	9001	6 22	6 48 55.90	20 37 54	-10 41				434013
01433	JUPITER-BN, FLA.	9010	6 22	6 53 18.18	19 47 42	5 40				434013
01432	CURACAO-BN, N.W.I.	9009	6 22	6 55 07.94	18 56 06	37 39				434013
01434	JUPITER-BN, FLA.	9010	6 22	7 03 02.95	23 20 36	22 04				434013
01446	JUPITER-BN, FLA.	9010	6 22	9 09 43.66	20 02 12	30 45				434013
01439	WOOMERA-BN, AUSTR.	9003	6 22	10 19 57.37	13 13 00	-22 12				434013
01461	MAUI-BN, HAWAII	9012	6 22	10 59 49.76	19 51 12	5 15				434013
01528	PHOENIX, ARIZ.	8576	6 22	11 18 29.2			180	81 17		845304
01462	MAUI-BN, HAWAII	9012	6 22	13 18 25.70	20 52 06	40 56				434013
01437	OLIFANTSFNTN-BN,S.AF	9002	6 22	16 31 38.40	11 15 00	-55 48				434023
01438	OLIFANTSFNTN-BN,S.AF	9002	6 22	18 47 05.80	13 33 18	-17 10				434013
01442	NAINI TAL-BN, INDIA	9006	6 22	19 23 50.54	20 08 24	- 2 10				434013
01443	NAINI TAL-BN, INDIA	9006	6 22	21 42 33.67	21 37 12	29 32				434013
01440	SAN FERNANDO-BN, SP.	9004	6 22	23 32 38.30	20 45 18	-11 45				434013
01458	AREQUIPA-BN, PERU	9007	6 23	1 03 51.94	14 45 36	-42 38				434023
01441	SAN FERNANDO-BN, SP.	9004	6 23	1 43 23.80	20 08 12	- 4 22				434013
01444	CURACAO-BN, N.W.I.	9009	6 23	5 49 30.16	18 33 48	25 55				434013
01445	CURACAO-BN, N.W.I.	9009	6 23	8 11 02.98	20 33 30	60 42				434013
01454	WOOMERA-BN, AUSTR.	9003	6 23	9 16 32.56	12 23 48	-32 40				434023
01529	VAN NUYS, CAL.	0113	6 23	10 09 57			177 12	65 00		845302
01435	ORGAN PASS-BN, N.M.	9001	6 23	10 15 43.00	21 19 12	23 36				434013
01455	WOOMERA-BN, AUSTR.	9003	6 23	11 31 18.23	13 39 12	0 07				434013
01463	MAUI-BN, HAWAII	9012	6 23	14 31 25.95	16 46 24	55 20				434013
01453	OLIFANTSFNTN-BN,S.AF	9002	6 23	17 43 27.00	12 56 48	-31 40				434023
01490	AREQUIPA-BN, PERU	9007	6 24	0 00 34.75	15 06 06	-54 08				434023
01456	SAN FERNANDO-BN, SP.	9004	6 24	0 38 41.00	19 44 24	-11 03				434013
01457	SAN FERNANDO-BN, SP.	9004	6 24	2 58 14.40	21 34 12	14 33				434013
01459	CURACAO-BN, N.W.I.	9009	6 24	7 01 44.26	18 26 00	46 18				434013
01460	JUPITER-BN, FLA.	9010	6 24	7 03 21.79	20 36 00	22 04				434013
01472	WOOMERA-BN, AUSTR.	9003	6 24	10 27 48.57	13 07 24	- 9 27				434013
01479	WOOMERA-BN, AUSTR.	9003	6 24	12 38 43.89	12 20 24	6 52				434013
01476	OLIFANTSFNTN-BN,S.AF	9002	6 24	16 40 17.59	12 28 12	-46 25				434023
30013	PRETORIA, S.AFR.	8575	6 24	16 40 49.4			164 36	69 36		845302
01477	OLIFANTSFNTN-BN,S.AF	9002	6 24	18 55 09.14	13 32 30	- 1 45				434013
01487	NAINI TAL-BN, INDIA	9006	6 24	19 31 26.34	20 03 24	8 07				434013
01492	SHIRAZ-BN, IRAN	9008	6 24	21 37 59.00	19 36 00	8 30				434013
01488	NAINI TAL-BN, INDIA	9006	6 24	21 48 37.27	20 55 12	32 41				434013
01500	VILLA DOLORES-BN,ARG	9011	6 24	22 57 08.19	12 30 48	-18 40				434013
01493	SHIRAZ-BN, IRAN	9008	6 24	23 55 37.98	20 59 48	34 37				434013
01491	AREQUIPA-BN, PERU	9007	6 25	1 12 10.57	14 41 48	-25 55				434023

SAO Special Report No. 55

CATALOGUE OF SATELLITE OBSERVATIONS

No. C-19

Prepared by D. V. Mechau

Smithsonian Institution
Astrophysical Observatory

Cambridge 38, Massachusetts

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01483	SAN FERNANDO-BN, SP.	9004	6 25	1 50 40.20	20 00 00	3 40				434013
01494	CURACAO-BN, N.W.I.	9009	6 25	5 57 41.11	18 29 18	38 08				434013
01530	N. CANTON, OHIO	8559	6 25	8 15 06.2	20 53 00	11 43				845033
01496	JUPITER-BN, FLA.	9010	6 25	8 20 50.65	23 50 36	38 49				434013
01501	MAUI-BN, HAWAII	9012	6 25	9 04 26.13	19 59 42	10 58				434013
01480	WOOMERA-BN, AUSTR.	9003	6 25	9 24 58.62	12 58 00	-19 08				434013
01531	VAN NUYS, CAL.	0113	6 25	10 18 01			181 30	74 24		845302
01532	VAN NUYS, CAL.	0113	6 25	10 18 05			180 00	74 36		845302
30001	ALAMOGORDO, N.M.	0102	6 25	10 23 43			180	86 36		845302
01481	WOOMERA-BN, AUSTR.	9003	6 25	11 37 44.39	12 46 00	7 53				434013
01478	OLIFANTSFNTN-BN,S.AF	9002	6 25	17 51 46.47	12 19 24	-18 14				434013
30014	PRETORIA, S.AFR.	8575	6 25	17 52 14.2			335 00	76 30		845302
30015	PRETORIA, S.AFR.	8575	6 25	17 52 15.9			335 24	76 30		845302
50001	LAVRAS, BRAZIL	8073	6 25	21 59 57.1	13 17 36	-35 42				637007
50002	LAVRAS, BRAZIL	8073	6 25	22 00 43.2	13 59 00	-33 36				637007
01510	AREQUIPA-BN, PERU	9007	6 26	0 08 24.58	14 34 48	-44 18				434023
01486	SAN FERNANDO-BN, SP.	9004	6 26	3 05 47.30	21 40 24	20 27				434013
01473	ORGAN PASS-BN, N.M.	9001	6 26	6 59 42.20	19 22 24	- 3 01				434013
01497	JUPITER-BN, FLA.	9010	6 26	7 10 11.34	20 12 18	29 26				434013
01495	CURACAO-BN, N.W.I.	9009	6 26	7 12 21.80	19 57 00	58 26				434013
01498	JUPITER-BN, FLA.	9010	6 26	7 14 20.61	22 07 36	34 05				434013
01499	JUPITER-BN, FLA.	9010	6 26	7 16 12.17	22 50 42	34 02				434013
01474	ORGAN PASS-BN, N.M.	9001	6 26	9 18 05.00	20 37 06	23 38				434013
01482	WOOMERA-BN, AUSTR.	9003	6 26	10 35 25.74	12 48 42	3 34				434013
01507	OLIFANTSFNTN-BN,S.AF	9002	6 26	16 48 34.60	12 47 54	-30 43				434023
01508	OLIFANTSFNTN-BN,S.AF	9002	6 26	19 02 35.60	13 08 18	10 33				434013
01489	NAINI TAL-BN, INDIA	9006	6 26	19 34 28.32	18 46 24	10 20				434013
01521	SHIRAZ-BN, IRAN	9008	6 26	21 44 54.73	19 39 30	19 03				434013
01484	SAN FERNANDO-BN, SP.	9004	6 26	23 43 07.10	19 42 12	- 6 40				434013
01522	SHIRAZ-BN, IRAN	9008	6 27	0 03 35.40	21 19 24	38 31				434013
01511	AREQUIPA-BN, PERU	9007	6 27	1 19 00.61	13 36 18	-13 04				434013
01485	SAN FERNANDO-BN, SP.	9004	6 27	2 00 06.20	20 41 36	14 31				434013
01502	ORGAN PASS-BN, N.M.	9001	6 27	5 57 50.60	19 46 06	- 4 39				434013
01526	JUPITER-BN, FLA.	9010	6 27	6 04 41.99	19 41 30	19 59				434013
01475	CURACAO-BN, N.W.I.	9009	6 27	6 06 28.40	18 45 42	49 11				434013
01503	ORGAN PASS-BN, N.M.	9001	6 27	8 00 00.20	15 54 30	-11 35				434013
01504	ORGAN PASS-BN, N.M.	9001	6 27	8 26 26.70	0 34 48	19 48				434013
01509	WOOMERA-BN, AUSTR.	9003	6 27	9 32 14.89	12 11 00	- 7 00				434013
30006	VAN NUYS, CAL.	0113	6 27	10 25 58			182 48	81 42		845303
01505	ORGAN PASS-BN, N.M.	9001	6 27	10 26 02.70	19 42 00	26 15				434013
30007	VAN NUYS, CAL.	0113	6 27	10 26 03			180 00	81 48		845303
30002	PHOENIX, ARIZ.	8576	6 27	10 28 52.9			180 00	86 54		845304
01506	ORGAN PASS-BN, N.M.	9001	6 27	10 43 16.80	2 48 36	13 05				434013
01515	WOOMERA-BN, AUSTR.	9003	6 27	11 46 00.39	12 53 18	19 44				434013
01514	OLIFANTSFNTN-BN,S.AF	9002	6 27	17 59 28.40	12 48 48	1 39				434013
01519	SHIRAZ-BN, IRAN	9008	6 27	20 39 13.57	19 00 24	8 19				434013
01516	SAN FERNANDO-BN, SP.	9004	6 27	22 41 34.40	19 58 30	- 7 00				434013
01520	SHIRAZ-BN, IRAN	9008	6 27	22 58 36.65	20 32 24	34 32				434013
01542	VILLA DOLORES-BN,ARG	9011	6 28	0 15 58.13	12 46 48	16 39				434013
01540	AREQUIPA-BN, PERU	9007	6 28	0 16 26.69	14 11 48	-27 21				434023
01517	SAN FERNANDO-BN, SP.	9004	6 28	0 54 12.10	19 48 54	6 20				434013
01518	SAN FERNANDO-BN, SP.	9004	6 28	3 11 34.70	21 07 42	23 19				434013
01525	JUPITER-BN, FLA.	9010	6 28	4 57 13.73	18 25 12	3 58				434013
01533	CURACAO-BN, N.W.I.	9009	6 28	4 59 01.77	17 40 24	-40 26				434013
01524	JUPITER-BN, FLA.	9010	6 28	5 00 07.04	19 25 18	10 21				434013
01523	JUPITER-BN, FLA.	9010	6 28	7 02 13.26	20 04 00	35 03				434013
01512	ORGAN PASS-BN, N.M.	9001	6 28	7 06 47.20	19 09 42	5 24				434013
30005	PHOENIX, ARIZ.	8576	6 28	9 22 59.3			180	60 54		845304
01513	ORGAN PASS-BN, N.M.	9001	6 28	9 25 36.60	20 42 30	29 25				434013
30003	FT. WORTH, TEXAS	0139	6 28	9 29 40.2	21 23 35	32 10				845013
30004	FT. WORTH, TEXAS	0139	6 28	9 29 57.4	21 32	32 35				845013
01536	WOOMERA-BN, AUSTR.	9003	6 28	10 43 01.72	12 28 00	15 17				434013
01534	OLIFANTSFNTN-BN,S.AF	9002	6 28	16 55 44.90	11 45 12	-15 46				434013
01535	OLIFANTSFNTN-BN,S.AF	9002	6 28	19 11 33.10	13 28 06	25 46				434013
01555	SHIRAZ-BN, IRAN	9008	6 28	21 53 06.95	19 55 06	28 27				434013
01539	NAINI TAL-BN, INDIA	9006	6 28	22 06 27.51	22 38 48	39 31				434013
01560	VILLA DOLORES-BN,ARG	9011	6 28	23 11 44.47	11 13 30	5 00				434013
50003	LAVRAS, BRAZIL	8073	6 28	23 12 01.8	14 10 30	21 18				637007
01537	SAN FERNANDO-BN, SP.	9004	6 28	23 48 14.30	19 00 36	- 3 38				434013
01556	SHIRAZ-BN, IRAN	9008	6 29	0 12 19.83	22 08 36	39 23				434013
01550	AREQUIPA-BN, PERU	9007	6 29	1 27 53.71	13 50 54	10 05				434013
01538	SAN FERNANDO-BN, SP.	9004	6 29	2 06 18.50	20 17 24	19 11				434013
01551	JUPITER-BN, FLA.	9010	6 29	3 52 28.88	19 05 06	1 21				434013
01541	CURACAO-BN, N.W.I.	9009	6 29	3 55 24.30	17 56 06	30 18				434013
01543	ORGAN PASS-BN, N.M.	9001	6 29	6 00 59.90	18 29 18	- 5 59				434013
01552	JUPITER-BN, FLA.	9010	6 29	6 05 13.38	17 06 24	12 39				434013
01553	JUPITER-BN, FLA.	9010	6 29	6 12 10.09	19 35 48	29 08				434013
01544	ORGAN PASS-BN, N.M.	9001	6 29	8 15 57.90	18 23 36	15 38				434013
01545	ORGAN PASS-BN, N.M.	9001	6 29	8 27 21.80	22 49 48	26 32				434013
01554	JUPITER-BN, FLA.	9010	6 29	8 32 33.34	22 17 12	44 18				434013
01549	WOOMERA-BN, AUSTR.	9003	6 29	9 39 56.50	11 50 48	7 33				434013
01561	MAUI-BN, HAWAII	9012	6 29	10 15 48.18	18 26 06	25 28				434013
30008	PHOENIX, ARIZ.	8576	6 29	10 36 37.1			180	86 30		845304
01546	ORGAN PASS-BN, N.M.	9001	6 29	10 38 48.80	22 53 24	33 30				434013
01547	WOOMERA-BN, AUSTR.	9003	6 29	11 53 52.49	12 45 42	28 21				434013
01562	MAUI-BN, HAWAII	9012	6 29	12 37 04.68	20 56 30	52 20				434013
01557	SHIRAZ-BN, IRAN	9008	6 29	20 46 26.20	18 48 06	17 27				434013
01558	SHIRAZ-BN, IRAN	9008	6 29	23 05 54.74	20 40 42	38 01				434013
01559	CURACAO-BN, N.W.I.	9009	6 30	2 41 29.69	14 10 30	-16 42				434013
01565	JUPITER-BN, FLA.	9010	6 30	2 49 19.10	18 26 48	-14 26				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01566	JUPITER-BN, FLA.	9010	6 30	5 02 24.28	17 25 42	8 33				434013
01567	JUPITER-BN, FLA.	9010	6 30	5 07 09.62	19 09 48	20 27				434013
10004	MAUI-BN, HAWAII	9012	6 30	6 53 15.00	17 37 18	-25 34				434013
01568	JUPITER-BN, FLA.	9010	6 30	7 14 43.61	16 40 36	19 31				434013
10005	MAUI-BN, HAWAII	9012	6 30	9 11 42.81	18 05 42	13 21				434013
30009	VAN NUYS, CAL.	0113	6 30	9 27 58			180 00	81 00		845303
30010	PHOENIX, ARIZ.	8576	6 30	9 30 49.9			180	86 06		845304
10006	MAUI-BN, HAWAII	9012	6 30	11 28 16.57	18 36 12	42 20				434013
10007	MAUI-BN, HAWAII	9012	6 30	13 50 04.45	21 58 36	54 53				434013
10001	OLIFANTSFNTN-BN,S.AF	9002	6 30	17 05 10.73	12 54 30	11 27				434013
10013	SHIRAZ-BN, IRAN	9008	6 30	19 41 19.63	18 21 48	7 14				434013
10014	SHIRAZ-BN, IRAN	9008	6 30	22 00 14.52	19 50 06	34 00				434013
10040	AREQUIPA-BN, PERU	9007	6 30	23 20 54.13	13 29 48	-31 29				434013
10024	VILLA DOLORES-BN,ARG	9011	6 30	23 21 13.97	12 24 24	24 08				434013
10002	SAN FERNANDO-BN, SP.	9004	6 30	23 56 54.40	19 22 36	6 49				434013
10015	SHIRAZ-BN, IRAN	9008	7 01	0 19 28.92	22 04 00	37 04				434013
10041	AREQUIPA-BN, PERU	9007	7 01	1 34 11.56	12 38 48	17 33				434013
10016	CURACAO-BN, N.W.I.	9009	7 01	1 43 54.94	16 49 24	- 5 45				434013
10003	SAN FERNANDO-BN, SP.	9004	7 01	2 12 48.50	20 03 12	22 49				434013
10017	CURACAO-BN, N.W.I.	9009	7 01	4 00 30.43	16 37 48	34 25				434013
10020	JUPITER-BN, FLA.	9010	7 01	4 03 38.71	19 14 36	13 07				434013
10008	ORGAN PASS-BN, N.M.	9001	7 01	6 09 25.40	18 42 12	5 25				434013
10021	JUPITER-BN, FLA.	9010	7 01	6 17 11.81	18 37 18	32 00				434013
10018	CURACAO-BN, N.W.I.	9009	7 01	6 22 00.53	18 49 54	59 32				434013
10022	JUPITER-BN, FLA.	9010	7 01	6 31 01.25	0 05 24	31 01				434013
10068	MAUI-BN, HAWAII	9012	7 01	8 04 58.56	17 28 12	- 3 45				434013
10009	ORGAN PASS-BN, N.M.	9001	7 01	8 23 30.00	18 22 42	22 51				434013
30019	FT. WORTH, TEX.	0139	7 01	8 31 43.8	20 40 30	32 12				845013
10010	ORGAN PASS-BN, N.M.	9001	7 01	8 32 40.40	22 11 36	30 05				434013
10021	JUPITER-BN, FLA.	9010	7 01	8 43 27.23	0 06 48	36 49				434013
10019	CURACAO-BN, N.W.I.	9009	7 01	8 44 04.42	22 49 42	62 52				434013
10069	MAUI-BN, HAWAII	9012	7 01	10 23 29.73	18 21 48	36 09				434013
30011	VAN NUYS, CAL.	0113	7 01	10 41 35			180 00	86 18		845303
10011	ORGAN PASS-BN, N.M.	9001	7 01	10 42 06.30	19 59 36	30 56				434013
10012	ORGAN PASS-BN, N.M.	9001	7 01	10 53 43.70	1 18 42	15 32				434013
10070	MAUI-BN, HAWAII	9012	7 01	12 44 23.76	20 58 42	54 10				434013
10028	OLIFANTSFNTN-BN,S.AF	9002	7 01	18 14 59.20	12 11 42	26 54				434013
10049	NAINI TAL-BN, INDIA	9006	7 01	21 06 53.32	21 00 24	39 35				434013
10031	SAN FERNANDO-BN, SP.	9004	7 01	22 51 51.60	18 48 12	- 2 02				434013
10042	AREQUIPA-BN, PERU	9007	7 02	0 32 15.72	13 09 30	14 15				434013
10050	CURACAO-BN, N.W.I.	9009	7 02	0 38 14.41	16 09 12	-30 15				434013
10032	SAN FERNANDO-BN, SP.	9004	7 02	1 07 58.90	19 30 30	18 37				434013
10057	JUPITER-BN, FLA.	9010	7 02	2 54 35.64	17 23 54	-11 01				434013
10051	CURACAO-BN, N.W.I.	9009	7 02	2 54 45.73	15 58 42	20 10				434013
10033	SAN FERNANDO-BN, SP.	9004	7 02	3 26 25.70	21 19 18	25 02				434013
10058	JUPITER-BN, FLA.	9010	7 02	5 14 13.98	18 58 48	28 56				434013
10052	CURACAO-BN, N.W.I.	9009	7 02	5 15 45.94	17 53 00	54 41				434013
10071	MAUI-BN, HAWAII	9012	7 02	7 00 47.68	17 19 48	-16 43				434013
10025	ORGAN PASS-BN, N.M.	9001	7 02	7 20 50.20	18 46 42	20 55				434013
10059	JUPITER-BN, FLA.	9010	7 02	7 32 41.79	20 32 00	43 40				434013
10072	MAUI-BN, HAWAII	9012	7 02	9 17 16.66	17 30 24	23 05				434013
10026	ORGAN PASS-BN, N.M.	9001	7 02	9 41 07.80	21 16 06	33 32				434013
30020	FT. WORTH, TEX.	0139	7 02	9 45 11.6	21 59	31 05				845013
10036	TOKYO-BN, JAPAN	9005	7 02	13 32 03.80	18 51 42	4 40				434013
10037	TOKYO-BN, JAPAN	9005	7 02	15 46 49.70	19 01 30	21 40				434013
30034	MITAKA, JAPAN	0229	7 02	15 49 15.6			163 24	78 46		845303
10029	OLIFANTSFNTN-BN,S.AF	9002	7 02	17 12 42.40	12 13 30	24 45				434013
10038	TOKYO-BN, JAPAN	9005	7 02	18 07 35.50	21 49 30	23 58				434013
30035	MITAKA, JAPAN	0229	7 02	18 08 49.2			162 18	76 54		845303
10045	SHIRAZ-BN, IRAN	9008	7 02	22 08 48.04	20 28 12	38 18				434013
10043	AREQUIPA-BN, PERU	9007	7 02	23 26 57.05	10 46 48	-19 55				434013
10077	SAN FERNANDO-BN, SP.	9004	7 03	0 03 09.90	19 00 18	12 14				434013
10046	SHIRAZ-BN, IRAN	9008	7 03	0 28 06.00	22 43 30	30 21				434013
10044	AREQUIPA-BN, PERU	9007	7 03	1 46 46.23	13 09 06	36 08				434013
10078	SAN FERNANDO-BN, SP.	9004	7 03	2 20 36.40	20 19 00	25 37				434013
10027	ORGAN PASS-BN, N.M.	9001	7 03	3 59 00.20	17 30 00	-18 34				434013
10060	JUPITER-BN, FLA.	9010	7 03	4 04 41.61	16 44 12	7 21				434013
10061	JUPITER-BN, FLA.	9010	7 03	4 07 34.72	17 54 18	15 15				434013
10062	JUPITER-BN, FLA.	9010	7 03	6 22 45.70	17 46 36	34 05				434013
10063	JUPITER-BN, FLA.	9010	7 03	6 27 19.76	19 49 18	41 22				434013
10073	MAUI-BN, HAWAII	9012	7 03	8 12 57.48	17 22 30	11 00				434013
30016	FT. WORTH, TEX.	0139	7 03	8 39 22.4	20 56 12	33 06				845013
30017	FT. WORTH, TEX.	0139	7 03	8 39 32.6	21 00 45	33 06				845013
10064	JUPITER-BN, FLA.	9010	7 03	8 47 34.75	22 30 30	38 38				434013
10030	WOOMERA-BN, AUSTR.	9003	7 03	9 55 19.36	11 13 00	29 05				434013
10074	MAUI-BN, HAWAII	9012	7 03	10 31 54.47	18 44 12	45 32				434013
10075	MAUI-BN, HAWAII	9012	7 03	12 52 06.71	21 19 30	53 52				434013
10047	SHIRAZ-BN, IRAN	9008	7 03	18 43 42.20	17 43 18	5 25				434013
10048	SHIRAZ-BN, IRAN	9008	7 03	21 01 32.54	18 52 12	32 59				434013
10053	SAN FERNANDO-BN, SP.	9004	7 03	22 56 44.50	17 55 30	0 05				434013
10049	SHIRAZ-BN, IRAN	9008	7 03	23 21 37.78	21 23 18	37 01				434013
10054	SAN FERNANDO-BN, SP.	9004	7 04	1 13 56.60	20 01 48	21 48				434013
10065	JUPITER-BN, FLA.	9010	7 04	3 02 57.11	17 30 06	2 50				434013
10055	CURACAO-BN, N.W.I.	9009	7 04	3 03 28.07	16 04 06	36 51				434013
10066	JUPITER-BN, FLA.	9010	7 04	5 20 37.57	18 58 48	27 56				434013
10056	CURACAO-BN, N.W.I.	9009	7 04	5 26 43.62	19 52 00	62 40				434013
30036	CINCINNATI, OHIO	0040	7 04	7 38 52	20 49 19	21 19				845304
10067	JUPITER-BN, FLA.	9010	7 04	7 44 19.41	12 48 42	38 41				434013
30018	FT. WORTH, TEX.	0139	7 04	8 33 22.2	19 54	31 48				845013
10076	MAUI-BN, HAWAII	9012	7 04	11 44 50.61	19 30 54	53 14				434013
10079	OLIFANTSFNTN-BN,S.AF	9002	7 04	17 19 31.00	11 10 12	30 20				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10157	SHIRAZ-BN, IRAN	9008	7 13	19 22 38.06	16 17 30	40 43				434013
10153	WOOMERA-BN, AUSTR.	9003	7 13	20 12 03.71	2 41 42	25 39				434013
10158	SHIRAZ-BN, IRAN	9008	7 13	21 41 03.31	20 25 36	26 08				434013
10154	SAN FERNANDO-BN, SP.	9004	7 13	23 34 23.80	18 31 00	24 53				434013
10161	JUPITER-BN, FLA.	9010	7 14	1 25 03.73	16 15 48	25 15				434013
10155	SAN FERNANDO-BN, SP.	9004	7 14	1 52 03.80	20 11 24	11 54				434013
30026	TERRE HAUTE, IND.	8127	7 14	3 38 28.0	17 16 54	13 25				845044
10159	JUPITER-BN, FLA.	9010	7 14	3 41 13.51	17 47 48	46 34				434013
30048	VAN NUYS, CAL.	0113	7 14	5 44 07.3	17 20 21	26 31				845043
30041	PHOENIX, ARIZ.	8576	7 14	5 46 27.0			180	87 36		845304
10160	JUPITER-BN, FLA.	9010	7 14	5 59 59.79	20 14 00	35 00				434013
10163	SHIRAZ-BN, IRAN	9008	7 14	20 34 52.35	19 33 18	34 03				434013
10173	SAN FERNANDO-BN, SP.	9004	7 14	22 30 08.40	17 54 18	23 37				434013
10164	SHIRAZ-BN, IRAN	9008	7 14	22 54 08.03	21 12 06	5 33				434013
10165	CURACAO-BN, N.W.I.	9009	7 15	0 22 33.82	13 36 30	60 06				434013
10174	SAN FERNANDO-BN, SP.	9004	7 15	0 47 08.00	19 36 12	17 48				434013
30027	N. CANTON, OHIO	8565	7 15	2 37 27.4	17 27	8 02				845033
10166	CURACAO-BN, N.W.I.	9009	7 15	2 40 42.55	17 46 30	70 53				434013
10175	SAN FERNANDO-BN, SP.	9004	7 15	3 04 55.50	20 50 42	- 4 24				434013
10162	OLIFANTSFNTN-BN,S.AF	9002	7 15	3 34 53.72	2 26 42	14 09				434013
30045	VAN NUYS, CAL.	0113	7 15	4 39 37.0			179 12	73 18		845303
10171	ORGAN PASS-BN, N.M.	9001	7 15	4 44 02.60	17 15 36	32 04				434013
30028	WICHITA, KAN.	0228	7 15	4 47 19.8	17 50 36	21 15				845043
30025	TERRE HAUTE, IND.	8127	7 15	4 50 58.2	18 33 30	17 45				845044
10167	CURACAO-BN, N.W.I.	9009	7 16	4 00 57.21	21 08 30	55 16				434013
10170	ORGAN PASS-BN, N.M.	9001	7 15	7 01 22.00	19 18 54	28 40				434013
10169	JUPITER-BN, FLA.	9010	7 15	7 11 39.90	20 21 24	19 26				434013
10172	JUPITER-BN, FLA.	9010	7 15	7 19 58.03	21 11 48	14 08				434013
10168	CURACAO-BN, N.W.I.	9009	7 15	7 22 29.59	22 47 48	18 04				434013
10214	MAUI-BN, HAWAII	9012	7 15	9 00 32.92	18 51 00	-58 19				434013
10176	AREQUIPA-BN, PERU	9007	7 15	9 49 36.25	2 32 12	0 35				434013
10215	MAUI-BN, HAWAII	9012	7 15	11 19 56.02	23 01 36	37 21				434013
10201	SHIRAZ-BN, IRAN	9008	7 15	19 29 36.35	18 37 12	39 27				434013
10191	SAN FERNANDO-BN, SP.	9004	7 15	21 25 52.30	17 05 30	18 24				434013
10202	SHIRAZ-BN, IRAN	9008	7 15	21 48 05.48	20 27 18	17 06				434013
10192	SAN FERNANDO-BN, SP.	9004	7 15	23 40 49.30	18 08 48	23 04				434013
10193	SAN FERNANDO-BN, SP.	9004	7 16	1 57 52.20	19 40 36	6 39				434013
10185	OLIFANTSFNTN-BN,S.AF	9002	7 16	2 30 37.72	2 00 42	20 49				434013
10177	ORGAN PASS-BN, N.M.	9001	7 16	3 40 05.00	16 34 18	25 23				434013
30030	TERRE HAUTE, IND.	8127	7 16	3 46 09.2	17 32 30	15 55				845044
30037	CINCINNATI, OHIO	0050	7 16	3 47 03	17 44 12	17 36				845004
30031	DAYTON, OHIO	8557	7 16	3 47 18.0			180 00	65 30		845307
10209	JUPITER-BN, FLA.	9010	7 16	3 47 37.88	17 06 48	47 25				434013
30032	N. CANTON, OHIO	8536	7 16	3 48 19.1	17 58	13 41				641034
30033	N. CANTON, OHIO	8536	7 16	3 48 23.4	17 59 45	13 46				641034
30042	VAN NUYS, CAL.	0113	7 16	5 51 43			180 00	85 12		845303
30029	PHOENIX, ARIZ.	8576	7 16	5 54 05.6			180	88 23		845304
10178	ORGAN PASS-BN, N.M.	9001	7 16	5 54 58.00	17 36 12	33 41				434013
10179	ORGAN PASS-BN, N.M.	9001	7 16	5 58 56.20	19 53 00	29 07				434013
10216	MAUI-BN, HAWAII	9012	7 16	7 54 21.69	16 21 30	61 20				434013
10180	ORGAN PASS-BN, N.M.	9001	7 16	8 14 53.30	20 24 48	11 48				434013
10210	JUPITER-BN, FLA.	9010	7 16	8 25 48.28	21 11 24	- 5 05				434013
10175	AREQUIPA-BN, PERU	9007	7 16	8 41 20.39	2 51 00	22 43				434013
10217	MAUI-BN, HAWAII	9012	7 16	10 18 51.54	21 08 45	47 45				434013
10218	MAUI-BN, HAWAII	9012	7 16	12 39 49.96	21 38 06	12 50				434013
10219	MAUI-BN, HAWAII	9012	7 16	14 52 47.63	22 13 48	-25 43				434013
10194	SAN FERNANDO-BN, SP.	9004	7 16	22 36 14.80	17 13 36	23 45				434013
10195	SAN FERNANDO-BN, SP.	9004	7 17	0 53 45.20	19 21 12	11 58				434013
10186	OLIFANTSFNTN-BN,S.AF	9002	7 17	1 25 03.01	1 17 42	28 26				434013
30038	CINCINNATI, OHIO	0050	7 17	2 42 44	16 43 42	12 11				845004
10211	JUPITER-BN, FLA.	9010	7 17	2 43 38.84	16 26 06	48 23				434013
30039	N. CANTON, OHIO	8565	7 17	2 43 58.2	17 03 48	9 38				845043
30040	STATE COLLEGE, PA.	0060	7 17	2 47 01.7			147 12	59 00		845302
10205	CURACAO-BN, N.W.I.	9009	7 17	2 46 23.75	19 07 24	71 23				434013
10196	SAN FERNANDO-BN, SP.	9004	7 17	3 10 42.00	20 21 42	- 9 20				434013
10187	OLIFANTSFNTN-BN,S.AF	9002	7 17	3 41 52.05	1 57 00	3 42				434013
30042	VAN NUYS, CAL.	0113	7 17	4 47 25.4	16 34 58	24 55				845043
10181	ORGAN PASS-BN, N.M.	9001	7 17	4 51 27.80	17 20 42	34 32				434013
10207	CURACAO-BN, N.W.I.	9009	7 17	5 09 25.88	21 26 30	46 10				434013
10182	ORGAN PASS-BN, N.M.	9001	7 17	7 08 47.40	19 24 24	21 57				434013
10208	CURACAO-BN, N.W.I.	9009	7 17	7 30 06.27	22 28 18	4 38				434013
10212	VILLA DOLORES-BN,ARG	9011	7 17	7 44 01.78	1 57 48	23 54				434013
10183	ORGAN PASS-BN, N.M.	9001	7 17	8 23 37.20	19 40 00	1 42				434013
10184	ORGAN PASS-BN, N.M.	9001	7 17	9 29 18.00	21 20 06	-10 46				434013
10224	AREQUIPA-BN, PERU	9007	7 17	9 54 42.22	1 09 54	- 5 20				434013
10213	VILLA DOLORES-BN,ARG	9011	7 17	10 00 03.76	2 26 18	8 30				434013
10199	TOKYO-BN, JAPAN	9005	7 17	13 16 06.70	17 12 00	25 00				434013
10203	SHIRAZ-BN, IRAN	9008	7 17	17 20 10.32	16 19 06	40 20				434013
10189	WOOMERA-BN, AUSTR.	9003	7 17	18 11 00.08	1 34 00	26 01				434013
10204	SHIRAZ-BN, IRAN	9008	7 17	19 37 08.06	18 46 54	35 13				434013
10190	WOOMERA-BN, AUSTR.	9003	7 17	20 28 20.91	2 52 42	3 02				434013
10197	SAN FERNANDO-BN, SP.	9004	7 17	21 32 18.10	16 26 48	20 43				434013
10206	SHIRAZ-BN, IRAN	9008	7 17	23 55 12.04	20 16 54	7 32				434013
10198	SAN FERNANDO-BN, SP.	9004	7 18	2 05 39.60	19 49 18	- 2 26				434013
10188	OLIFANTSFNTN-BN,S.AF	9002	7 18	2 37 51.60	1 42 42	11 32				434013
10220	ORGAN PASS-BN, N.M.	9001	7 18	3 47 19.90	16 27 42	31 32				434013
30043	FT. WORTH, TEX.	0139	7 18	3 50 22.4	17 03 18	33 48				845013
30044	TERRE HAUTE, IND.	8127	7 18	3 53 45.9	17 48	15 34				845044
10229	JUPITER-BN, FLA.	9010	7 18	3 56 37.23	18 25 30	44 39				434013
10226	CURACAO-BN, N.W.I.	9009	7 18	4 02 28.85	20 13 48	59 08				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10034	SAN FERNANDO-BN, SP.	9004	7 05	0 10 00.90	18 51 00	17 57				434013
10035	SAN FERNANDO-BN, SP.	9004	7 05	2 28 31.30	20 41 54	25 28				434013
10083	JUPITER-BN, FLA.	9010	7 05	4 13 10.38	16 53 12	20 30				434013
30012	N. CANTON, OHIO	8536	7 05	4 14 12.9	17 36	- 2 03				641034
10084	JUPITER-BN, FLA.	9010	7 05	4 21 34.29	20 33 24	32 42				434013
10085	JUPITER-BN, FLA.	9010	7 05	6 29 05.09	17 22 00	35 54				434013
10086	JUPITER-BN, FLA.	9010	7 05	6 36 51.68	21 01 24	43 10				434013
10081	CURACAO-BN, N.W.I.	9009	7 05	6 43 10.55	22 48 00	59 45				434013
10087	JUPITER-BN, FLA.	9010	7 05	8 57 01.64	23 24 12	27 33				434013
10082	CURACAO-BN, N.W.I.	9009	7 05	9 04 11.75	1 14 00	37 55				434013
10106	SHIRAZ-BN, IRAN	9008	7 05	21 09 24.18	19 11 12	37 36				434013
10088	SAN FERNANDO-BN, SP.	9004	7 05	23 05 33.20	18 25 18	11 02				434013
10107	SHIRAZ-BN, IRAN	9008	7 05	23 29 33.67	21 44 00	31 51				434013
10080	AREQUIPA-BN, PERU	9007	7 05	23 36 38.19	12 05 30	16 37				434013
10091	AREQUIPA-BN, PERU	9007	7 06	0 49 39.82	13 11 30	47 04				434013
10089	SAN FERNANDO-BN, SP.	9004	7 06	1 22 25.40	19 36 30	25 36				434013
10090	SAN FERNANDO-BN, SP.	9004	7 06	3 40 47.70	21 23 42	17 50				434013
10093	AREQUIPA-BN, PERU	9007	7 06	23 44 18.08	11 22 24	31 11				434013
10092	SAN FERNANDO-BN, SP.	9004	7 07	0 16 03.70	18 22 24	21 16				434013
10098	MAUI-BN, HAWAII	9012	7 07	8 26 53.97	16 16 42	32 53				434013
10096	JUPITER-BN, FLA.	9010	7 07	8 59 37.86	21 16 36	28 46				434013
10097	JUPITER-BN, FLA.	9010	7 07	9 06 18.52	23 57 42	12 59				434013
10094	SAN FERNANDO-BN, SP.	9004	7 07	23 11 34.40	17 52 36	15 27				434013
10095	SAN FERNANDO-BN, SP.	9004	7 08	1 30 25.00	20 03 54	25 32				434013
10112	MAUI-BN, HAWAII	9012	7 08	7 23 00.66	16 11 12	21 48				434013
10113	MAUI-BN, HAWAII	9012	7 08	9 40 31.60	17 28 18	50 43				434013
10114	MAUI-BN, HAWAII	9012	7 08	12 01 03.64	20 34 06	51 48				434013
10115	MAUI-BN, HAWAII	9012	7 08	14 22 23.37	22 02 12	23 56				434013
10099	SAN FERNANDO-BN, SP.	9004	7 09	0 25 13.40	19 17 00	25 28				434013
10104	JUPITER-BN, FLA.	9010	7 09	2 33 02.48	16 27 24	10 29				434013
30022	CINCINNATI, OHI	8050	7 09	4 29 [illegible]	18 30 06	14 43				845024
10116	MAUI-BN, HAWAII	9012	7 09	6 19 16.91	15 28 18	- 0 53				434013
10117	MAUI-BN, HAWAII	9012	7 09	8 35 09.10	16 29 00	44 48				434013
10118	MAUI-BN, HAWAII	9012	7 09	10 54 21.42	19 04 30	54 52				434013
10119	MAUI-BN, HAWAII	9012	7 09	13 16 38.05	22 05 36	35 16				434013
10100	SAN FERNANDO-BN, SP.	9004	7 09	23 19 18.90	18 06 06	21 21				434013
10109	JUPITER-BN, FLA.	9010	7 10	3 23 54.28	16 12 42	30 55				434013
10110	JUPITER-BN, FLA.	9010	7 10	3 26 45.90	17 56 06	37 10				434013
10103	TOKYO-BN, JAPAN	9005	7 10	11 44 56.50	17 13 06	5 26				434013
10104	TOKYO-BN, JAPAN	9005	7 10	14 00 08.30	18 31 00	26 03				434013
10120	MAUI-BN, HAWAII	9012	7 10	14 30 12.09	22 55 54	10 34				434013
10105	TOKYO-BN, JAPAN	9005	7 10	16 18 59.50	20 39 24	20 11				434013
10126	SHIRAZ-BN, IRAN	9008	7 10	18 01 54.03	16 46 42	23 51				434013
10101	SAN FERNANDO-BN, SP.	9004	7 10	22 14 06.90	17 06 06	12 42				434013
10102	SAN FERNANDO-BN, SP.	9004	7 11	0 31 24.60	18 54 12	25 31				434013
10111	JUPITER-BN, FLA.	9010	7 11	2 19 42.82	15 41 30	19 45				434013
30023	VAN NUYS, CAL.	0113	7 11	4 23 15.5	14 46 39	- 6 33				845043
10121	ORGAN PASS-BN, N.M.	9001	7 11	4 28 37.30	16 52 36	17 36				434013
10123	MAUI-BN, HAWAII	9012	7 11	6 26 56.33	15 45 06	22 18				434013
10124	MAUI-BN, HAWAII	9012	7 11	8 42 39.64	16 25 36	51 43				434013
10122	ORGAN PASS-BN, N.M.	9001	7 11	9 05 13.50	20 55 24	20 52				434013
10125	MAUI-BN, HAWAII	9012	7 11	11 02 37.89	19 44 36	53 03				434013
10140	SHIRAZ-BN, IRAN	9008	7 11	17 00 21.80	17 30 24	17 39				434013
10141	SHIRAZ-BN, IRAN	9008	7 11	19 13 47.14	17 03 42	36 47				434013
10134	SAN FERNANDO-BN, SP.	9004	7 11	21 10 54.40	16 59 42	4 26				434013
10135	SAN FERNANDO-BN, SP.	9004	7 11	23 27 02.90	18 23 30	24 38				434013
10130	ORGAN PASS-BN, N.M.	9001	7 12	3 24 09.90	16 06 54	2 22				434013
30021	TERRE HAUTE, IND.	8127	7 12	3 30 36.5	17 01 06	7 40				845044
10127	JUPITER-BN, FLA.	9010	7 12	3 33 57.82	17 50 18	43 02				434013
30045	VAN NUYS, CAL.	0113	7 12	5 36 11.1	17 00 16	19 48				845043
30046	VAN NUYS, CAL.	0113	7 12	5 36 18.0	17 04 02	20 04				845043
10131	ORGAN PASS-BN, N.M.	9001	7 12	5 40 48.90	17 47 18	32 01				434013
10148	MAUI-BN, HAWAII	9012	7 12	7 38 50.79	16 08 00	48 32				434013
10132	ORGAN PASS-BN, N.M.	9001	7 12	7 59 01.70	19 54 24	28 37				434013
10128	JUPITER-BN, FLA.	9010	7 12	8 08 50.33	20 38 48	20 44				434013
10129	JUPITER-BN, FLA.	9010	7 12	8 12 15.44	21 52 12	13 16				434013
10149	MAUI-BN, HAWAII	9012	7 12	9 56 05.26	18 03 42	56 36				434013
10133	ORGAN PASS-BN, N.M.	9001	7 12	10 18 00.10	21 28 12	2 59				434013
10150	MAUI-BN, HAWAII	9012	7 12	12 17 50.43	21 32 12	37 04				434013
10151	MAUI-BN, HAWAII	9012	7 12	14 36 12.16	22 12 06	2 28				434013
10142	SHIRAZ-BN, IRAN	9008	7 12	18 09 08.59	17 33 30	34 37				434013
10143	SHIRAZ-BN, IRAN	9008	7 12	20 27 22.24	19 23 42	38 26				434013
10139	SAN FERNANDO-BN, SP.	9004	7 13	0 38 05.50	18 44 18	23 51				434013
30047	VAN NUYS, CAL.	0113	7 13	4 31 33.6	16 03 07	6 37				845043
10136	ORGAN PASS-BN, N.M.	9001	7 13	4 36 13.20	16 57 24	25 53				434013
30024	FT. WORTH, TEX.	0139	7 13	4 39 34.4	17 33 42	30 48				845013
30025	FT. WORTH, TEX.	0139	7 13	4 39 36.6	17 34 06	30 50				845013
10144	JUPITER-BN, FLA.	9010	7 13	4 43 48.58	17 13 06	44 31				434013
10145	JUPITER-BN, FLA.	9010	7 13	4 45 14.73	18 08 06	45 40				434013
10146	JUPITER-BN, FLA.	9010	7 13	4 46 47.78	19 06 24	45 03				434013
10137	ORGAN PASS-BN, N.M.	9001	7 13	6 53 43.90	19 05 30	32 52				434013
10147	JUPITER-BN, FLA.	9010	7 13	7 04 53.67	20 38 00	27 40				434013
10138	ORGAN PASS-BN, N.M.	9001	7 13	9 12 29.30	20 53 12	12 47				434013
10152	AREQUIPA-BN, PERU	9007	7 13	9 39 54.71	1 59 54	21 00				434013
10156	SHIRAZ-BN, IRAN	9008	7 13	17 04 36.41	15 59 30	21 53				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10220	VAN NUYS, CAL.	1113	7 18	5 59 23.1	17 50 15	28 49				845043
10221	ORGAN PASS-BN, N.M.	9001	7 18	6 03 54.50	18 39 54	28 44				434013
10230	JUPITER-BN, FLA.	9010	7 18	6 15 00.61	20 14 24	16 37				434013
10227	CURACAO-BN, N.W.I.	9009	7 18	6 22 51.41	21 40 00	23 26				434013
10222	ORGAN PASS-BN, N.M.	9001	7 18	6 21 16.80	20 00 00	4 17				434013
10231	JUPITER-BN, FLA.	9010	7 18	6 31 57.06	20 58 06	-14 14				434013
10228	CURACAO-BN, N.W.I.	9009	7 18	6 41 11.36	21 50 30	-15 54				434013
10225	AREQUIPA-BN, PERU	9007	7 18	8 49 43.47	0 49 36	8 03				434013
10232	VILLA DOLORES-BN,ARG	9011	7 18	8 56 33.97	2 12 36	13 01				434013
10223	ORGAN PASS-BN, N.M.	9001	7 18	10 38 51.40	20 50 00	-19 59				434013
10082	MITAKA, JAPAN	0229	7 18	14 29 45.4			197 30	67 54		845303
10233	WOOMERA-BN, AUSTR.	9003	7 18	19 22 59.22	1 54 12	12 50				434013
10240	SHIRAZ-BN, IRAN	9008	7 18	20 49 30.93	19 34 42	18 16				434013
10234	SAN FERNANDO-BN, SP.	9004	7 18	22 43 41.50	17 22 12	21 58				434013
10241	SHIRAZ-BN, IRAN	9008	7 18	23 07 21.30	20 16 12	- 8 43				434013
10235	SAN FERNANDO-BN, SP.	9004	7 19	1 00 47.50	19 14 36	4 25				434013
10245	JUPITER-BN, FLA.	9010	7 19	2 53 52.40	17 15 06	50 03				434013
10236	SAN FERNANDO-BN, SP.	9004	7 19	3 17 37.40	20 11 54	-16 02				434013
10243	JUPITER-BN, FLA.	9010	7 19	5 08 09.69	18 49 12	31 10				434013
10244	JUPITER-BN, FLA.	9010	7 19	5 17 59.79	22 27 30	4 44				434013
10255	MAUI-BN, HAWAII	9012	7 19	6 58 48.03	16 40 36	66 56				434013
10242	JUPITER-BN, FLA.	9010	7 19	7 27 34.75	20 31 42	- 4 51				434013
10237	AREQUIPA-BN, PERU	9007	7 19	7 37 12.47	22 22 00	35 48				434013
10238	AREQUIPA-BN, PERU	9007	7 19	7 52 22.98	2 41 12	- 2 46				434013
10254	MAUI-BN, HAWAII	9012	7 19	9 16 57.43	19 58 12	46 12				434013
10246	VILLA DOLORES-BN,ARG	9011	7 19	10 10 55.76	23 51 36	13 52				434013
10239	AREQUIPA-BN, PERU	9007	7 19	10 02 33.32	0 58 30	-21 37				434013
10247	VILLA DOLORES-BN,ARG	9011	7 19	11 13 00.63	4 35 24	-11 47				434013
10083	MITAKA, JAPAN	0229	7 19	11 09 33.7			162 12	75 24		845303
10244	TOKYO-BN, JAPAN	9005	7 19	11 09 34.60	16 31 54	21 52				434013
10257	MAUI-BN, HAWAII	9012	7 19	11 34 52.98	20 43 48	15 41				434013
10257	TOKYO-BN, JAPAN	9005	7 19	13 24 26.00	17 52 42	20 38				434013
10084	MITAKA, JAPAN	0229	7 19	13 25 09.2			188 46	74 00		845303
10263	MAUI-BN, HAWAII	9012	7 19	13 53 54.36	21 10 00	-21 05				434013
10252	NAINI TAL-BN, INDIA	9006	7 19	15 20 47.76	16 00 30	43 33				434013
10251	TOKYO-BN, JAPAN	9005	7 19	15 40 38.90	19 09 48	0 50				434013
10279	WOOMERA-BN, AUSTR.	9003	7 19	18 18 08.16	1 20 42	19 15				434013
10245	WOOMERA-BN, AUSTR.	9003	7 19	20 34 42.05	2 13 36	- 5 19				434013
10247	SAN FERNANDO-BN, SP.	9004	7 19	21 40 26.20	17 03 54	22 23				434013
10248	SAN FERNANDO-BN, SP.	9004	7 19	23 56 22.70	18 42 54	10 26				434013
10269	ELIFANTSFNTN-BN,S.AF	9002	7 20	0 27 02.14	0 33 54	27 19				434013
10253	JUPITER-BN, FLA.	9010	7 20	1 47 59.20	16 23 12	52 01				434013
10270	ELIFANTSFNTN-BN,S.AF	9002	7 20	2 44 33.91	1 13 18	2 05				434013
10262	ORGAN PASS-BN, N.M.	9001	7 20	3 54 55.20	16 33 48	34 55				434013
10056	ALBUQUERQUE, N.M.	8579	7 20	3 54 56.7			180 00	80 12		845303
10051	WICHITA, KAN.	0028	7 20	3 57 59.6	17 20 37	18 29				845043
10052	WICHITA, KAN.	0028	7 20	3 57 59.7	17 20 20	18 30				845043
10053	WICHITA, KAN.	0028	7 20	3 58 00.1	17 20 45	18 28				845043
10264	JUPITER-BN, FLA.	9010	7 20	4 03 22.37	17 51 36	40 57				434013
10265	JUPITER-BN, FLA.	9010	7 20	4 08 27.58	20 47 24	25 35				434013
10263	ORGAN PASS-BN, N.M.	9001	7 20	6 11 06.50	18 36 06	22 03				434013
10266	VILLA DOLORES-BN,ARG	9011	7 20	6 41 17.44	23 35 18	32 22				434013
10264	ORGAN PASS-BN, N.M.	9001	7 20	8 24 34.20	18 33 36	3 16				434013
10264	ORGAN PASS-BN, N.M.	9001	7 20	10 45 16.10	20 31 48	-24 38				434023
10285	SHIRAZ-BN, IRAN	9008	7 20	18 39 39.66	17 48 12	37 10				434013
10274	WOOMERA-BN, AUSTR.	9003	7 20	19 33 04.66	1 48 36	3 37				434013
10287	SHIRAZ-BN, IRAN	9008	7 20	19 53 41.36	19 04 12	15 10				434013
10275	SAN FERNANDO-BN, SP.	9004	7 20	22 51 35.30	17 46 00	16 37				434013
10271	ELIFANTSFNTN-BN,S.AF	9002	7 21	1 40 59.99	1 13 36	7 55				434013
10253	JUPITER-BN, FLA.	9010	7 21	2 58 51.52	16 50 48	48 38				434013
10054	N. CANTON, OHIO	8559	7 21	2 58 56.1	17 26	10 40				845033
10055	N. CANTON, OHIO	8565	7 21	3 00 32.2	18 20 06	7 28				845043
10056	ROCHESTER, N.Y.	8564	7 21	3 00 48.0	17 56 07	3 06				845033
10272	ELIFANTSFNTN-BN,S.AF	9002	7 21	3 57 27.07	1 51 54	-24 12				434023
10267	ORGAN PASS-BN, N.M.	9001	7 21	5 06 45.80	17 47 48	29 14				434013
10057	ALBUQUERQUE, N.M.	8579	7 21	5 06 47.5			180 00	76 12		845303
10267	JUPITER-BN, FLA.	9010	7 21	5 16 56.89	19 26 18	17 29				434013
10268	ORGAN PASS-BN, N.M.	9001	7 21	7 21 43.70	18 34 30	7 23				434013
10284	AREQUIPA-BN, PERU	9007	7 21	7 51 13.25	23 58 48	9 12				434013
10291	VILLA DOLORES-BN,ARG	9011	7 21	7 59 26.42	1 34 54	9 59				434013
10285	AREQUIPA-BN, PERU	9007	7 21	10 11 55.35	1 42 18	-40 48				434023
10292	VILLA DOLORES-BN,ARG	9011	7 21	10 14 55.87	2 10 18	-13 27				434013
10280	TOKYO-BN, JAPAN	9005	7 21	11 16 19.60	15 56 48	23 15				434013
10087	HIGASHIMATSUYAMA,JAP	0210	7 21	11 16 43.9	16 25	21 48				845003
10088	MITAKA, JAPAN	0229	7 21	11 16 52.8			179 18	77 42		845303
10261	TOKYO-BN, JAPAN	9005	7 21	13 31 10.00	17 33 18	14 45				434013
10086	MITAKA, JAPAN	0229	7 21	13 32 38.3			192 24	66 12		845303
10262	NAINI TAL-BN, INDIA	9006	7 21	15 28 36.12	16 29 30	45 43				434013
10286	SHIRAZ-BN, IRAN	9008	7 21	17 35 56.68	16 24 00	43 41				434013
10283	NAINI TAL-BN, INDIA	9006	7 21	17 46 18.73	19 17 12	20 32				434013
10277	WOOMERA-BN, AUSTR.	9003	7 21	20 44 35.42	3 34 24	-21 17				434013
10278	SAN FERNANDO-BN, SP.	9004	7 21	21 47 15.90	16 44 36	20 08				434013
10276	SAN FERNANDO-BN, SP.	9004	7 22	0 03 22.70	18 32 30	2 31				434013
10273	ELIFANTSFNTN-BN,S.AF	9002	7 22	0 35 37.70	0 39 24	16 38				434013
10253	JUPITER-BN, FLA.	9010	7 22	1 55 40.87	16 41 12	53 30				434013
10294	JUPITER-BN, FLA.	9010	7 22	4 10 39.45	17 53 42	32 58				434013
10295	JUPITER-BN, FLA.	9010	7 22	4 14 52.39	20 14 30	19 49				434013
10288	CURACAO-BN, N.W.I.	9009	7 22	4 16 03.46	19 03 00	49 08				434013
10296	AREQUIPA-BN, PERU	9007	7 22	6 47 25.11	0 07 00	14 57				434013
10289	TOKYO-BN, JAPAN	9005	7 22	12 27 52.80	17 14 18	18 55				434013
10088	MITAKA, JAPAN	0229	7 22	12 28 08.5			193 36	72 18		845303

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10300	WOOMERA-BN, AUSTR.	9003	7 22	17 20 03.20	0 36 18	18 17				434013
10299	WOOMERA-BN, AUSTR.	9003	7 22	19 37 17.62	1 27 36	- 6 40				434013
10304	SAN FERNANDO-BN, SP.	9004	7 22	20 44 13.70	16 18 42	20 07				434013
10305	SAN FERNANDO-BN, SP.	9004	7 22	22 59 19.00	17 59 24	8 23				434013
30058	TERRE HAUTE, IND.	8127	7 23	3 04 47.4	17 18 36	8 52				845044
10322	JUPITER-BN, FLA.	9010	7 23	3 08 13.11	18 34 24	38 24				434013
10319	CURACAO-BN, N.W.I.	9009	7 23	3 13 56.67	20 20 24	51 44				434013
30064	CHINA LAKE, CAL.	0098	7 23	5 10 41.4			180 00 00	73 22 12		641303
30059	ALBUQUERQUE, N.M.	8579	7 23	5 14 35.7			180 00	68 06		845303
30060	FT. WORTH, TEX.	0139	7 23	5 18 15.0	18 49 24	10 30				845013
30061	FT. WORTH, TEX.	0139	7 23	5 18 21.0	18 52 30	10 00				845013
10324	VILLA DOLORES-BN,ARG	9011	7 23	5 48 57.29	0 25 18	22 58				434013
10325	VILLA DOLORES-BN,ARG	9011	7 23	5 53 43.16	1 24 00	13 13				434013
10320	CURACAO-BN, N.W.I.	9009	7 23	7 55 32.30	22 23 42	-39 43				434023
10326	VILLA DOLORES-BN,ARG	9011	7 23	7 56 50.17	22 34 36	21 33				434013
10312	AREQUIPA-BN, PERU	9007	7 23	7 59 13.81	23 53 30	- 6 05				434013
10327	VILLA DOLORES-BN,ARG	9011	7 23	8 11 05.66	2 59 12	- 7 26				434013
10313	AREQUIPA-BN, PERU	9007	7 23	10 16 04.73	23 47 30	-39 14				434023
10310	TOKYO-BN, JAPAN	9005	7 23	11 24 24.90	16 37 00	21 54				434013
10311	TOKYO-BN, JAPAN	9005	7 23	13 39 14.30	17 56 36	4 50				434013
30089	MITAKA, JAPAN	0229	7 23	13 39 28.0			204 48	56 18		845303
10303	WOOMERA-BN, AUSTR.	9003	7 23	16 17 08.12	0 36 54	19 21				434013
10317	SHIRAZ-BN, IRAN	9008	7 23	17 43 23.62	17 21 18	38 09				434013
10302	WOOMERA-BN, AUSTR.	9003	7 23	18 32 12.10	0 52 54	2 27				434013
10318	SHIRAZ-BN, IRAN	9008	7 23	19 56 12.67	17 04 30	14 56				434013
10301	WOOMERA-BN, AUSTR.	9003	7 23	20 49 30.02	2 06 12	-25 41				434023
10306	SAN FERNANDO-BN, SP.	9004	7 23	21 54 54.10	16 54 48	14 34				434013
10329	JUPITER-BN, FLA.	9010	7 24	2 04 31.02	18 16 36	46 27				434013
10321	CURACAO-BN, N.W.I.	9009	7 24	3 08 29.82	19 34 06	65 43				434013
10297	OLIFANTSFNTN-BN,S.AF	9002	7 24	2 58 42.99	0 34 48	-20 10				434013
30095	CHINA LAKE, CAL.	0098	7 24	4 06 53.6			180 00 00	76 01 48		641303
10323	JUPITER-BN, FLA.	9010	7 24	4 19 56.95	18 54 42	16 24				434013
10333	VILLA DOLORES-BN,ARG	9011	7 24	6 58 26.85	23 56 24	18 21				434013
10314	AREQUIPA-BN, PERU	9007	7 24	6 58 32.17	0 56 00	- 6 11				434013
10334	VILLA DOLORES-BN,ARG	9011	7 24	7 03 42.43	1 23 00	4 12				434013
10315	AREQUIPA-BN, PERU	9007	7 24	9 12 03.81	24 59 24	-31 24				434023
10328	VILLA DOLORES-BN,ARG	9011	7 24	9 16 19.00	0 57 42	-11 43				434013
10335	VILLA DOLORES-BN,ARG	9011	7 24	9 20 58.25	3 05 00	-20 13				434013
10331	SHIRAZ-BN, IRAN	9008	7 24	16 40 27.94	17 22 54	43 20				434013
10330	SHIRAZ-BN, IRAN	9008	7 24	18 55 52.30	18 36 24	15 11				434013
10307	SAN FERNANDO-BN, SP.	9004	7 24	20 51 16.80	15 58 18	17 37				434013
10308	SAN FERNANDO-BN, SP.	9004	7 24	23 06 30.10	17 49 42	- 0 14				434013
10298	OLIFANTSFNTN-BN,S.AF	9002	7 25	1 53 44.10	0 13 48	- 9 38				434013
30066	DALLAS, TEX.	0129	7 25	3 09 31.5	16 51 06	28 28				845043
30067	STATE COLLEGE, PA.	0060	7 25	3 12 33.0			219 30	41 00		845302
30068	DAYTON-D, OHIO	8557	7 25	3 13 41.0			179 48	50 04		845303
10332	AREQUIPA-BN, PERU	9007	7 25	8 06 11.55	23 28 54	-17 46				434013
10335	WOOMERA-BN, AUSTR.	9003	7 25	16 25 43.78	0 50 42	9 18				434013
10337	SHIRAZ-BN, IRAN	9008	7 25	17 58 09.49	17 32 00	28 55				434013
10336	WOOMERA-BN, AUSTR.	9003	7 25	18 39 15.68	0 41 48	- 7 09				434013
10338	SHIRAZ-BN, IRAN	9008	7 25	20 03 21.45	16 56 06	4 53				434013
10341	SAN FERNANDO-BN, SP.	9004	7 25	22 03 17.10	17 35 12	4 11				434013
10342	OLIFANTSFNTN-BN,S.AF	9002	7 26	0 49 19.80	0 06 42	- 1 04				434013
30079	SAN NEYS, CAL.	0113	7 26	4 14 19.9	16 36 48	22 31				845043
30077	FT. WORTH, TEX.	0139	7 26	4 21 20.6	18 03 36	8 48				845013
30080	WICHITA, KAN.	0028	7 26	4 21 21.2	18 06 54	- 2 57				845043
30078	FT. WORTH, TEX.	0139	7 26	4 21 30.6	18 09 36	8 18				845013
10347	MAUI-BN, HAWAII	9012	7 26	6 18 39.15	17 39 00	70 38				434013
30090	WALNUT CREEK, CAL.	8556	7 26	6 29 32.6	18 37 30	- 9 06				845004
30091	WALNUT CREEK, CAL.	8556	7 26	6 29 39.2	18 41 00	- 9 21				845004
10340	AREQUIPA-BN, PERU	9007	7 26	7 04 45.57	0 29 06	-15 33				434013
10348	MAUI-BN, HAWAII	9012	7 26	8 34 03.03	18 28 24	36 47				434013
10339	AREQUIPA-BN, PERU	9007	7 26	9 19 44.11	23 54 42	-42 37				434023
30102	MITAKA, JAPAN	0229	7 26	12 42 56.0			201 36	53 12		845303
10345	TOKYO-BN, JAPAN	9005	7 26	12 43 00.40	17 24 42	0 49				434013
10358	SHIRAZ-BN, IRAN	9008	7 26	16 47 09.74	16 19 54	41 11				434013
10346	NAINI TAL-BN, INDIA	9006	7 26	16 55 00.14	17 27 18	13 22				434013
10343	WOOMERA-BN, AUSTR.	9003	7 26	17 36 59.16	1 06 24	- 4 26				434013
10359	SHIRAZ-BN, IRAN	9008	7 26	19 02 31.78	17 58 54	5 14				434013
10344	WOOMERA-BN, AUSTR.	9003	7 26	19 51 54.69	1 22 54	-25 34				434023
10349	ORGAN PASS-BN, N.M.	9001	7 27	3 14 50.20	16 59 12	27 28				434013
30094	WALNUT CREEK, CAL.	8553	7 27	5 24 52.1	17 37 00	- 2 24				845004
30092	WALNUT CREEK, CAL.	8556	7 27	5 24 53.2	17 36 30	- 2 24				845004
30093	WALNUT CREEK, CAL.	8556	7 27	5 24 57.8	17 39 45	- 2 36				845004
30070	SAN JOSE, CAL.	8573	7 27	5 25 04.4			180	51 21 00		845302
10350	ORGAN PASS-BN, N.M.	9001	7 27	5 29 01.10	17 40 54	- 0 16				434013
10357	MAUI-BN, HAWAII	9012	7 27	7 29 35.39	17 33 54	54 48				434013
10351	VILLA DOLORES-BN,ARG	9011	7 27	8 11 43.58	22 14 12	2 21				434013
10354	AREQUIPA-BN, PERU	9007	7 27	8 13 21.57	23 11 24	-29 13				434023
10352	VILLA DOLORES-BN,ARG	9011	7 27	8 31 07.26	5 13 42	-20 28				434013
10360	SHIRAZ-BN, IRAN	9008	7 27	17 58 48.16	17 26 42	16 37				434013
10355	WOOMERA-BN, AUSTR.	9003	7 27	18 42 55.69	23 20 48	- 8 53				434013
10356	SAN FERNANDO-BN, SP.	9004	7 27	22 09 47.90	16 55 12	- 3 33				434013
30071	WHITTIER, CAL.	8566	7 28	4 22 14.2			180 00 00	69 35 24		845303
30072	CHINA LAKE, CAL.	0098	7 28	4 22 20.4			180 00 00	61 33 36		641303
30081	ALBUQUERQUE, N.M.	8579	7 28	4 26 01.2			180 00	53 36		845303
10369	MAUI-BN, HAWAII	9012	7 28	6 26 16.29	17 33 00	66 58				434013
10361	VILLA DOLORES-BN,ARG	9011	7 28	7 13 49.62	0 01 48	- 4 56				434013
10362	VILLA DOLORES-BN,ARG	9011	7 28	7 25 27.15	3 51 48	-18 29				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10372	MAUI-BN, HAWAII	9012	7 28	8 40 32.89	17 27 24	26 36				434013
10363	VILLA DOLORES-BN,ARG	9011	7 28	9 21 15.31	21 51 12	- 7 33				434013
10364	VILLA DOLORES-BN,ARG	9011	7 28	9 43 17.30	6 39 48	-19 18				434013
10365	SHIRAZ-BN, IRAN	9008	7 28	16 55 20.04	17 03 36	28 41				434013
10368	SAN FERNANDO-BN, SP.	9004	7 28	21 06 31.50	16 18 06	1 45				434013
10367	OLIFANTSFNTN-BN,S.AF	9002	7 29	2 08 15.10	23 59 00	-30 10				434023
10365	ORGAN PASS-BN, N.M.	9001	7 29	3 21 52.80	16 23 42	18 56				434013
30078	ALAMOGORDO, N.M.	0102	7 29	3 22 14			180	72 30		845302
30074	FT. WORTH, TEX.	0139	7 29	3 23 32.6	15 58 36	11 12				845013
30056	WALNUT CREEK, CAL.	8556	7 29	5 32 02.0	17 55 00	-13 36				845004
30095	WALNUT CREEK, CAL.	8556	7 29	5 32 55.1	17 51 30	-13 15				845004
30099	VAN NUYS, CAL.	0113	7 29	5 34 19	18 09 06	- 9 47				845043
30075	CHINA LAKE, CAL.	0098	7 29	5 34 35.2			180 00 00	41 19 12		641303
10366	ORGAN PASS-BN, N.M.	9001	7 29	5 35 55.30	17 14 24	-10 00				434013
10371	AREQUIPA-BN, PERU	9007	7 29	8 21 13.66	23 12 30	-40 36				434023
10381	SHIRAZ-BN, IRAN	9008	7 29	18 05 57.90	16 44 24	5 04				434013
10375	WOOMERA-BN, AUSTR.	9003	7 29	18 53 34.63	0 34 36	-24 55				434023
30097	CINCINNATI, OHIO	0050	7 30	2 25 09.7	17 17 30	-13 00				845004
10383	CURACAO-BN, N.W.I.	9009	7 30	2 30 39.00	17 57 48	42 55				434013
30076	SAN JOSE, CAL.	8573	7 30	4 27 46.4			180	46 29 24		845302
30100	VAN NUYS, CAL.	0113	7 30	4 30 00.3	17 08 34	- 0 15				845043
10380	AREQUIPA-BN, PERU	9007	7 30	9 33 25.41	23 16 24	-52 24				434023
10376	WOOMERA-BN, AUSTR.	9003	7 30	17 47 46.00	23 49 42	-16 00				434013
10377	WOOMERA-BN, AUSTR.	9003	7 30	20 09 19.80	3 06 12	-35 06				434023
10374	SAN FERNANDO-BN, SP.	9004	7 30	21 13 40.60	16 00 12	- 7 54				434013
10382	CURACAO-BN, N.W.I.	9009	7 31	1 27 52.46	16 53 36	54 34				434013
10378	OLIFANTSFNTN-BN,S.AF	9002	7 31	2 16 20.02	0 21 06	-39 08				434023
30101	VAN NUYS, CAL.	0113	7 31	5 42 22.6	18 23 04	-22 26				845043
10387	AREQUIPA-BN, PERU	9007	7 31	8 26 30.24	22 15 48	-42 46				434023
10384	VILLA DOLORES-BN,ARG	9011	7 31	8 34 09.34	0 51 00	-29 55				434023
10386	SHIRAZ-BN, IRAN	9008	7 31	18 13 31.71	16 56 42	-10 59				434013
10378	WOOMERA-BN, AUSTR.	9003	7 31	19 00 52.06	0 40 42	-31 31				434023
10373	OLIFANTSFNTN-BN,S.AF	9002	8 01	1 11 03.30	23 51 00	-31 59				434023
10374	OLIFANTSFNTN-BN,S.AF	9002	8 01	3 28 53.50	1 08 30	-47 00				434023
30098	CHINA LAKE, CAL.	0096	8 01	4 38 23.0			180 00 00	36 30 36		641303
10394	MAUI-BN, HAWAII	9012	8 01	6 42 30.54	18 07 30	38 30				434013
10388	AREQUIPA-BN, PERU	9007	8 01	7 29 43.06	1 47 06	-48 11				434023
10389	AREQUIPA-BN, PERU	9007	8 01	9 43 21.98	0 49 06	-60 45				434023
10393	NAINI TAL-BN, INDIA	9006	8 01	15 05 20.41	18 01 48	- 2 56				434013
10396	SHIRAZ-BN, IRAN	9008	8 01	17 09 55.25	16 11 30	0 09				434013
10391	WOOMERA-BN, AUSTR.	9003	8 01	17 54 56.12	23 49 18	-24 12				434023
10392	WOOMERA-BN, AUSTR.	9003	8 01	20 14 11.04	2 00 30	-37 22				434023
10397	JUPITER-BN, FLA.	9010	8 02	1 30 39.44	16 27 54	16 10				434013
10390	OLIFANTSFNTN-BN,S.AF	9002	8 02	2 24 00.20	0 40 30	-44 30				434023
10395	VILLA DOLORES-BN,ARG	9011	8 02	8 44 30.15	2 32 36	-34 00				434023
10396	VILLA DOLORES-BN,ARG	9011	8 02	8 46 51.14	4 24 24	-27 58				434023
10400	SHIRAZ-BN, IRAN	9008	8 02	16 07 02.56	15 50 18	13 29				434013
10403	WOOMERA-BN, AUSTR.	9003	8 02	19 08 14.07	0 58 12	-35 50				434023
10401	CURACAO-BN, N.W.I.	9009	8 03	0 32 20.72	18 58 12	57 13				434013
10404	VILLA DOLORES-BN,ARG	9011	8 03	7 33 30.81	23 39 00	-27 45				434023
10405	VILLA DOLORES-BN,ARG	9011	8 03	7 35 23.87	1 49 18	-31 30				434023
10406	VILLA DOLORES-BN,ARG	9011	8 03	9 49 32.88	23 56 24	-32 21				434023
10407	VILLA DOLORES-BN,ARG	9011	8 03	9 56 27.75	2 19 48	-31 22				434023
10402	OLIFANTSFNTN-BN,S.AF	9002	8 04	2 31 48.36	1 05 42	-46 46				434023
10411	VILLA DOLORES-BN,ARG	9011	8 04	6 34 24.72	1 11 28	-24 58				434023
10412	VILLA DOLORES-BN,ARG	9011	8 04	6 39 09.09	2 48 12	-26 08				434023
10413	VILLA DOLORES-BN,ARG	9011	8 04	8 40 10.29	21 54 42	-24 32				434023
10414	VILLA DOLORES-BN,ARG	9011	8 04	8 56 25.46	4 35 18	-25 30				434023
10410	SHIRAZ-BN, IRAN	9008	8 04	16 14 30.73	15 27 00	- 4 55				434013
10408	OLIFANTSFNTN-BN,S.AF	9002	8 05	1 25 59.90	0 15 56	-44 18				434023
10409	OLIFANTSFNTN-BN,S.AF	9002	8 05	3 45 40.81	2 48 42	-41 58				434023
10426	MAUI-BN, HAWAII	9012	8 05	6 57 04.57	16 23 00	0 23				434013
10415	VILLA DOLORES-BN,ARG	9011	8 05	7 42 35.64	0 13 42	-33 34				434023
10416	VILLA DOLORES-BN,ARG	9011	8 05	7 48 04.89	2 37 48	-32 05				434023
10417	VILLA DOLORES-BN,ARG	9011	8 05	9 56 59.81	0 16 30	-31 29				434023
10418	VILLA DOLORES-BN,ARG	9011	8 05	10 06 16.16	4 29 36	-19 25				434013
10420	WOOMERA-BN, AUSTR.	9003	8 05	20 28 27.60	2 13 48	-31 22				434023
10419	OLIFANTSFNTN-BN,S.AF	9002	8 06	2 39 00.70	1 21 36	-46 05				434023
10425	MAUI-BN, HAWAII	9012	8 06	5 53 40.41	15 39 42	29 33				434013
10421	WOOMERA-BN, AUSTR.	9003	8 06	19 23 06.36	1 30 18	-35 37				434023
10424	CURACAO-BN, N.W.I.	9009	8 07	0 47 36.16	17 17 12	22 13				434013
10422	WOOMERA-BN, AUSTR.	9003	8 07	18 16 44.16	0 20 24	-37 01				434023
10423	WOOMERA-BN, AUSTR.	9003	8 07	20 36 14.29	2 34 42	-23 32				434023
10427	CURACAO-BN, N.W.I.	9009	8 08	1 56 46.45	15 27 42	-11 58				434013
10431	MAUI-BN, HAWAII	9012	8 08	6 01 46.73	15 46 00	- 5 42				434013
10428	VILLA DOLORES-BN,ARG	9011	8 08	6 48 50.00	3 38 54	-32 38				434023
10429	VILLA DOLORES-BN,ARG	9011	8 08	8 58 06.42	23 28 48	-31 45				434023
10430	VILLA DOLORES-BN,ARG	9011	8 08	9 08 30.92	3 56 54	-19 08				434013
10434	MAUI-BN, HAWAII	9012	8 09	7 12 49.10	15 55 30	-36 19				434023
10433	WOOMERA-BN, AUSTR.	9003	8 09	18 24 24.68	0 46 54	-35 50				434023
10432	OLIFANTSFNTN-BN,S.AF	9002	8 10	2 54 54.80	2 20 00	-34 46				434023
10435	AREQUIPA-BN, PERU	9007	8 11	8 02 26.73	1 00 18	-58 19				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10436	WOOMERA-BN, AUSTR.	9003	8 11	18 31 26.74	0 53 30	-32 15				434023
10437	CURACAO-BN, N.W.I.	9009	8 11	23 59 48.80	15 40 54	- 9 17				434013
10439	VILLA DOLORES-BN,ARG	9011	8 12	9 11 21.51	23 33 06	-23 59				434023
10438	AREQUIPA-BN, PERU	9007	8 12	9 16 52.52	2 25 36	-45 44				434023
10440	VILLA DOLORES-BN,ARG	9011	8 12	9 17 38.31	1 49 54	-15 55				434013
10441	WOOMERA-BN, AUSTR.	9003	8 12	17 28 07.84	1 10 36	-33 24				434023
10442	WOOMERA-BN, AUSTR.	9003	8 12	19 41 22.68	0 34 18	-22 23				434013
10448	VILLA DOLORES-BN,ARG	9011	8 13	8 05 51.61	22 42 36	-29 05				434023
10449	VILLA DOLORES-BN,ARG	9011	8 13	8 12 43.44	1 29 48	-23 02				434023
10444	WOOMERA-BN, AUSTR.	9003	8 13	18 39 07.59	1 13 06	-25 15				434023
10450	VILLA DOLORES-BN,ARG	9011	8 14	7 07 04.30	0 49 48	-29 35				434023
10451	VILLA DOLORES-BN,ARG	9011	8 14	9 23 03.04	1 14 36	-10 24				434013
10447	AREQUIPA-BN, PERU	9007	8 14	9 24 56.52	2 39 42	-34 40				434023
10452	VILLA DOLORES-BN,ARG	9011	8 14	9 27 58.44	2 50 00	0 55				434013
10445	WOOMERA-BN, AUSTR.	9003	8 14	17 34 24.83	0 56 18	-30 15				434023
10446	WOOMERA-BN, AUSTR.	9003	8 14	19 51 32.83	1 39 36	- 7 53				434013
10443	OLIFANTSFNTN-BN,S.AF	9002	8 15	2 03 18.00	1 36 06	-27 10				434023
10453	VILLA DOLORES-BN,ARG	9011	8 15	8 16 41.83	0 19 42	-20 41				434013
10457	AREQUIPA-BN, PERU	9007	8 15	8 18 09.80	1 47 18	-46 04				434023
10454	VILLA DOLORES-BN,ARG	9011	8 15	8 20 13.90	1 37 36	-14 07				434013
10456	WOOMERA-BN, AUSTR.	9003	8 15	18 45 31.78	0 57 42	-18 30				434013
10459	AREQUIPA-BN, PERU	9007	8 16	0 19 10.83	19 12 00	21 29				434013
10455	OLIFANTSFNTN-BN,S.AF	9002	8 16	0 57 58.60	1 12 48	-35 02				434023
10460	VILLA DOLORES-BN,ARG	9011	8 16	7 13 05.56	0 27 30	-25 08				434023
10461	VILLA DOLORES-BN,ARG	9011	8 16	7 20 09.68	2 50 48	-10 18				434013
10462	VILLA DOLORES-BN,ARG	9011	8 16	9 24 00.38	23 20 12	-12 22				434013
10458	AREQUIPA-BN, PERU	9007	8 16	9 32 36.96	2 36 42	-22 00				434013
10463	VILLA DOLORES-BN,ARG	9011	8 16	9 34 28.76	2 28 54	9 28				434013
10464	WOOMERA-BN, AUSTR.	9003	8 16	17 41 06.01	0 49 42	-24 26				434023
10465	WOOMERA-BN, AUSTR.	9003	8 16	19 59 40.52	1 53 18	4 30				434013
10466	VILLA DOLORES-BN,ARG	9011	8 17	8 23 58.74	0 27 18	-11 41				434013
10467	VILLA DOLORES-BN,ARG	9011	8 17	8 29 51.28	2 20 06	1 19				434013
10469	AREQUIPA-BN, PERU	9007	8 18	0 26 13.12	18 11 24	4 35				434013
10468	OLIFANTSFNTN-BN,S.AF	9002	8 18	1 03 59.98	0 43 42	-29 06				434023
10470	AREQUIPA-BN, PERU	9007	8 18	7 20 27.84	1 37 36	-44 21				434013
10472	VILLA DOLORES-BN,ARG	9011	8 18	7 20 31.96	0 37 18	-16 28				434013
10473	VILLA DOLORES-BN,ARG	9011	8 18	7 29 59.54	3 32 30	4 03				434013
10474	VILLA DOLORES-BN,ARG	9011	8 18	9 29 29.22	23 08 30	- 6 44				434013
10475	VILLA DOLORES-BN,ARG	9011	8 18	9 39 20.29	1 43 00	13 14				434013
10471	AREQUIPA-BN, PERU	9007	8 18	9 39 54.05	2 24 24	- 8 33				434013
10485	AREQUIPA-BN, PERU	9007	8 19	8 32 24.69	1 29 48	-26 44				434023
10477	WOOMERA-BN, AUSTR.	9003	8 19	19 00 27.33	1 06 48	2 46				434013
10481	AREQUIPA-BN, PERU	9007	8 20	0 33 45.27	17 28 12	-25 11				434023
10482	AREQUIPA-BN, PERU	9007	8 20	7 27 33.16	1 28 00	-35 50				434023
10486	VILLA DOLORES-BN,ARG	9011	8 20	7 28 11.16	0 47 42	- 5 37				434013
10487	VILLA DOLORES-BN,ARG	9011	8 20	7 34 26.13	2 36 30	8 10				434013
10483	AREQUIPA-BN, PERU	9007	8 20	9 46 13.23	1 53 54	2 15				434013
10478	WOOMERA-BN, AUSTR.	9003	8 20	11 02 42.04	17 32 00	20 36				434013
30103	PRETORIA, S.AFR.	8575	8 20	17 01 48.1			30 24	36 54		845302
30104	PRETORIA, S.AFR.	8575	8 20	17 01 48.9			30 24	36 48		845302
10484	AREQUIPA-BN, PERU	9007	8 21	8 40 10.36	1 29 54	-12 09				434013
10479	WOOMERA-BN, AUSTR.	9003	8 21	10 01 41.73	19 05 06	24 07				434013
10476	OLIFANTSFNTN-BN,S.AF	9002	8 21	18 25 28.00	16 29 06	- 6 03				434013
10480	WOOMERA-BN, AUSTR.	9003	8 21	19 06 04.69	0 36 06	9 13				434013
10489	AREQUIPA-BN, PERU	9007	8 22	0 41 11.72	16 42 12	-49 54				434023
10490	AREQUIPA-BN, PERU	9007	8 22	7 34 32.68	1 13 42	-25 04				434023
10492	VILLA DOLORES-BN,ARG	9011	8 22	7 35 20.72	0 43 42	4 50				434013
10491	AREQUIPA-BN, PERU	9007	8 22	9 51 08.03	1 03 18	8 00				434013
30105	PRETORIA, S.AFR.	8575	8 22	17 24 03.1			27 24	56 48		845302
10496	OLIFANTSFNTN-BN,S.AF	9002	8 22	17 24 03.30	18 18 00	- 4 57				434013
10494	WOOMERA-BN, AUSTR.	9003	8 22	18 02 09.38	0 36 12	4 01				434013
10495	WOOMERA-BN, AUSTR.	9003	8 22	20 17 47.14	0 45 54	22 54				434013
10498	AREQUIPA-BN, PERU	9007	8 22	23 38 07.44	16 50 54	-25 50				434023
10500	VILLA DOLORES-BN,ARG	9011	8 22	23 41 17.48	18 32 12	18 35				434013
10493	OLIFANTSFNTN-BN,S.AF	9002	8 23	2 29 54.30	0 35 48	11 31				434013
10501	VILLA DOLORES-BN,ARG	9011	8 23	8 43 12.11	23 50 42	11 48				434013
10499	AREQUIPA-BN, PERU	9007	8 23	8 47 40.25	1 23 06	2 32				434013
10502	VILLA DOLORES-BN,ARG	9011	8 23	8 50 33.37	1 40 42	27 36				434013
10497	WOOMERA-BN, AUSTR.	9003	8 23	10 08 41.48	18 37 54	15 01				434013
10503	OLIFANTSFNTN-BN,S.AF	9002	8 23	18 32 28.00	16 36 42	-21 11				434013
10505	WOOMERA-BN, AUSTR.	9003	8 23	19 12 42.61	0 23 36	17 11				434013
10520	AREQUIPA-BN, PERU	9007	8 24	0 48 45.00	16 02 24	-64 59				434023
10504	OLIFANTSFNTN-BN,S.AF	9002	8 24	1 25 55.40	0 42 24	5 51				434013
10506	AREQUIPA-BN, PERU	9007	8 24	7 41 43.25	1 20 06	-11 30				434013
10507	AREQUIPA-BN, PERU	9007	8 24	10 01 54.56	1 48 00	29 11				434013
10508	WOOMERA-BN, AUSTR.	9003	8 24	11 17 02.77	16 27 48	- 6 47				434013
10516	OLIFANTSFNTN-BN,S.AF	9002	8 24	17 31 43.44	18 26 12	-22 16				434013
10509	WOOMERA-BN, AUSTR.	9003	8 24	18 10 42.07	0 53 54	17 25				434013
10511	AREQUIPA-BN, PERU	9007	8 24	23 44 46	14 18 36	-41 52				934023
10523	VILLA DOLORES-BN,ARG	9011	8 24	23 47 48.95	16 17 12	11 30				434013
10517	OLIFANTSFNTN-BN,S.AF	9002	8 25	2 35 48.62	0 10 12	18 00				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10515	VILLA DOLORES-BN,ARG	9011	8 25	8 53 08.35	0 27 24	25 48				434013
10512	AREQUIPA-BN, PERU	9007	8 25	8 54 32.39	1 04 12	14 29				434013
10510	WOOMERA-BN, AUSTR.	9003	8 25	10 15 47.90	18 14 06	0 58				434013
10518	OLIFANTSFNTN-BN,S.AF	9002	8 25	18 39 53.70	15 17 06	-35 15				434023
10521	AREQUIPA-BN, PERU	9007	8 26	0 55 52.80	14 41 48	-69 40				434023
10519	OLIFANTSFNTN-BN,S.AF	9002	8 26	1 32 30.70	0 19 12	15 30				434013
10522	AREQUIPA-BN, PERU	9007	8 26	7 49 22.74	0 56 00	4 00				434013
10524	WOOMERA-BN, AUSTR.	9003	8 26	11 22 18.47	14 33 42	- 4 59				434013
10532	MAUI-BN, HAWAII	9012	8 26	14 20 51.43	4 07 42	-12 43				434013
10525	WOOMERA-BN, AUSTR.	9003	8 26	18 17 35.18	0 40 30	25 55				434013
10528	AREQUIPA-BN, PERU	9007	8 26	23 52 48.16	14 05 06	-65 34				434023
10531	VILLA DOLORES-BN,ARG	9011	8 26	23 55 50.18	18 13 12	-11 48				434013
10529	SHIRAZ-BN, IRAN	9008	8 27	0 52 00.23	4 24 24	-13 29				434013
10526	WOOMERA-BN, AUSTR.	9003	8 27	10 23 00.10	17 58 48	-16 41				434013
10527	SAN FERNANDO-BN, SP.	9004	8 28	4 03 01.60	4 46 36	-15 11				434013
10533	OLIFANTSFNTN-BN,S.AF	9002	8 28	17 45 52.21	16 52 12	-57 30				434023
10534	VILLA DOLORES-BN,ARG	9011	8 28	23 59 26.47	13 46 12	1 37				434013
10535	VILLA DOLORES-BN,ARG	9011	8 29	0 03 53.74	19 40 48	-29 20				434023
10537	SHIRAZ-BN, IRAN	9008	8 29	0 58 12.74	4 04 42	- 5 34				434013
10530	CURACAO-BN, N.W.I.	9009	8 29	6 58 21.84	2 27 48	-22 36				434013
10536	WOOMERA-BN, AUSTR.	9003	8 29	10 29 45.50	16 55 36	-28 55				434023
10543	VILLA DOLORES-BN,ARG	9011	8 29	23 01 18.38	19 30 42	-13 56				434013
10540	AREQUIPA-BN, PERU	9007	8 30	8 03 45.66	0 27 00	28 42				434013
10538	JUPITER-BN, FLA.	9010	8 30	6 10 43.62	3 16 00	-18 42				434013
10546	OLIFANTSFNTN-BN,S.AF	9002	8 30	17 52 46.70	15 35 42	-62 18				434023
10541	SHIRAZ-BN, IRAN	9008	8 31	1 02 50.16	3 16 18	1 20				434013
10539	SAN FERNANDO-BN, SP.	9004	8 31	3 03 53.90	4 03 42	-15 31				434013
10542	JUPITER-BN, FLA.	9010	8 31	7 07 08.01	3 19 24	-21 54				434013
10544	WOOMERA-BN, AUSTR.	9003	8 31	10 37 22.95	17 45 06	-42 34				434023
10551	SHIRAZ-BN, IRAN	9008	8 31	23 58 21.41	3 12 18	- 7 58				434013

1959 ALPHA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1959.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
02087	PRETORIA, S.AFR.	0405	12 30	20 14 42.2			179 36	57 48		845302

1959 ALPHA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01447	PRETORIA, S.AFR.	0405	1 01	20 24 01.8			180 00	62 18		845302
01450	SAN FERNANDO-BN, SP.	9004	4 15	20 41 36.90	12 21 30	-11 09				434013
01451	SAN FERNANDO-BN, SP.	9004	4 16	1 16 14.70	15 33 24	23 31				434013
01452	SAN FERNANDO-BN, SP.	9004	4 16	3 30 17.70	16 16 00	14 44				434013
01467	MAUI-BN, HAWAII	9012	4 24	7 39 00.62	10 32 06	44 31				434013
01448	N. CANTON, OHIO	8544	4 25	2 29 23.0	11 14 45	10 54				845032
01449	N. CANTON, OHIO	8544	4 25	2 29 36.6	11 19 50	11 20				845032
01468	MAUI-BN, HAWAII	9012	5 01	9 21 54.02	14 16 36	43 16				434013
01465	MAUI-BN, HAWAII	9012	5 04	6 05 11.66	11 30 00	56 14				434013
01466	MAUI-BN, HAWAII	9012	5 04	8 22 16.78	12 25 30	47 50				434013
01464	ORGAN PASS-BN, N.M.	9001	5 11	3 25 15.70	11 13 06	21 12				434013
01469	VILLA DOLORES-BN,ARG	9011	5 11	8 31 06.13	18 22 18	-19 25				434013
01470	VILLA DOLORES-BN,ARG	9011	5 24	8 17 28.85	19 11 12	-26 51				434023
01471	VILLA DOLORES-BN,ARG	9011	5 24	8 23 31.05	22 44 00	- 7 20				434013

1959 ALPHA 1

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00907	MAUI-BN, HAWAII	9012	4 23	13 24 26.53	17 02 06	15 48				434013
00873	SHIRAZ-BN, IRAN	9008	4 23	19 16 08.14	12 31 30	39 11				434013
00874	SHIRAZ-BN, IRAN	9009	4 23	21 35 41.76	15 06 30	30 47				434013
00895	SHIRAZ-BN, IRAN	9008	4 24	18 09 55.86	11 15 48	34 12				434013
00989	SHIRAZ-BN, IRAN	9008	4 30	16 15 07.68	9 23 54	32 03				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00998	SAN FERNANDO-BN, SP.	9004	5 02	20 38 01.90	10 49 48	26 06				434013
01010	SHIRAZ-BN, IRAN	9008	5 03	17 38 51.32	11 47 06	38 17				434013
01136	MAUI-BN, HAWAII	9012	5 12	6 38 17.80	11 57 24	39 43				434013
01148	SHIRAZ-BN, IRAN	9008	5 13	18 19 19.09	11 46 42	- 3 16				434013
01161	SHIRAZ-BN, IRAN	9008	5 15	18 29 16.66	11 49 06	-14 34				434013
01186	OLIFANTSFNTN-BN,S.AF	9002	5 17	2 40 49.70	20 13 42	-54 52				434023

1959 ALPHA 2

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01058	NORTH CANTON, OHIO	8536	6 01	1 49 11.5	12 58 15	13 12				641034
00975	ORGAN PASS-BN, N.M.	9001	6 01	4 00 37.80	12 44 54	24 18				434013
00976	ORGAN PASS-BN, N.M.	9001	6 01	4 07 22.60	14 55 00	12 27				434013
00977	ORGAN PASS-BN, N.M.	9001	6 01	6 25 55.20	14 26 42	- 7 03				434013
01016	MAUI-BN, HAWAII	9012	6 01	8 31 41.42	14 54 18	21 37				434013
00983	VILLA DOLORES-BN,ARG	9011	6 01	9 12 46.68	21 50 48	-21 49				434013
01009	NAINI TAL-BN, INDIA	9006	6 01	14 49 45.45	14 07 06	27 23				434013
01015	NAINI TAL-BN, INDIA	9006	6 01	17 29 27.25	13 53 18	8 19				434013
01008	WOOMERA-BN, AUSTR.	9003	6 01	20 02 49.04	21 38 18	-35 00				434023
01014	CURACAO-BN, N.W.I.	9009	6 02	1 45 07.72	14 54 06	42 35				434013
01007	OLIFANTSFNTN-BN,S.AF	9002	6 02	2 29 27.30	21 10 30	-50 05				434023
01015	JUPITER-BN, FLA.	9010	6 02	4 01 41.36	14 32 00	2 04				434013
01090	WALNUT CREEK, CAL.	8556	6 02	5 08 35.5	14 43 15	- 6 18				845004
01091	WALNUT CREEK, CAL.	8556	6 02	6 08 52.2	14 47 50	- 6 51				845004
01177	MAUI-BN, HAWAII	9012	6 02	8 16 28.00	14 13 30	24 24				434013
01049	NAINI TAL-BN, INDIA	9006	6 02	16 58 58.67	14 39 48	0 14				434013
01048	WOOMERA-BN, AUSTR.	9003	6 02	19 49 56.68	21 34 00	-36 13				434023
01050	CURACAO-BN, N.W.I.	9009	6 03	1 31 54.79	14 54 12	40 25				434013
01072	JUPITER-BN, FLA.	9010	6 03	3 47 45.52	14 17 54	2 03				434013
01092	WALNUT CREEK, CAL.	8556	6 03	5 54 56.2	14 34 00	- 6 54				845004
01095	SAN JOSE, CAL.	8573	6 03	5 55 04.0			180	46 21 36		845304
01181	WALNUT CREEK, CAL.	8556	6 03	5 55 14.4	14 38 55	- 7 30				845004
01068	NAINI TAL-BN, INDIA	9006	6 03	16 42 45.21	13 47 18	5 15				434013
01066	WOOMERA-BN, AUSTR.	9003	6 03	19 37 10.94	21 25 18	-37 00				434023
01073	JUPITER-BN, FLA.	9010	6 04	3 31 06.90	13 19 30	8 04				434013
01074	JUPITER-BN, FLA.	9010	6 04	3 36 28.29	14 45 48	- 4 28				434013
01070	CURACAO-BN, N.W.I.	9009	6 04	3 38 24.42	14 02 48	13 58				434013
01102	WALNUT CREEK, CAL.	8553	6 04	5 41 17.0	14 25 15	- 7 42				845004
01067	WOOMERA-BN, AUSTR.	9003	6 05	19 11 57.62	21 48 48	-39 12				434023
01071	CURACAO-BN, N.W.I.	9009	6 06	0 49 56.27	14 09 30	39 38				434013
01075	JUPITER-BN, FLA.	9010	6 06	3 02 39.96	12 45 12	8 24				434013
01076	WOOMERA-BN, AUSTR.	9003	6 06	18 59 53.84	12 57 54	-38 42				434023
01077	OLIFANTSFNTN-BN,S.AF	9002	6 07	3 43 14.90	22 04 24	-70 59				434023
01211	MAUI-BN, HAWAII	9012	6 07	13 26 44.68	22 16 12	-34 43				434023
01078	OLIFANTSFNTN-BN,S.AF	9002	6 08	3 31 24.60	1 18 30	-63 28				434023
01103	SAN JOSE, CAL.	8573	6 08	4 46 15.4			180	43 04 12		845304
01081	MAUI-BN, HAWAII	9012	6 08	6 53 50.11	13 12 18	18 40				434013
01082	MAUI-BN, HAWAII	9012	6 08	9 15 35.58	13 32 06	-13 05				434013
01079	VILLA DOLORES-BN,ARG	9011	6 08	10 01 05.39	22 46 30	-32 23				434023
01080	NAINI TAL-BN, INDIA	9006	6 08	15 31 15.12	12 13 24	6 28				434013
01100	MAUI-BN, HAWAII	9012	6 09	6 40 44.69	13 14 12	16 01				434013
01097	AREQUIPA-BN, PERU	9007	6 09	9 47 02.45	1 15 00	-84 42				434023
01099	WOOMERA-BN, AUSTR.	9003	6 09	20 38 23.97	22 48 36	-29 01				434023
01098	OLIFANTSFTN-BN,S.AF.	9002	6 10	3 04 49.80	20 32 00	-64 22				434023
01107	WOOMERA-BN, AUSTR.	9003	6 10	20 25 39.10	22 42 42	-27 27				434023
01112	JUPITER-BN, FLA.	9010	6 11	1 55 17.77	12 18 12	0 25				434013
01113	JUPITER-BN, FLA.	9010	6 11	2 00 42.16	13 41 54	-11 35				434013
01108	AREQUIPA-BN, PERU	9007	6 11	2 09 28.74	15 05 12	29 48				434013
01109	AREQUIPA-BN, PERU	9007	6 11	9 21 26.59	0 00 00	-81 30				434023
01110	JUPITER-BN, FLA.	9010	6 12	1 42 41.27	12 20 12	- 2 29				434013
01105	OLIFANTSFNTN-BN,S.AF	9002	6 12	2 38 33.10	20 13 18	-58 45				434023
01104	ORGAN PASS-BN, N.M.	9001	6 12	3 53 26.70	12 17 24	-11 28				434013
01115	MAUI-BN, HAWAII	9012	6 12	8 22 35.20	18 05 12	-18 37				434013
01106	WOOMERA-BN, AUSTR.	9003	6 12	19 59 55.15	22 13 06	-25 41				434023
01111	CURACAO-BN, N.W.I.	9009	6 13	1 38 15.05	13 27 24	- 5 26				434013
01116	AREQUIPA-BN, PERU	9007	6 13	1 42 20.19	14 48 30	26 55				434013
01117	ORGAN PASS-BN,N.M.	9001	6 13	3 41 27.20	12 31 36	-15 58				434013
01120	MAUI-BN, HAWAII	9012	6 13	8 07 27.04	12 37 06	-16 16				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01114	VILLA DOLORES-BN,ARG	9011	6 13	8 56 46.26	21 40 12	-28 27				434023
01121	OLIFANTSFNTN-BN,S.AF	9002	6 13	19 01 21.39	14 54 12	31 02				434013
01118	SAN FERNANDO-BN, SP.	9004	6 13	20 55 38.40	11 37 12	-14 04				434013
01119	CURACAO-BN, N.W.I.	9009	6 14	1 24 11.00	13 11 54	- 6 47				434013
01124	AREQUIPA-BN, PERU	9007	6 14	1 29 50.24	14 56 54	22 58				434013
01122	OLIFANTSFNTN-BN,S.AF	9002	6 14	2 13 43.73	21 53 24	-55 45				434023
01125	AREQUIPA-BN, PERU	9007	6 14	8 43 34.84	0 30 12	-72 09				434023
01123	OLIFANTSFNTN-BN,S.AF	9002	6 15	2 01 32.30	22 52 06	-50 47				434023
01130	MAUI-BN, HA.AII	9012	6 15	7 41 29.13	12 37 06	-21 55				434013
01126	OLIFANTSFNTN-BN,S.AF	9002	6 15	18 38 53.30	15 42 30	18 39				434013
01127	WOOMERA-BN, AUSTR.	9003	6 15	19 23 30.78	0 13 30	- 8 01				434013
01128	CURACAO-BN, N.W.I.	9009	6 16	0 57 18.20	13 00 12	-10 04				434013
01131	AREQUIPA-BN, PERU	9007	6 16	1 04 18.10	15 05 00	15 56				434013
01129	JUPITER-BN, FLA.	9010	6 16	3 09 49.07	11 50 24	-24 03				434023
01132	OLIFANTSFNTN-BN,S.AF	9002	6 17	3 53 17.91	22 00 24	- 0 29				434013
01144	MAUI-BN, HA.AII	9012	6 17	7 12 24.40	11 52 42	-20 12				434013
01144	VILLA DOLORES-BN,ARG	9011	6 17	8 08 09.66	0 00 00	- 9 05				434013
01134	OLIFANTSFNTN-BN,S.AF	9002	6 17	18 10 29.65	15 10 18	18 47				434013
01136	AREQUIPA-BN, PERU	9007	6 18	0 56 59.36	14 47 24	13 21				434013
01137	OLIFANTSFNTN-BN,S.AF	9002	6 18	3 40 42.85	22 09 36	2 41				434013
01145	VILLA DOLORES-BN,ARG	9011	6 18	10 10 03.72	21 29 30	20 07				434013
01138	OLIFANTSFNTN-BN,S.AF	9002	6 18	17 57 39.10	15 12 30	15 54				434013
01140	AREQUIPA-BN, PERU	9007	6 19	0 22 43.66	14 29 54	13 48				434013
01148	VILLA DOLORES-BN,ARG	9011	6 19	0 31 52.74	15 53 24	10 56				434013
01141	AREQUIPA-BN, PERU	9007	6 19	2 41 28.34	8 27 18	- 9 05				434013
01147	MAUI-BN, HA.AII	9012	6 19	6 45 40.25	11 39 30	-24 05				434023
01139	OLIFANTSFNTN-BN,S.AF	9002	6 19	17 45 11.30	15 20 36	12 02				434013
01198	WOOMERA-BN, AUSTR.	9003	6 19	18 31 09.35	22 42 12	-10 37				434013
01142	CURACAO-BN, N.W.I.	9009	6 20	0 01 58.22	12 05 42	-14 08				434013
01160	AREQUIPA-BN, PERU	9007	6 20	0 11 30.80	14 57 24	5 57				434013
01161	AREQUIPA-BN, PERU	9007	6 20	2 27 35.78	13 16 18	- 9 53				434013
01135	OLIFANTSFNTN-BN,S.AF	9002	6 20	3 15 41.30	22 33 42	9 55				434013
01149	WOOMERA-BN, AUSTR.	9003	6 20	11 07 33.96	15 32 24	6 50				434013
01150	WOOMERA-BN, AUSTR.	9003	6 20	18 21 29.84	0 34 18	6 32				434013
01163	AREQUIPA-BN, PERU	9007	6 20	23 55 22.93	14 11 54	11 40				434013
01164	AREQUIPA-BN, PERU	9007	6 21	0 00 05.24	16 30 42	-11 44				434013
01165	VILLA DOLORES-BN,ARG	9011	6 21	9 31 12.16	21 23 36	18 05				434013
01162	WOOMERA-BN, AUSTR.	9003	6 21	10 50 54.12	14 40 42	12 13				434013
01170	OLIFANTSFNTN-BN,S.AF	9002	6 21	19 35 43.60	14 09 12	- 8 28				434013
01166	WOOMERA-BN, AUSTR.	9003	6 21	20 20 59.33	20 50 54	21 00				434013
01169	AREQUIPA-BN, PERU	9007	6 22	2 05 46.69	14 29 00	-27 26				434023
01171	OLIFANTSFNTN-BN,S.AF	9002	6 22	2 48 17.80	20 58 30	- 0 53				434013
01172	OLIFANTSFNTN-BN,S.AF	9002	6 22	19 34 17.60	14 36 12	-14 41				434013
01174	WOOMERA-BN, AUSTR.	9003	6 22	20 08 43.54	21 06 54	24 51				434013
01190	AREQUIPA-BN, PERU	9007	6 23	1 13 55.43	13 35 24	10 35				434013
01144	AREQUIPA-BN, PERU	9007	6 23	1 51 54.98	14 18 06	-28 13				434023
01173	OLIFANTSFNTN-BN,S.AF	9002	6 23	2 35 43.20	21 13 36	3 12				434013
01176	WOOMERA-BN, AUSTR.	9003	6 23	10 29 52.12	15 57 48	- 3 00				434013
01178	OLIFANTSFNTN-BN,S.AF	9002	6 23	16 49 38.50	14 34 42	10 28				434013
01179	OLIFANTSFNTN-BN,S.AF	9002	6 23	19 12 58.90	15 15 00	-22 24				434013
01181	WOOMERA-BN, AUSTR.	9003	6 23	19 55 49.64	21 01 36	24 50				434013
01201	AREQUIPA-BN, PERU	9007	6 24	1 36 45.80	13 42 48	-25 42				434023
01190	VILLA DOLORES-BN,ARG	9011	6 24	1 40 50.65	14 24 00	- 9 25				434013
01180	OLIFANTSFNTN-BN,S.AF	9002	6 24	2 22 47.00	21 05 36	3 33				434013
01202	AREQUIPA-BN, PERU	9007	6 24	8 55 28.92	0 06 48	- 2 35				434013
01194	WOOMERA-BN, AUSTR.	9003	6 24	12 30 42.24	14 16 36	-13 42				434013
30001	PRETORIA, S.AFR.	6675	6 24	16 34 54.6			34 24	45 54		845302
01191	OLIFANTSFNTN-BN,S.AF	9002	6 24	16 36 55.96	17 21 18	- 5 16				434013
01195	WOOMERA-BN, AUSTR.	9003	6 24	19 42 40.76	20 49 42	23 40				434013
01204	VILLA DOLORES-BN,ARG	9011	6 25	1 22 41.33	13 09 00	- 0 58				434013
01203	AREQUIPA-BN, PERU	9007	6 25	8 40 16.53	22 03 54	-18 16				434013
01196	WOOMERA-BN, AUSTR.	9003	6 25	12 18 36.54	14 36 30	-17 58				434013
01192	OLIFANTSFNTN-BN,S.AF	9002	6 25	16 21 52.69	14 10 42	10 28				434013
01197	WOOMERA-BN, AUSTR.	9003	6 25	19 30 09.59	20 57 00	25 54				434013
01206	AREQUIPA-BN, PERU	9007	6 26	1 13 56.40	14 58 24	-38 21				434023
01193	OLIFANTSFNTN-BN,S.AF	9002	6 26	1 57 42.42	21 27 12	10 23				434013
01196	WOOMERA-BN, AUSTR.	9003	6 26	12 06 25.36	14 59 00	-21 50				434013
01205	OLIFANTSFNTN-BN,S.AF	9002	6 26	16 31 24.40	14 44 36	-23 40				434023
01199	WOOMERA-BN, AUSTR.	9003	6 26	19 16 21.50	20 29 06	21 56				434013
01207	AREQUIPA-BN, PERU	9007	6 27	8 14 43.41	22 05 06	-10 06				434013
01209	WOOMERA-BN, AUSTR.	9003	6 27	11 54 17.34	15 24 12	-25 20				434023
01208	OLIFANTSFNTN-BN,S.AF	9002	6 27	18 18 01.50	14 43 42	-25 17				434023
01210	WOOMERA-BN, AUSTR.	9003	6 27	19 04 06.23	20 43 36	25 41				434013
01215	VILLA DOLORES-BN,ARG	9011	6 28	0 50 55.66	15 28 00	-02 03				434013
01214	WOOMERA-BN, AUSTR.	9003	6 28	11 40 05.24	15 14 30	-25 50				434023
01216	WOOMERA-BN, AUSTR.	9003	6 28	18 52 34.85	21 17 48	32 36				434013
01217	AREQUIPA-BN, PERU	9007	6 29	7 50 26.15	22 54 24	5 06				434013
01218	WOOMERA-BN, AUSTR.	9003	6 29	11 26 29.90	15 03 24	-26 15				434023
01219	OLIFANTSFNTN-BN,S.AF	9002	6 29	17 49 11.63	13 58 12	-24 13				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01220	WOOMERA-BN, AUSTR.	9003	6 30	11 12 34.88	14 52 24	-26 37				434023
10002	MAUI-BN, HAWAII	9012	6 30	14 14 31.51	0 53 00	-41 10				434023
10001	OLIFANTSFNTN-BN,S.AF	9002	6 30	17 35 32.71	13 50 36	-25 18				434023
10006	AREQUIPA-BN, PERU	9007	7 01	2 25 42.32	1 45 30	-52 11				434023
10012	MAUI-BN, HAWAII	9012	7 01	14 01 34.10	0 38 00	-39 04				434023
10003	OLIFANTSFNTN-BN,S.AF	9002	7 01	19 42 35.20	13 56 36	-39 27				434023
10007	AREQUIPA-BN, PERU	9007	7 02	2 13 55.65	14 50 48	-55 33				434023
10010	JUPITER-BN, FLA.	9010	7 03	9 19 54.18	0 38 36	-34 13				434023
10004	WOOMERA-BN, AUSTR.	9003	7 03	10 31 03.98	14 22 12	-27 58				434023
10005	WOOMERA-BN, AUSTR.	9003	7 03	12 49 43.69	14 11 30	-32 00				434023
10013	MAUI-BN, HAWAII	9012	7 03	13 36 08.11	0 27 42	-32 12				434023
10009	AREQUIPA-BN, PERU	9007	7 03	20 12 20.89	15 18 18	-56 52				434023
10011	VILLA DOLORES-BN,ARG	9011	7 03	23 26 45.91	14 01 36	-22 54				434013
10008	AREQUIPA-BN, PERU	9007	7 04	1 42 37.13	12 57 30	-50 33				434023
10014	AREQUIPA-BN, PERU	9007	7 05	1 34 19.07	15 24 30	-57 44				434023
10015	CURACAO-BN, N.W.I.	9009	7 05	6 37 39.19	0 02 42	-21 50				434013
10016	WOOMERA-BN, AUSTR.	9003	7 05	10 03 30.33	14 01 54	-28 48				434023
10017	AREQUIPA-BN, PERU	9007	7 06	8 36 06.49	20 08 18	42 05				434013
10018	WOOMERA-BN, AUSTR.	9003	7 06	9 49 48.88	13 52 48	-29 17				434023
10019	AREQUIPA-BN, PERU	9007	7 07	1 06 44.25	15 10 48	-58 19				434023
10022	JUPITER-BN, FLA.	9010	7 07	8 26 26.44	23 03 00	-29 01				434023
10023	JUPITER-BN, FLA.	9010	7 07	8 30 33.22	1 16 42	-13 56				434013
10020	WOOMERA-BN, AUSTR.	9003	7 07	9 36 03.72	13 41 06	-29 38				434023
10021	SAN FERNANDO-BN, SP.	9004	7 08	3 58 48.40	0 06 48	-26 42				434023
10029	MAUI-BN, HAWAII	9012	7 08	12 31 39.65	23 40 18	-18 02				434013
10027	AREQUIPA-BN, PERU	9007	7 09	0 36 32.78	13 20 30	-57 59				434023
10025	WOOMERA-BN, AUSTR.	9003	7 09	9 08 38.38	13 40 36	-31 39				434023
10030	MAUI-BN, HAWAII	9012	7 09	12 18 21.69	23 34 18	-14 55				434013
10031	MAUI-BN, HAWAII	9012	7 09	14 37 01.85	23 43 42	27 52				434013
10035	AREQUIPA-BN, PERU	9007	7 10	0 25 09.76	13 20 48	-58 58				434023
10028	VILLA DOLORES-BN,ARG	9011	7 10	0 28 29.96	15 23 24	-33 44				434023
10026	WOOMERA-BN, AUSTR.	9003	7 10	11 19 07.52	15 36 24	-33 37				434023
10032	MAUI-BN, HAWAII	9012	7 10	14 23 32.76	23 09 24	26 55				434013
10024	OLIFANTSFNTN-BN,S.AF	9002	7 10	17 41 44.90	13 53 48	-45 48				434023
10033	ORGAN PASS-BN, N.M.	9001	7 11	9 47 59.30	23 32 48	-15 21				434013
10034	WOOMERA-BN, AUSTR.	9003	7 11	11 05 10.69	15 23 30	-33 28				434023
10036	OLIFANTSFNTN-BN,S.AF	9002	7 11	17 29 26.62	14 31 00	-46 10				434023
10038	VILLA DOLORES-BN,ARG	9011	7 11	23 57 55.18	13 34 18	-33 37				434023
10039	VILLA DOLORES-BN,ARG	9011	7 12	0 07 50.22	17 35 12	-23 21				434023
10041	MAUI-BN, HAWAII	9012	7 12	13 57 11.49	22 45 30	29 12				434013
10040	OLIFANTSFNTN-BN,S.AF	9002	7 12	17 15 23.90	14 08 36	-46 38				434023
10042	AREQUIPA-BN, PERU	9007	7 12	23 44 22.81	14 22 18	-61 36				434023
10037	AREQUIPA-BN, PERU	9007	7 12	23 58 01.97	14 30 48	-60 53				434023
10043	WOOMERA-BN, AUSTR.	9003	7 13	10 37 43.06	15 06 54	-32 45				434023
10044	WOOMERA-BN, AUSTR.	9003	7 13	12 55 36.86	14 49 24	-18 07				434013
10047	AREQUIPA-BN, PERU	9007	7 13	23 30 30.60	14 02 30	-62 30				434023
10048	AREQUIPA-BN, PERU	9007	7 14	1 55 06.70	16 22 24	-42 41				434023
10046	SAN FERNANDO-BN, SP.	9004	7 14	2 39 53.70	23 00 54	-13 38				434013
10049	JUPITER-BN, FLA.	9010	7 14	9 15 25.68	23 17 16	29 34				434013
10045	WOOMERA-BN, AUSTR.	9003	7 14	10 23 37.67	14 46 24	-32 50				434023
10052	WOOMERA-BN, AUSTR.	9003	7 14	12 44 20.75	20 23 36	-14 29				434013
10050	OLIFANTSFNTN-BN,S.AF	9002	7 14	16 48 39.69	14 08 36	-47 10				434023
10051	OLIFANTSFNTN-BN,S.AF	9002	7 14	19 12 07.38	16 00 36	-26 20				434023
10053	SHIRAZ-BN, IRAN	9008	7 14	22 04 10.51	22 30 24	- 8 27				434013
10057	AREQUIPA-BN, PERU	9007	7 15	1 42 38.31	16 41 24	-39 50				434023
10056	SAN FERNANDO-BN, SP.	9004	7 15	2 27 13.30	23 06 48	-10 17				434013
10054	CURACAO-BN, N.W.I.	9009	7 15	6 43 16.40	21 25 30	32 04				434013
10055	JUPITER-BN, FLA.	9010	7 15	9 02 05.33	23 00 36	30 01				434013
30002	VAN NUYS, CAL.	0113	7 15	11 09 50	22 50	3 15				845003
10060	OLIFANTSFNTN-BN,S.AF	9002	7 15	19 00 48.95	16 43 48	-20 15				434013
10068	JUPITER-BN, FLA.	9010	7 16	6 28 20.36	22 03 42	- 4 23				434013
30003	DAYTON, OHIO	8557	7 16	8 47 16.5			183 00	44 54		845303
10062	WOOMERA-BN, AUSTR.	9003	7 16	9 56 34.85	14 34 48	-31 49				434023
10058	ORGAN PASS-BN, N.M.	9001	7 16	11 01 33.80	23 58 12	23 02				434013
10069	MAUI-BN, HAWAII	9012	7 16	13 04 19.60	22 15 18	33 59				434013
10061	OLIFANTSFNTN-BN,S.AF	9002	7 16	18 45 11.50	15 56 12	-23 21				434023
10072	AREQUIPA-BN, PERU	9007	7 17	1 14 39.85	16 16 36	-39 21				434023
10065	SAN FERNANDO-BN, SP.	9004	7 17	2 00 39.50	22 49 18	- 6 05				434013
10067	CURACAO-BN, N.W.I.	9009	7 17	6 16 01.99	20 57 54	32 28				434013
10059	ORGAN PASS-BN, N.M.	9001	7 17	8 27 26.40	22 11 24	- 4 17				434013
30004	N. CANTON, OHIO	8559	7 17	8 35 29.3	22 54 45	- 2 47				845033
10064	WOOMERA-BN, AUSTR.	9003	7 17	9 42 54.25	14 22 24	-31 30				434023
30005	VAN NUYS, CAL.	0113	7 17	10 43 17.2			179 06	63 23		845303
30006	VAN NUYS, CAL.	0113	7 17	10 43 24.5			177 06	63 25		845303
10063	WOOMERA-BN, AUSTR.	9003	7 17	12 06 01.68	15 57 18	- 5 28				434013
10073	AREQUIPA-BN, PERU	9007	7 18	1 02 08.30	16 37 42	-35 30				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10066	SAN FERNANDO-BN, SP.	9004	7 18	1 45 46.50	22 05 12	- 7 08				434013
10074	CURACAO-BN, N.W.I.	9009	7 18	6 03 09.76	21 06 48	35 28				434013
10070	ORGAN PASS-BN, N.M.	9001	7 18	8 12 58.50	21 39 24	- 4 35				434013
30008	PUEBLA, MEX.	0900	7 18	8 14 07.5	21 28 12	27 39				845043
10076	JUPITER-BN, FLA.	9010	7 18	8 22 27.12	22 41 48	33 09				434013
10075	CURACAO-BN, N.W.I.	9009	7 18	8 24 07.87	20 56 42	64 07				434013
10071	WOOMERA-BN, AUSTR.	9003	7 18	11 52 08.01	15 44 48	- 4 30				434013
10079	OLIFANTSFNTN-BN,S.AF	9002	7 18	18 16 23.20	15 03 12	-24 19				434023
30070	PRETORIA, S.AFR.	8575	7 18	18 18 07.1			337 24	85 12		845302
10080	SHIRAZ-BN, IRAN	9008	7 18	21 10 47.25	22 03 00	0 31				434013
10081	SHIRAZ-BN, IRAN	9008	7 18	23 31 11.69	22 59 00	29 12				434013
10086	VILLA DOLORES-BN,ARG	9011	7 19	0 43 50.06	13 13 00	-16 32				434013
10087	VILLA DOLORES-BN,ARG	9011	7 19	0 48 18.02	15 37 18	- 6 18				434013
10077	SAN FERNANDO-BN, SP.	9004	7 19	1 31 44.90	21 44 12	- 6 23				434013
10078	SAN FERNANDO-BN, SP.	9004	7 19	3 54 08.90	0 06 36	16 23				434013
10082	JUPITER-BN, FLA.	9010	7 19	5 53 05.67	23 30 12	12 03				434013
30007	ALBUQUERQUE, N.M.	8579	7 19	10 21 09.8			180 00	72 36		845303
10093	OLIFANTSFNTN-BN,S.AF	9002	7 19	20 23 45.27	15 27 36	4 05				434013
10090	AREQUIPA-BN, PERU	9007	7 20	0 33 31.14	15 49 06	-37 45				434023
10091	VILLA DOLORES-BN,ARG	9011	7 20	2 53 29.82	15 28 54	12 06				434013
10083	SAN FERNANDO-BN, SP.	9004	7 20	3 39 46.40	23 12 18	16 32				434013
10084	JUPITER-BN, FLA.	9010	7 20	5 35 23.00	21 48 48	5 26				434013
10088	ORGAN PASS-BN, N.M.	9001	7 20	7 46 20.50	21 30 36	- 0 09				434013
10085	JUPITER-BN, FLA.	9010	7 20	7 55 19.55	22 10 06	33 28				434013
30017	VAN NUYS, CAL.	0113	7 20	10 02 53.7	21 59 00	11 52				845043
30009	ALBUQUERQUE, N.M.	8579	7 20	10 07 47.6			180 00	74 06		845303
10089	ORGAN PASS-BN, N.M.	9001	7 20	10 07 52.20	22 53 18	25 59				434013
10094	OLIFANTSFNTN-BN,S.AF	9002	7 20	17 50 03.77	15 06 54	-10 00				434013
10100	SHIRAZ-BN, IRAN	9008	7 20	20 44 30.18	21 58 12	5 11				434013
10095	SAN FERNANDO-BN, SP.	9004	7 21	1 05 58.50	21 53 00	- 0 40				434013
10099	AREQUIPA-BN, PERU	9007	7 21	2 42 56.28	16 14 18	1 40				434013
10102	JUPITER-BN, FLA.	9010	7 21	5 22 09.85	21 47 30	7 48				434013
10092	ORGAN PASS-BN, N.M.	9001	7 21	7 32 35.40	21 18 24	1 06				434013
10103	JUPITER-BN, FLA.	9010	7 21	7 40 21.15	21 12 30	29 52				434013
30010	N. CANTON, OHIO	8559	7 21	7 41 43.2	22 12	3 38				845033
30011	DAYTON, OHIO	8557	7 21	7 43 03.8			149 51	54 21		845303
10104	JUPITER-BN, FLA.	9010	7 21	7 44 32.63	23 47 18	38 27				434013
30018	PHOENIX, ARIZ.	8576	7 21	9 52 09.9			180	77 04		845304
30012	WICHITA, KAN.	0028	7 21	9 57 43.9	23 24 55	17 35				845043
10097	WOOMERA-BN, AUSTR.	9003	7 21	13 33 00.00	15 59 12	21 31				434013
10096	OLIFANTSFNTN-BN,S.AF	9002	7 21	17 36 03.40	14 45 18	-19 50				434013
10107	AREQUIPA-BN, PERU	9007	7 22	2 20 53.44	13 42 06	-15 11				434013
10106	VILLA DOLORES-BN,ARG	9011	7 22	2 28 49.22	15 47 42	19 58				434013
10108	AREQUIPA-BN, PERU	9007	7 22	2 32 47.98	17 04 06	12 32				434013
10098	SAN FERNANDO-BN, SP.	9004	7 22	3 13 39.50	23 17 12	19 27				434013
10105	JUPITER-BN, FLA.	9010	7 22	7 29 17.23	22 26 12	36 31				434013
30019	DAYTON, OHIO	8557	7 22	7 29 38.7			149 18	56 00		845303
30020	DAYTON, OHIO	8557	7 22	7 29 46.8	23 05	9 00				845003
10101	CURACAO-BN, N.W.I.	9009	7 22	7 31 01.75	21 03 36	63 51				434013
30013	ALBUQUERQUE, N.M.	8579	7 22	9 45 53.7			180 00	76 06		845303
30049	MITAKA, JAPAN	0229	7 22	16 04 36.4			160 06	64 54		845303
10119	TOKYO-BN, JAPAN	9005	7 22	16 04 52.80	20 00 06	11 41				434013
10122	NAINI TAL-BN, INDIA	9006	7 22	18 08 26.26	22 23 48	8 59				434013
10120	TOKYO-BN, JAPAN	9005	7 22	18 25 24.20	23 24 36	24 32				434013
10109	OLIFANTSFNTN-BN,S.AF	9002	7 22	19 45 43.40	15 46 12	15 12				434013
10123	NAINI TAL-BN, INDIA	9006	7 22	20 19 01.61	19 25 42	12 48				434013
10135	VILLA DOLORES-BN,ARG	9011	7 22	23 48 59.49	12 25 42	-11 25				434013
10124	AREQUIPA-BN, PERU	9007	7 22	23 53 12.85	15 35 18	-34 25				434023
10136	VILLA DOLORES-BN,ARG	9011	7 22	23 58 29.71	16 32 06	9 47				434013
10125	AREQUIPA-BN, PERU	9007	7 23	0 02 04.61	18 17 30	- 5 07				434013
10114	SAN FERNANDO-BN, SP.	9004	7 23	0 37 54.70	21 18 12	0 53				434013
10126	CURACAO-BN, N.W.I.	9009	7 23	2 20 57.24	17 06 48	-26 02				434023
10130	JUPITER-BN, FLA.	9010	7 23	2 21 46.62	18 21 18	-39 10				434023
10131	JUPITER-BN, FLA.	9010	7 23	7 08 07.89	19 10 18	17 40				434013
10132	JUPITER-BN, FLA.	9010	7 23	7 16 44.34	22 52 12	38 12				434013
10133	JUPITER-BN, FLA.	9010	7 23	7 22 28.26	2 10 24	33 39				434013
30014	ALBUQUERQUE, N.M.	8579	7 23	9 27 23.2			180 00	77 12		845303
30015	FT. WORTH, TEX.	0139	7 23	9 30 56.2	23 03 12	31 42				845013
30016	FT. WORTH, TEX.	0139	7 23	9 31 02.0	23 07 18	31 48				845013
10113	WOOMERA-BN, AUSTR.	9003	7 23	10 43 13.17	14 39 54	1 40				434013
30042	VAN NUYS, CAL.	0113	7 23	11 44 32.3	23 52 44	29 24				845043
30043	VAN NUYS, CAL.	0113	7 23	11 44 38.0	23 56 08	29 25				845043
10121	TOKYO-BN, JAPAN	9005	7 23	15 50 16.70	21 26 48	11 19				434013
30050	MITAKA, JAPAN	0229	7 23	15 50 51.6			161 06	66 00		845303
10110	OLIFANTSFNTN-BN,S.AF	9002	7 23	17 09 24.47	14 35 54	-16 03				434013
10137	VILLA DOLORES-BN,ARG	9011	7 23	23 37 57.50	13 47 54	- 3 41				434013
10138	VILLA DOLORES-BN,ARG	9011	7 23	23 48 29.14	17 19 06	17 25				434013
10115	SAN FERNANDO-BN, SP.	9004	7 24	0 24 18.50	21 10 48	2 22				434013
10127	CURACAO-BN, N.W.I.	9009	7 24	2 12 33.57	18 23 12	-10 57				434013
10116	SAN FERNANDO-BN, SP.	9004	7 24	2 46 09.30	22 38 54	20 47				434013
30022	N. CANTON, OHIO	8559	7 24	7 01 10.4	21 47 40	8 02				845033
30021	N. CANTON, OHIO	0053	7 24	7 01 42.3	22 01 48	8 42				845043
10128	CURACAO-BN, N.W.I.	9009	7 24	7 04 45.43	21 23 18	64 49				434013
30044	VAN NUYS, CAL.	0113	7 24	11 31 16.4	23 47 20	29 31				845043
10111	OLIFANTSFNTN-BN,S.AF	9002	7 24	16 54 58.80	13 54 48	-17 29				434013
10112	OLIFANTSFNTN-BN,S.AF	9002	7 24	19 18 21.70	15 25 54	18 18				434013
10139	SHIRAZ-BN, IRAN	9008	7 24	19 49 06.73	21 07 36	9 20				434013
10117	SAN FERNANDO-BN, SP.	9004	7 25	0 07 57.70	20 14 30	- 0 47				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10140	AREQUIPA-BN, PERU	9007	7 25	1 49 20.27	15 56 30	11 30				434013
10129	CURACAO-BN, N.W.I.	9009	7 25	1 58 15.36	18 06 12	-11 05				434013
10118	SAN FERNANDO-BN, SP.	9004	7 25	2 33 02.70	22 43 18	21 51				434013
10146	MAUI-BN, HAWAII	9012	7 25	6 12 38.34	18 45 18	-29 22				434023
30023	N. CANTON, OHIO	8559	7 25	6 47 36.9	21 41 00	9 12				845033
30067	DAYTON, OHIO	8557	7 25	6 47 46.9			160 00	60 25		845303
30068	DAYTON, OHIO	8557	7 25	6 51 45.8			121 55	50 35		845303
30025	ALBUQUERQUE, N.M.	8579	7 25	9 00 11.9			180 00	78 06		845303
30038	WICHITA, KAN.	0028	7 25	9 03 55.1	22 46 53	21 05				845043
30026	FT. WORTH, TEX.	0139	7 25	9 04 02.0	23 47 54	32 12				845013
30024	N. CANTON, OHIO	8559	7 25	9 09 44.4	23 55 30	10 55				845033
30045	VAN NUYS, CAL.	0113	7 25	11 17 57.9	23 37 51	29 38				845043
30039	PHOENIX, ARIZ.	8576	7 25	11 20 06.0			180	86 44		845304
10142	WOOMERA-BN, AUSTR.	9003	7 25	12 37 41.73	15 12 18	25 38				434013
10147	MAUI-BN, HAWAII	9012	7 25	13 26 19.66	23 42 54	59 35				434013
10143	SHIRAZ-BN, IRAN	9008	7 25	19 32 28.50	20 07 12	5 06				434013
10151	SAN FERNANDO-BN, SP.	9004	7 25	23 57 05.70	20 58 06	5 18				434013
10144	SHIRAZ-BN, IRAN	9008	7 26	0 18 28.71	23 53 00	39 48				434013
10148	AREQUIPA-BN, PERU	9007	7 26	1 34 41.83	15 28 06	10 30				434013
10152	SAN FERNANDO-BN, SP.	9004	7 26	2 19 06.00	22 23 12	22 21				434013
10141	ORGAN PASS-BN, N.M.	9001	7 26	6 23 14.10	20 19 36	6 29				434013
30040	N. CANTON, OHIO	8559	7 26	6 33 49.0	21 28 45	10 11				845033
10155	MAUI-BN, HAWAII	9012	7 26	8 22 22.45	19 06 24	0 58				434013
30030	VAN NUYS, CAL.	0113	7 26	8 41 07.2	21 03 28	18 59				845043
10145	JUPITER-BN, FLA.	9010	7 26	8 56 11.13	23 20 48	46 38				434013
10149	CURACAO-BN, N.W.I.	9009	7 26	9 02 33.95	3 00 42	66 44				434013
10150	WOOMERA-BN, AUSTR.	9003	7 26	10 02 25.31	13 58 30	6 24				434013
30027	SAN JOSE, CAL.	8573	7 26	11 03 07.3			180	75 02 24		845302
30088	WALNUT CREEK, CAL.	8586	7 26	11 03 08.8	23 15 30	21 18				845003
30089	WALNUT CREEK, CAL.	8586	7 26	11 03 20.4	23 22 00	21 12				845003
30041	ALBUQUERQUE, N.M.	8579	7 26	11 08 39.6			180 00	77 12		845303
30081	MITAKA, JAPAN	0229	7 26	15 09 28.8			161 24	69 00		845304
10154	NAINI TAL-BN, INDIA	9006	7 26	17 07 37.44	20 03 00	1 35				434013
10153	SAN FERNANDO-BN, SP.	9004	7 27	2 05 11.90	22 06 42	22 49				434013
10156	ORGAN PASS-BN, N.M.	9001	7 27	3 45 22.70	19 06 18	-19 16				434013
10162	MAUI-BN, HAWAII	9012	7 27	8 06 09.53	18 19 12	- 3 52				434013
10157	ORGAN PASS-BN, N.M.	9001	7 27	8 25 46.20	19 07 18	18 02				434013
30031	VAN NUYS, CAL.	0113	7 27	8 26 33			175 12	75 30		845303
30029	FT. WORTH, TEX.	0139	7 27	8 36 45.0	22 25 21	32 36				845013
10158	ORGAN PASS-BN, N.M.	9001	7 27	8 44 52.10	2 55 18	16 38				434013
10160	WOOMERA-BN, AUSTR.	9003	7 27	9 48 28.40	13 32 06	6 59				434013
10159	ORGAN PASS-BN, N.M.	9001	7 27	10 55 04.70	23 56 12	29 21				434013
30028	ALBUQUERQUE, N.M.	8579	7 27	10 55 16.6			180 00	77 12		845303
30090	WALNUT CREEK, CAL.	8586	7 27	10 59 30.6	23 02 00	21 48				845003
10161	WOOMERA-BN, AUSTR.	9003	7 27	12 08 30.57	14 22 30	24 26				434013
10190	TOKYO-BN, JAPAN	9005	7 27	14 55 35.10	20 55 48	15 57				434013
10191	TOKYO-BN, JAPAN	9005	7 27	17 17 23.90	22 20 06	26 23				434013
10166	SHIRAZ-BN, IRAN	9008	7 27	19 03 08.84	19 21 18	4 02				434013
10167	SHIRAZ-BN, IRAN	9008	7 27	23 51 47.79	18 42 30	36 15				434013
10163	CURACAO-BN, N.W.I.	9009	7 28	1 17 18.73	17 45 06	- 6 22				434013
30032	FT. WORTH, TEX.	0139	7 28	2 22 56.2	21 11 36	32 36				845013
30033	FT. WORTH, TEX.	0139	7 28	2 23 06.4	22 16 44	32 42				845013
10168	ORGAN PASS-BN, N.M.	9001	7 28	3 32 34.20	19 10 06	-16 31				434013
10164	CURACAO-BN, N.W.I.	9009	7 28	3 42 30.60	18 27 24	34 44				434013
10169	ORGAN PASS-BN, N.M.	9001	7 28	5 49 43.60	18 25 36	- 2 37				434013
10170	ORGAN PASS-BN, N.M.	9001	7 28	6 00 18.20	21 29 36	15 41				434013
10181	MAUI-BN, HAWAII	9012	7 28	7 54 46.33	18 50 00	3 32				434013
10171	ORGAN PASS-BN, N.M.	9001	7 28	8 09 05.00	18 17 36	13 35				434013
10172	ORGAN PASS-BN, N.M.	9001	7 28	8 22 21.10	23 08 24	31 23				434013
10165	CURACAO-BN, N.W.I.	9009	7 28	8 35 43.01	2 06 30	64 40				434013
10176	WOOMERA-BN, AUSTR.	9003	7 28	9 35 37.46	13 34 30	10 26				434013
10182	MAUI-BN, HAWAII	9012	7 28	10 18 14.74	19 24 36	35 25				434013
30034	SAN JOSE, CAL.	8573	7 28	10 35 55.3			180	75 52 12		845302
30046	VAN NUYS, CAL.	0113	7 28	10 37 21.2	23 08 44	29 41				845043
30047	ALBUQUERQUE, N.M.	8579	7 28	10 41 51.2			180 00	77 06		845303
10177	WOOMERA-BN, AUSTR.	9003	7 28	11 56 04.21	14 27 48	28 08				434013
10183	MAUI-BN, HAWAII	9012	7 28	12 44 56.40	23 23 06	56 41				434013
10184	MAUI-BN, HAWAII	9012	7 28	15 08 21.92	2 14 00	42 16				434013
10178	OLIFANTSFONTN-BN,S.AF	9002	7 28	18 22 48.60	14 19 30	22 00				434013
10179	SAN FERNANDO-BN, SP.	9004	7 28	20 51 49.70	19 14 30	-15 30				434013
10185	AREQUIPA-BN, PERU	9007	7 29	3 22 14.10	16 52 06	48 58				434013
30035	N. CANTON, OHIO	8559	7 29	5 51 59.8	20 52 10	12 17				845033
10180	CURACAO-BN, N.W.I.	9009	7 29	5 57 00.38	21 16 24	63 08				434013
10203	MAUI-BN, HAWAII	9012	7 29	7 41 27.67	18 50 12	5 57				434013
10173	ORGAN PASS-BN, N.M.	9001	7 29	7 54 48.70	18 03 30	13 44				434013
10174	ORGAN PASS-BN, N.M.	9001	7 29	8 12 11.50	0 31 36	27 56				434013
30036	N. CANTON, OHIO	8559	7 29	8 16 04.0	23 25 00	12 57				845033
30048	VAN NUYS, CAL.	0113	7 29	10 23 42.7	22 59 00	29 39				845043
10175	ORGAN PASS-BN, N.M.	9001	7 29	10 28 15.30	23 41 12	28 28				434013
30037	ALBUQUERQUE, N.M.	8579	7 29	10 28 22.7			180 00	76 54		845303
10204	MAUI-BN, HAWAII	9012	7 29	12 32 16.28	23 10 54	55 52				434013
10205	MAUI-BN, HAWAII	9012	7 29	14 55 00.31	1 55 00	40 54				434013
10199	SHIRAZ-BN, IRAN	9008	7 29	18 35 04.40	18 57 48	5 24				434013
10194	SAN FERNANDO-BN, SP.	9004	7 29	20 39 23.50	19 23 12	-12 11				434013
10196	AREQUIPA-BN, PERU	9007	7 30	0 40 35.54	14 47 00	18 38				434013
10195	SAN FERNANDO-BN, SP.	9004	7 30	3 45 39.40	23 16 12	18 40				434013
30054	CINCINNATI, OHIO	0050	7 30	5 36 28	20 29 06	14 18				845004
30051	N. CANTON, OHIO	8559	7 30	5 37 53.4	20 40 50	12 47				845033
10200	CURACAO-BN, N.W.I.	9009	7 30	5 42 01.20	21 26 18	63 09				434013
30055	CINCINNATI, OHIO	0050	7 30	8 00 52	22 53 42	19 12				845004

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	TUBE
30071	VAN NUYS, CAL.	0113	7 30	10 10 02.8	22 49 05	29 32				845043
30127	HIGASHIMATSUYAMA,JAP	0210	7 30	11 49 48	18 17	-.8				845004
10192	TOKYO-BN, JAPAN	9005	7 30	14 13 04.00	20 09 42	17 08				434013
30126	HIGASHIMATSUYAMA,JAP	0210	7 30	14 13 05.1	20 19	16 12				845004
10197	SHIRAZ-BN, IRAN	9008	7 30	18 20 57.44	18 44 48	4 51				434013
10198	SHIRAZ-BN, IRAN	9008	7 30	20 46 24.27	20 30 18	33 31				434013
10201	CURACAO-BN, N.W.I.	9009	7 31	0 35 34.79	17 07 18	- 4 42				434013
10186	SAN FERNANDO-BN, SP.	9004	7 31	1 09 35.70	21 16 18	24 31				434013
10202	CURACAO-BN, N.W.I.	9009	7 31	3 00 54.66	18 00 54	37 49				434013
10187	SAN FERNANDO-BN, SP.	9004	7 31	3 34 36.20	0 22 18	13 32				434013
30053	TERRE HAUTE, IND.	8127	7 31	5 21 10.4	20 06 54	12 42				845044
30056	CINCINNATI, OHIO	0050	7 31	5 22 29.6	20 19 00	14 54				845004
30058	FT. WORTH, TEX.	0139	7 31	7 41 44.2	21 45 54	33 00				845013
30059	FT. WORTH, TEX.	0139	7 31	7 41 49.2	21 48 12	33 00				845013
30057	CINCINNATI, OHIO	0050	7 31	7 47 05	22 43 54	24 24				845004
30052	N. CANTON, OHIO	8559	7 31	7 48 32.1	22 58 05	24 25				845033
10206	MAUI-BN, HAWAII	9012	7 31	9 36 17.04	16 52 54	37 00				434013
30073	VAN NUYS, CAL.	0113	7 31	9 56 22	22 39 03	24 47				845043
30074	VAN NUYS, CAL.	0113	7 31	9 56 22	22 39 56	24 36				845043
30072	VAN NUYS, CAL.	0113	7 31	9 56 24	22 40 49	24 30				845043
30060	PHOENIX, ARIZ.	8576	7 31	9 58 56.6			180	69 27		845304
10193	TOKYO-BN, JAPAN	9005	7 31	11 36 34.00	19 04 06	- 4 44				434013
10207	MAUI-BN, HAWAII	9012	7 31	14 26 [illegible]	1 42 24	35 55				434013
30129	HIGASHIMATSUYAMA,JAP	0210	7 31	16 23 [illegible]	22 [illegible]	21 00				845004
10212	TOKYO-BN, JAPAN	9005	7 31	16 23 26.00	20 07 06	17 02				434013
30130	HIGASHIMATSUYAMA,JAP	0210	7 31	16 44 47	23 54	7				845004
10208	SHIRAZ-BN, IRAN	9008	7 31	18 32 [illegible]	22 [illegible]	[illegible]				434013
50001	BRATISLAVA-P, CZECH.	5702	7 31	22 47 54.4	21 19 48	4 48				634042
50002	BRATISLAVA-P, CZECH.	5702	7 31	22 42 28.6	20 41 18	1 52				634042
50003	BRATISLAVA-P, CZECH.	5702	7 31	22 43 40.1	21 05 48	5 36				634042
10209	CURACAO-BN, N.W.I.	9009	8 01	0 21 50.76	16 56 36	- 1 50				434013
10188	SAN FERNANDO-BN, SP.	9004	8 01	0 56 07.40	21 16 42	25 03				434013
50004	BRATISLAVA-P, CZECH.	5702	8 01	1 05 40.9	22 49 06	4 04				634042
50005	BRATISLAVA-P, CZECH.	5702	8 01	1 06 20.5	23 01 06	3 29				634042
50006	BRATISLAVA-P, CZECH.	5702	8 01	1 08 25.7	23 47 30	1 26				634042
10189	SAN FERNANDO-BN, SP.	9004	8 01	3 18 37.30	23 02 36	18 30				434013
30061	TERRE HAUTE, IND.	8127	8 01	5 07 [illegible].2	19 56 46	13 22				845044
10215	MAUI-BN, HAWAII	9012	8 01	6 58 25.30	17 56 12	5 04				434013
10210	CURACAO-BN, N.W.I.	9009	8 01	7 42 24.27	1 20 54	57 25				434013
30062	ALBUQUERQUE, N.M.	8579	8 01	9 47 39.3			180 00	[illegible]		845303
10216	MAUI-BN, HAWAII	9012	8 01	11 51 53.39	23 08 12	53 03				434013
10217	MAUI-BN, HAWAII	9012	8 01	14 15 17.93	1 29 00	34 25				434013
10214	NAINI TAL-BN, INDIA	9006	8 01	15 41 37.74	18 27 30	3 21				434013
10223	SHIRAZ-BN, IRAN	9008	8 01	20 20 59.73	21 13 00	36 01				434013
10211	SAN FERNANDO-BN, SP.	9004	8 02	0 42 45.40	21 20 06	25 31				434013
10218	JUPITER-BN, FLA.	9010	8 02	2 28 34.46	17 36 24	4 17				434013
10219	JUPITER-BN, FLA.	9010	8 02	2 40 53.16	21 18 15	24 16				434013
10212	SAN FERNANDO-BN, SP.	9004	8 02	3 05 17.60	23 02 18	17 55				434013
30063	WICHITA, KAN.	0026	8 02	4 47 52.6	19 02 19	6 45				845043
30082	PHOENIX, ARIZ.	8576	8 02	7 06 43.9			180	84 37		845304
30064	FT. WORTH, TEX.	0139	8 02	7 13 57	21 25 36	33 06				845013
30065	N. CANTON, OHIO	8559	8 02	7 22 26.4	23 11 00	13 10				845033
30083	PHOENIX, ARIZ.	8576	8 02	9 31 52.9			180	84 59		845304
30066	ALBUQUERQUE, N.M.	8579	8 02	9 33 55.7			180 00	76 30		845303
10220	JUPITER-BN, FLA.	9010	8 02	9 44 [illegible].27	0 27 42	[illegible]				434013
10227	SHIRAZ-BN, IRAN	9008	8 02	17 39 52.44	18 27 36	4 31				434013
50007	BRATISLAVA-P, CZECH.	5702	8 02	22 12 54.7	19 59 34	5 47				634042
50008	BRATISLAVA-P, CZECH.	5702	8 02	22 13 32.1	20 14 06	5 12				634042
50009	BRATISLAVA-P, CZECH.	5702	8 02	22 15 41.8	20 45 54	5 48				634042
10228	SHIRAZ-BN, IRAN	9008	8 02	22 30 17.02	22 48 12	34 41				434013
10230	CURACAO-BN, N.W.I.	9009	8 02	23 54 56.18	16 44 18	- 7 00				434013
10221	SAN FERNANDO-BN, SP.	9004	8 03	0 28 53.80	21 11 30	25 50				434013
10229	SHIRAZ-BN, IRAN	9008	8 03	0 52 17.02	0 09 54	3 30				434013
10222	SAN FERNANDO-BN, SP.	9004	8 03	2 51 53.50	22 59 06	17 29				434013
10224	JUPITER-BN, FLA.	9010	8 03	4 42 17.03	19 49 12	38 12				434013
10231	CURACAO-BN, N.W.I.	9009	8 03	4 49 26.05	21 36 00	62 00				434013
30091	WALNUT CREEK, CAL.	8556	8 03	6 47 44.6	19 26 00	15 15				845004
30092	WALNUT CREEK, CAL.	8556	8 03	6 48 10.8	19 36 00	15 45				845004
30075	PHOENIX, ARIZ.	8576	8 03	6 52 49.6			180	84 58		845304
30077	FT. WORTH, TEX.	0139	8 03	6 59 57.8	21 14 21	33 09				845013
30078	FT. WORTH, TEX.	0139	8 03	7 00 07.6	21 18 36	33 09				845013
10225	JUPITER-BN, FLA.	9010	8 03	7 08 43.88	22 58 48	39 36				434013
10233	MAUI-BN, HAWAII	9012	8 03	8 54 38.07	18 28 54	39 30				434013
30076	PHOENIX, ARIZ.	8576	8 03	9 18 45.4			180	84 47		845304
10226	ORGAN PASS-BN, N.M.	9001	8 03	9 20 01.98	22 50 48	26 44				434013
30069	ALBUQUERQUE, N.M.	8579	8 03	9 20 16.1			180 00	76 24		845303
10234	MAUI-BN, HAWAII	9012	8 03	13 48 25.06	1 04 12	31 25				434013
10235	SHIRAZ-BN, IRAN	9008	8 03	19 52 50.96	20 00 06	35 11				434013
10236	SHIRAZ-BN, IRAN	9008	8 03	22 16 16.42	22 35 24	34 20				434013
10232	SAN FERNANDO-BN, SP.	9004	8 04	2 36 14.10	22 04 36	19 59				434013
10237	JUPITER-BN, FLA.	9010	8 04	4 29 16.30	20 30 54	42 01				434013
30093	WALNUT CREEK, CAL.	8556	8 04	6 33 47.3	19 16 00	15 39				845004
30094	WALNUT CREEK, CAL.	8556	8 04	6 34 07.4	19 23 30	16 04				845004
30095	WALNUT CREEK, CAL.	8556	8 04	6 34 12.0	19 25 00	16 12				845003
30079	ALBUQUERQUE, N.M.	8579	8 04	9 06 29.3			180 00	76 12		845303
10238	JUPITER-BN, FLA.	9010	8 04	9 18 05.00	0 27 48	5 32				434013
10248	TOKYO-BN, JAPAN	9005	8 04	15 27 21.20	21 15 18	27 22				434013
10241	SHIRAZ-BN, IRAN	9008	8 04	17 12 10.05	18 09 12	10 54				434013
10242	SHIRAZ-BN, IRAN	9008	8 04	19 36 43.51	19 46 54	35 21				434013
10239	SAN FERNANDO-BN, SP.	9004	8 04	23 59 17.20	20 16 18	26 45				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10240	SAN FERNANDO-BN, SP.	9004	8 05	2 23 49.10	22 28 12	18 02				434013
10253	MAUI-BN, HAWAII	9012	8 05	6 02 53.71	17 07 48	8 47				434013
10243	JUPITER-BN, FLA.	9010	8 05	6 41 01.02	22 36 24	38 25				434013
30096	VAN NUYS, CAL.	0113	8 05	8 48 58.6	21 53 37	29 38				845043
30080	ALBUQUERQUE, N.M.	8579	8 05	8 52 41.8			180 00	75 54		845303
10254	MAUI-BN, HAWAII	9012	8 05	10 54 43.86	21 36 36	52 02				434013
10249	TOKYO-BN, JAPAN	9005	8 05	12 48 28.20	18 56 54	19 21				434013
30131	MITAKA, JAPAN	0229	8 05	12 49 22.4			165 12	74 36		845303
30132	MITAKA, JAPAN	0229	8 05	15 14 01.6			185 12	61 54		845303
10250	SHIRAZ-BN, IRAN	9008	8 05	19 22 27.04	19 31 06	35 25				434013
10251	SHIRAZ-BN, IRAN	9008	8 05	21 48 34.22	22 15 30	33 31				434013
10244	SAN FERNANDO-BN, SP.	9004	8 05	23 45 03.70	20 01 48	25 53				434013
10245	SAN FERNANDO-BN, SP.	9004	8 06	2 08 36.30	21 48 12	19 40				434013
30098	VAN NUYS, CAL.	0113	8 06	5 07 35.5	18 13 00	24 25				845043
30097	VAN NUYS, CAL.	0113	8 06	5 07 39.0	18 14 28	24 49				845043
30133	MITAKA, JAPAN	0229	8 06	12 35 19.7			165 42	74 54		845303
10255	TOKYO-BN, JAPAN	9005	8 06	12 35 30.90	19 13 12	20 54				434013
10256	TOKYO-BN, JAPAN	9005	8 06	14 59 50.10	21 06 00	27 10				434013
10247	SAN FERNANDO-BN, SP.	9004	8 06	21 07 59.50	18 26 54	10 00				434013
10246	SAN FERNANDO-BN, SP.	9004	8 06	23 31 38.80	20 05 36	26 14				434013
10252	CURACAO-BN, N.W.I.	9009	8 07	1 22 51.77	16 21 12	43 00				434013
30134	MITAKA, JAPAN	0229	8 07	12 21 20.0			165 54	75 12		845303
10257	TOKYO-BN, JAPAN	9005	8 07	12 21 36.60	19 00 00	21 26				434013
10258	TOKYO-BN, JAPAN	9005	8 07	14 46 18.50	21 07 06	26 48				434013
10261	SHIRAZ-BN, IRAN	9008	8 07	16 30 10.46	17 28 30	11 19				434013
10259	SAN FERNANDO-BN, SP.	9004	8 07	20 53 07.10	17 57 12	6 21				434013
10262	SHIRAZ-BN, IRAN	9008	8 07	21 21 05.88	22 04 36	32 06				434013
10263	CURACAO-BN, N.W.I.	9009	8 08	1 09 07.13	16 08 42	44 17				434013
10260	SAN FERNANDO-BN, SP.	9004	8 08	1 41 26.00	21 43 24	16 29				434013
30084	SACRAMENTO, CAL.	8517	8 08	5 37 58.3			180 00	66 24		641304
30137	MADISON, WIS.	0148	8 08	5 53 35.7	21 05 36	15 40				845043
30101	WALNUT CREEK, CAL.	8553	8 08	10 37 48.3	18 36	16 54				845004
30099	WALNUT CREEK, CAL.	8556	8 08	10 37 51.5	18 36 00	17 00				845004
30100	WALNUT CREEK, CAL.	8556	8 08	10 38 42.4	18 54 00	16 00				845004
10266	TOKYO-BN, JAPAN	9005	8 08	12 03 15.10	18 37 36	21 0[illegible]				434013
30135	MITAKA, JAPAN	0229	8 08	12 07 22.8			166 18	75 00		845303
10267	TOKYO-BN, JAPAN	9005	8 08	14 31 03.90	20 30 12	27 16				434013
30136	MITAKA, JAPAN	0229	8 08	14 31 57.9			186 18	81 35		845303
10517	SHIRAZ-BN, IRAN	9008	8 08	16 16 32.00	17 06 48	33 32				434013
10264	SAN FERNANDO-BN, SP.	9004	8 08	23 03 32.30	19 44 36	26 25				434013
10265	SAN FERNANDO-BN, SP.	9004	8 09	1 28 42.60	21 59 00	16 29				434013
30085	FT. WORTH, TEX.	0139	8 09	3 10 22.2	17 49 00	19 36				845013
30086	FT. WORTH, TEX.	0139	8 09	3 10 29.4	17 50 48	20 00				845013
30142	CINCINNATI, OHIO	0050	8 09	3 17 16	19 04 48	18 36				845004
30087	SACRAMENTO, CAL.	8517	8 09	5 24 02.9			180 00	67 33		641304
30247	WHITTIER, CAL.	8566	8 09	5 26 23.5			160 00 00	82 01 48		845303
10268	JUPITER-BN, FLA.	9010	8 09	5 44 41.23	21 41 24	37 12				434013
10273	MAUI-BN, HAWAII	9012	8 09	7 31 21.84	17 33 36	44 40				434013
30104	VAN NUYS, CAL.	0113	8 09	7 51 07.7	21 09 48	26 12				845043
10274	MAUI-BN, HAWAII	9012	8 09	9 57 10.44	20 11 12	-51 36				434013
30102	WALNUT CREEK, CAL.	8556	8 09	10 23 58.6	18 25 00	16 57				845004
30103	WALNUT CREEK, CAL.	8556	8 09	10 24 07.6	18 28 00	17 15				845004
10272	TOKYO-BN, JAPAN	9005	8 09	11 51 40.60	17 55 [illegible]	14 11				434013
30214	HIGASHIMATSUYAMA,JAP	0210	8 09	11 53 07.3	18 31	27 30				845003
30213	MITAKA, JAPAN	0229	8 09	11 53 26.1			166 54	75 42		845303
10275	MAUI-BN, HAWAII	9012	8 09	14 47 46.86	23 55 54	-15 42				434013
10516	SHIRAZ-BN, IRAN	9008	8 09	18 26 44.00	19 50 18	37 53				434013
10269	SAN FERNANDO-BN, SP.	9004	8 09	20 25 53.50	17 45 36	9 29				434013
10270	SAN FERNANDO-BN, SP.	9004	8 09	22 49 34.50	19 36 12	26 30				434013
10271	SAN FERNANDO-BN, SP.	9004	8 10	3 35 54.10	22 28 18	- 6 55				434013
30105	WALNUT CREEK, CAL.	8556	8 10	5 10 02.4	18 16 00	17 15				845004
30106	WALNUT CREEK, CAL.	8556	8 10	5 10 05.4	18 17 15	17 24				845004
30110	SACRAMENTO, CAL.	8517	8 10	5 10 08.9			180 00	67 38		641304
30107	WALNUT CREEK, CAL.	8556	8 10	5 10 10.6	18 19 00	17 30				845004
30248	WHITTIER, CAL.	8566	8 10	5 11 57.1			180 00 00	82 30		845303
10276	JUPITER-BN, FLA.	9010	8 10	5 29 36.68	21 05 24	37 59				434013
10277	JUPITER-BN, FLA.	9010	8 10	7 53 34.93	22 29 36	11 04				434013
10278	SAN FERNANDO-BN, SP.	9004	8 10	22 35 33.90	19 26 12	26 31				434013
10279	SAN FERNANDO-BN, SP.	9004	8 11	0 58 28.20	20 54 06	18 50				434013
10280	SAN FERNANDO-BN, SP.	9004	8 11	3 21 15.30	22 06 18	- 5 05				434013
30108	WALNUT CREEK, CAL.	8556	8 11	4 56 10.4	18 06 45	17 12				845004
30111	SACRAMENTO, CAL.	8517	8 11	4 56 17.5			180 00	67 39		641304
30109	WALNUT CREEK, CAL.	8556	8 11	4 56 20.4	18 10 30	17 30				845004
30249	WHITTIER, CAL.	8566	8 11	4 58 03.1			180 00 00	83 03 00		845304
30113	CHINA LAKE, CAL.	0098	8 11	4 58 12.2			180 00 00	78 18 00		841303
30112	SACRAMENTO, CAL.	8517	8 11	4 58 17.0	18 48 00	18 34				641013
30114	WICHITA, KAN.	0028	8 11	5 07 45.2	19 56 26	24 47				845043
30115	WICHITA, KAN.	0028	8 11	5 07 49.0	19 57 53	24 43				845043
10284	MAUI-BN, HAWAII	9012	8 11	7 02 10.87	16 24 54	43 24				434013
10281	CURACAO-BN, N.W.I.	9009	8 11	7 48 37.83	23 53 18	-12 05				434013
10286	MAUI-BN, HAWAII	9012	8 11	9 31 22.61	20 56 30	50 05				434013
10285	MAUI-BN, HAWAII	9012	8 11	14 19 15.65	23 10 54	-10 46				434013
10282	NAINI TAL-BN, INDIA	9006	8 11	15 42 05.90	16 16 48	28 08				434013
10287	SAN FERNANDO-BN, SP.	9004	8 11	22 21 22.10	19 11 12	26 28				434013
10283	CURACAO-BN, N.W.I.	9009	8 12	0 14 46.48	15 23 42	50 38				434013
10288	SAN FERNANDO-BN, SP.	9004	8 12	0 45 46.20	21 10 12	16 49				434013

EI NO	STATION	DIA NO	DATE	TIME	H. A.	DEC.	AZIMUTH	ALTITUDE	RANGE	INDEX
30198	DAYTON, OHIO	8557	8 12	2 35 00			180 06	67 15		845302
30144	N. CANTON, OHIO	8536	8 12	2 36 21.9	18 33 18	16 19				641034
30116	ROCHESTER, N.Y.	8564	8 12	2 38 33.8	18 59	14 24				845033
30148	WALNUT CREEK, CAL.	8586	8 12	4 42 17.8	17 55 24	17 08				845004
30165	SACRAMENTO, CAL.	8517	8 12	4 42 27.9			180 00	67 39		641304
30146	WALNUT CREEK, CAL.	8556	8 12	4 42 39.7	18 01 15	17 30				845004
30147	WALNUT CREEK, CAL.	8556	8 12	4 42 36.6	18 03 00	17 36				845004
30162	VAN NUYS, CAL.	0113	8 12	4 43 27.9	18 05 48	26 00				845043
30163	VAN NUYS, CAL.	0113	8 12	4 43 51.6	18 13 05	26 33				845043
30164	VAN NUYS, CAL.	0113	8 12	4 44 00.7	18 14 09	26 25				845043
30250	WHITTIER, CAL.	8566	8 12	4 44 16.6			180 00 00	83 16 48		845303
30145	CHINA LAKE, CAL.	0098	8 12	4 44 20.0			180 00	76 25 48		641303
30138	MADISON, WIS.	0148	8 12	4 52 19.0	18 40 00	15 27				845042
30117	FT. WORTH, TEX.	0139	8 12	4 53 42.4	19 44 00	32 54				845013
30119	WICHITA, KAN.	0028	8 12	4 53 46.0	19 47 15	24 34				845043
30120	WICHITA, KAN.	0028	8 12	4 53 47.0	19 47 33	24 34				845043
30121	WICHITA, KAN.	0028	8 12	4 53 47.5	19 47 51	24 37				845043
30118	FT. WORTH, TEX.	0139	8 12	4 53 57.0	19 49 10	33 01				845013
30139	MADISON, WIS.	0148	8 12	4 55 52.0	18 33 00	15 34				845042
10292	MAUI-BN, HAWAII	9012	8 12	6 48 36.31	18 16 00	44 44				434013
30122	SAN JOSE, CAL.	8573	8 12	7 07 29.0			180	78 15 48		845302
10289	AREQUIPA-BN, PERU	9007	8 13	10 06 56.15	5 42 36	-17 11				434013
30143	CINCINNATI, OHIO	0099	8 13	1 21 32	18 16 24	18 34				845004
10291	JUPITER-BN, FLA.	9010	8 13	1 24 23.25	17 18 42	42 54				434013
10290	SAN FERNANDO-BN, SP.	9004	8 13	1 33 00.00	21 40 42	-4 52				434013
30150	WALNUT CREEK, CAL.	8556	8 13	4 28 31.4	17 44 27	17 15				845004
30149	WALNUT CREEK, CAL.	8556	8 13	4 29 13.4	17 46 00	17 1				845004
30123	SAN JOSE, CAL.	8573	8 13	4 32 16.0			180	71 18 48		845302
30124	SAN JOSE, CAL.	8573	8 13	4 36 35.5			180	71 14 12		845302
30166	SACRAMENTO, CAL.	8517	8 13	4 36 41.0			180 00	67 38		641304
30175	SAN NUYS, CAL.	0113	8 13	4 39 26.4	18 03 14	26 34				845043
30251	WHITTIER, CAL.	8566	8 13	4 39 37.7			180 00 00	83 47 24		845303
30155	CHINA LAKE, CAL.	0098	8 13	4 39 39.8			180 00 00	76 3 00		641303
30167	SACRAMENTO, CAL.	8517	8 13	4 32 44.4	16 19 54	19 49				641013
30126	LAWTON, OKLA.	0110	8 13	4 37 24			248	80		845303
30140	MADISON, WIS.	0148	8 13	4 41 00.0	19 28 00	15 36				845042
30151	WALNUT CREEK, CAL.	8556	8 13	6 53 05.7	20 10 00	22 15				845004
30152	WALNUT CREEK, CAL.	8556	8 13	6 53 10.8	20 16 30	22 18				845004
30252	WHITTIER, CAL.	8566	8 13	6 55 09.2			180 00 00	83 00		845303
30125	SAN JOSE, CAL.	8573	8 13	6 58 09.0			180	75 45 36		845302
30141	MADISON, WIS.	0148	8 13	6 59 38.6	19 49 30	7 42				845042
10299	MAUI-BN, HAWAII	9012	8 13	9 01 33.85	19 46 24	51 27				434013
10294	SAN FERNANDO-BN, SP.	9004	8 14	0 16 05.30	20 18 48	17 57				434013
30158	SAN JOSE, CAL.	8573	8 14	4 14 50.0			180	71 13 48		845302
30168	SACRAMENTO, CAL.	8517	8 14	4 14 56.0			180 00	67 35		641304
30176	WALNUT CREEK, CAL.	8556	8 14	4 14 57.0	17 40 30	17 27				845003
30177	WALNUT CREEK, CAL.	8556	8 14	4 15 24.5	17 52 12	18 00				845003
30253	WHITTIER, CAL.	8566	8 14	4 16 33.0			180 00 00	83 38 24		845304
30156	CHINA LAKE, CAL.	0098	8 14	4 16 40.1			180 00 00	78 34 45		641303
10296	JUPITER-BN, FLA.	9010	8 14	4 32 53.12	20 14 24	37 04				434013
30159	SAN JOSE, CAL.	8573	8 14	6 32 07.5			180	75 27 36		845302
10295	AREQUIPA-BN, PERU	9007	8 14	9 36 16.05	2 48 36	-6 55				434013
10297	VILLA DOLORES-BN,ARG	9011	8 14	9 41 46.53	4 56 30	17 43				434013
10301	SAN FERNANDO-BN, SP.	9004	8 15	0 02 53.40	20 35 12	16 28				434013
10293	OLIFANTSFNTN-BN,S.AF	9002	8 15	0 35 15.00	2 37 15	32 10				434013
10300	JUPITER-BN, FLA.	9010	8 15	1 55 32.78	18 15 54	43 54				434013
10298	CURACAO-BN, N.W.I.	9009	8 15	2 01 19.72	19 36 24	53 27				434013
30153	WALNUT CREEK, CAL.	8556	8 15	4 01 06.4	17 21 45	17 00				845004
30154	WALNUT CREEK, CAL.	8556	8 15	4 01 11.6	17 24 00	17 16				845004
30169	SACRAMENTO, CAL.	8517	8 15	4 01 13.8			180 00	67 28		641304
30157	CHINA LAKE, CAL.	0098	8 15	4 02 56.8			180 00 00	78 36 36		641303
30160	LAWTON, OKLA.	0110	8 15	4 09 00			253	77		845303
30199	MADISON, WIS.	0148	8 15	4 12 51.7	19 00 24	14 30				845042
30200	MADISON, WIS.	0148	8 15	4 14 49.1	19 38 00	13 48				845042
30161	SAN JOSE, CAL.	8573	8 15	6 25 05.7			180	75 13 48		845302
30201	MADISON, WIS.	0148	8 15	6 35 42.65	20 34 12	2 15				845042
10307	AREQUIPA-BN, PERU	9007	8 15	9 23 15.22	2 44 30	-9 35				434013
10305	TOKYO-BN, JAPAN	9005	8 15	12 51 30.80	18 45 24	26 25				434013
10306	NAINI TAL-BN, INDIA	9006	8 15	14 55 49.98	19 51 00	37 00				434013
10303	WOOMERA-BN, AUSTR.	9003	8 15	20 17 24.05	3 57 24	5 39				434013
10304	SAN FERNANDO-BN, SP.	9004	8 15	21 26 02.80	18 40 06	26 06				434013
10309	JUPITER-BN, FLA.	9010	8 16	1 41 18.06	17 47 06	44 17				434013
10302	OLIFANTSFNTN-BN,S.AF	9002	8 16	2 42 06.20	2 56 12	8 14				434013
30170	TERRE HAUTE, IND.	8127	8 16	4 02 40.7	19 51 12	17 15				845044
10310	JUPITER-BN, FLA.	9010	8 16	4 09 44.39	21 41 12	28 24				434013
30178	WALNUT CREEK, CAL.	8556	8 16	6 11 06.6	19 40 00	20 58				845004
30171	SAN JOSE, CAL.	8573	8 16	6 11 08.4			180	74 39 36		845304
30179	WALNUT CREEK, CAL.	8556	8 16	6 11 15.2	19 43 30	20 48				845004
30183	SACRAMENTO, CAL.	8517	8 16	6 11 17.3			180 00	71 11		641304
10308	AREQUIPA-BN, PERU	9007	8 16	6 48 12.01	1 52 24	26 52				434013
10312	MAUI-BN, HAWAII	9012	8 16	8 20 35.91	19 44 42	50 58				434013
10311	VILLA DOLORES-BN,ARG	9011	8 16	9 13 27.39	3 18 48	12 30				434013
10317	TOKYO-BN, JAPAN	9005	8 16	12 38 44.10	19 03 30	25 38				434013
30172	STATE COLLEGE, PA.	0060	8 17	1 25 07.6			221 54	55 00		845303
10318	JUPITER-BN, FLA.	9010	8 17	1 26 43.75	17 04 30	44 21				434013
10313	CURACAO-BN, N.W.I.	9009	8 17	1 31 52.19	18 14 06	65 38				434013
30202	MADISON, WIS.	0148	8 17	3 43 51.75	18 12 00	13 24				845042
30173	FT. WORTH, TEX.	0139	8 17	3 44 04.0	18 55 48	32 30				845013
30203	MADISON, WIS.	0148	8 17	3 46 19.6	19 06 24	13 00				845042
10314	CURACAO-BN, N.W.I.	9009	8 17	3 58 54.10	21 26 00	46 14				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
30174	SAN JOSE, CAL.	8573	8 17	5 57 12.5			180	74 09 00		845302
30184	SACRAMENTO, CAL.	8517	8 17	5 57 20.6			180 00	70 40		641304
30185	VAN NUYS, CAL.	0113	8 17	5 58 53.3	19 47 48	25 33				845043
30204	MADISON, WIS.	0148	8 17	6 05 01.2	19 32 12	4 12				845042
10315	VILLA DOLORES-BN,ARG	9011	8 17	8 59 07.54	2 35 06	12 52				434013
10316	VILLA DOLORES-BN,ARG	9011	8 17	9 02 31.92	4 30 42	3 05				434013
10319	MAUI-BN, HAWAII	9012	8 17	9 40 41.31	12 20 00	79 48				434013
10321	TOKYO-BN, JAPAN	9005	8 17	14 45 53.50	19 49 00	9 55				434013
30216	MITAKA, JAPAN	0229	8 17	14 46 29.7			228 18	54 36		845303
30215	ASAHIKAWA, JAPAN	0201	8 17	17 22 16	4 00	89				845002
10325	JUPITER-BN, FLA.	9010	8 18	1 12 10.32	16 17 18	43 43				434013
10320	OLIFANTSFNTN-BN,S.AF	9002	8 18	2 14 50.30	2 16 18	5 22				434013
30180	FT. WORTH, TEX.	0139	8 18	3 30 08.6	18 44 12	32 36				845013
30181	FT. WORTH, TEX.	0139	8 18	3 30 19.8	18 49 48	32 36				845013
30205	MADISON, WIS.	0148	8 18	3 33 25.15	19 17 24	11 42				845042
30186	TERRE HAUTE, IND.	8127	8 18	3 34 31.6	19 30 30	16 31				845044
10326	JUPITER-BN, FLA.	9010	8 18	3 37 09.54	19 37 30	35 46				434013
30187	SACRAMENTO, CAL.	8517	8 18	5 43 24.8			180 00	70 02		641304
30188	VAN NUYS, CAL.	0113	8 18	5 44 59.6	19 38 56	24 57				845043
30189	CHINA LAKE, CAL.	0098	8 18	5 45 20.3			180 00 00	76 15 36		641303
30206	MADISON, WIS.	0148	8 18	5 51 18.4	19 27 36	3 06				845042
10322	AREQUIPA-BN, PERU	9007	8 18	8 42 27.95	1 50 30	-12 39				434013
10323	SAN FERNANDO-BN, SP.	9004	8 18	20 44 20.80	18 01 54	25 26				434013
10337	JUPITER-BN, FLA.	9010	8 19	3 22 58.39	19 21 06	35 48				434013
10324	CURACAO-BN, N.W.I.	9009	8 19	3 30 55.47	21 05 12	45 25				434013
30211	SACRAMENTO, CAL.	8517	8 19	5 29 31.5			180 00	69 24		641304
30190	VAN NUYS, CAL.	0113	8 19	5 30 58.2	19 26 33	24 31				845043
30191	VAN NUYS, CAL.	0113	8 19	5 31 02.5	19 28 22	24 31				845043
30182	CHINA LAKE, CAL.	0098	8 19	5 31 23.6			180 00 00	75 44 24		641303
10334	SHIRAZ-BN, IRAN	9008	8 19	18 32 19.84	19 49 06	27 36				434013
10329	SAN FERNANDO-BN, SP.	9004	8 19	22 51 59.70	19 14 54	14 19				434013
10336	JUPITER-BN, FLA.	9010	8 20	0 46 49.96	17 16 18	47 13				434013
30194	CHINA LAKE, CAL.	0098	8 20	5 03 38.2			180 00 00	74 14 12		641303
30192	SAN JOSE, CAL.	8573	8 20	5 15 33.6			180	72 15 36		845302
30237	WHITTIER, CAL.	8566	8 20	5 17 21.0			180 00 00	81 03 00		845304
30193	CHINA LAKE, CAL.	0098	8 20	5 17 30.7			180 00 00	75 07 12		641303
10338	MAUI-BN, HAWAII	9012	8 20	7 23 51.42	18 25 24	53 27				434013
10332	AREQUIPA-BN, PERU	9007	8 20	8 14 56.37	1 16 54	-14 05				434013
10335	SHIRAZ-BN, IRAN	9008	8 20	18 17 45.59	19 22 54	28 11				434013
10330	SAN FERNANDO-BN, SP.	9004	8 20	20 17 03.40	17 45 42	24 42				434013
30207	WALNUT CREEK, CAL.	8556	8 21	5 01 43.8	18 51 00	17 45				845004
30208	WALNUT CREEK, CAL.	8556	8 21	5 01 56.2	18 56 40	17 36				845004
10339	MAUI-BN, HAWAII	9012	8 21	7 10 59.45	18 51 00	52 37				434013
10333	AREQUIPA-BN, PERU	9007	8 21	8 01 09.41	1 02 48	-15 02				434013
10327	WOOMERA-BN, AUSTR.	9003	8 21	16 39 09.36	2 38 36	10 59				434013
10328	WOOMERA-BN, AUSTR.	9003	8 21	18 57 12.80	2 46 12	- 7 32				434013
10331	SAN FERNANDO-BN, SP.	9004	8 21	22 24 53.40	19 31 12	9 52				434013
30195	CINCINNATI, OHIO	0050	8 22	2 39 12	18 37 00	13 36				845004
30197	W. PALM BEACH, FLA.	0016	8 22	2 42 43			17	83		845303
30196	CINCINNATI, OHIO	0050	8 22	2 50 36.5	22 01 24	- 2 18				845004
30209	WALNUT CREEK, CAL.	8556	8 22	4 46 46.0	18 41 00	16 30				845004
30238	WALNUT CREEK, CAL.	8586	8 22	4 47 55.2	18 41 48	17 00				845003
30233	SACRAMENTO, CAL.	8517	8 22	4 48 04.0			180 00	66 56		641304
30239	WALNUT CREEK, CAL.	8586	8 22	4 48 32.4	18 57 48	16 18				845003
10341	AREQUIPA-BN, PERU	9007	8 22	10 12 27.10	4 48 00	-67 16				434023
10342	WOOMERA-BN, AUSTR.	9003	8 22	18 43 32.80	2 31 24	- 9 00				434013
10345	SAN FERNANDO-BN, SP.	9004	8 22	22 10 19.50	18 43 06	11 26				434013
10344	CURACAO-BN, N.W.I.	9009	8 23	0 10 18.17	17 51 24	70 31				434013
10342	OLIFANTSFNTN-BN,S.AF	9002	8 23	1 07 33.00	1 38 06	- 6 19				434013
30217	VAN NUYS, CAL.	0113	8 23	4 35 45.6	18 49 15	21 30				845043
30242	MADISON, WISC.	0148	8 23	4 41 23.1	18 29 00	- 1 12				845042
10350	MAUI-BN, HAWAII	9012	8 23	6 44 11.04	19 00 42	51 53				434013
10346	AREQUIPA-BN, PERU	9007	8 23	7 36 31.40	1 55 00	-26 29				434023
10347	VILLA DOLORES-BN,ARG	9011	8 23	7 39 55.52	2 19 36	- 3 57				434013
10348	WOOMERA-BN, AUSTR.	9003	8 23	18 30 04.66	2 24 12	-10 58				434013
10351	SHIRAZ-BN, IRAN	9008	8 23	19 51 07.71	17 46 06	11 15				434013
10349	SAN FERNANDO-BN, SP.	9004	8 23	21 57 29.50	18 56 06	9 38				434013
10353	CURACAO-BN, N.W.I.	9009	8 24	0 00 08.32	20 27 54	60 59				434013
30210	ROCHESTER, N.Y.	0047	8 24	2 16 01.6	19 52 12	- 0 03				845033
10352	CURACAO-BN, N.W.I.	9009	8 24	2 22 51.52	20 57 00	-38 57				434023
30212	CHINA LAKE, CAL.	0098	8 24	4 22 18.6			180 00 00	71 28 12		641303
10356	MAUI-BN, HAWAII	9012	8 24	6 30 28.83	18 51 54	52 18				434013
10354	AREQUIPA-BN, PERU	9007	8 24	7 25 35.96	3 02 36	-33 32				434023
10357	MAUI-BN, HAWAII	9012	8 24	8 53 14.16	19 57 00	20 18				434013
10355	AREQUIPA-BN, PERU	9007	8 24	9 39 24.39	23 45 24	-41 54				434023
10363	SHIRAZ-BN, IRAN	9008	8 24	17 22 11.26	18 32 48	25 59				434013
30218	N. CANTON, OHIO	8565	8 25	1 59 09.8	18 16 00	5 08				845043
10359	OLIFANTSFNTN-BN,S.AF	9002	8 25	3 02 46.84	3 11 36	-45 35				434023
30240	WALNUT CREEK, CAL.	8586	8 25	4 06 46.9	18 10 24	14 00				845003
30219	SAN JOSE, CAL.	8573	8 25	4 06 55.9			180	67 17 24		845304
30241	WALNUT CREEK, CAL.	8586	8 25	4 06 59.4	18 17 00	13 36				845003
30220	CHINA LAKE, CAL.	0098	8 25	4 08 37.0			180 00 00	70 15 36		641303
30221	TUCSON, ARIZ.	0003	8 25	4 11 36.0			359 30	76 48		845303
30222	ALBUQUERQUE, N.M.	8579	8 25	4 13 33.6			180 00	62 42		845303
10358	VILLA DOLORES-BN,ARG	9011	8 25	7 12 27.28	1 55 30	- 6 54				434013
10366	SHIRAZ-BN, IRAN	9008	8 25	17 09 43.32	19 00 24	22 19				434013
10361	WOOMERA-BN, AUSTR.	9003	8 25	18 02 31.88	1 56 48	-13 25				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
[illegible]	SHIRAZ-BN, IRAN	9008	8 25	19 21 58.61	18 28 [illegible]	6 [illegible]				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	8 25	21 29 23.40	18 16 [illegible]	7 [illegible]				434013
[illegible]	CINCINNATI, OHIO	0050	8 26	1 44 [illegible]	17 51 [illegible]	8 46				845004
[illegible]	BLOMEDTER, N.Y.	8564	8 26	1 44 20.8	17 12 46	1 59				845104
[illegible]	TUCACHEN, N.M.I.	9004	8 26	1 52 23.40	19 56 12	43 33				434013
[illegible]	SLIFANTSFNTN-BN,S.AF	9002	8 26	2 45 38.00	2 31 48	-44 02				434023
[illegible]	ALAMOGORDO, N.M.	0102	8 26	4 00 [illegible]			270	67 40		845302
[illegible]	CINCINNATI, OHIO	0050	8 26	4 05 04.7	19 05 00	- 8 17				845004
[illegible]	JUPITER-BN, FLA.	9010	8 26	4 06 46.37	18 48 30	4 35				434013
[illegible]	MAUI-BN, HAWAII	9012	8 26	8 25 37.17	19 39 36	17 47				434013
[illegible]	SHIRAZ-BN, IRAN	9008	8 26	19 11 55.66	17 52 18	4 31				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	8 26	21 15 21.20	18 00 42	6 19				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	8 26	23 34 09.80	18 32 00	- 9 10				434013
[illegible]	SLIFANTSFNTN-BN,S.AF	9002	8 27	0 17 51.50	3 04 42	-22 36				434013
[illegible]	SAN MATEO, CAL.	0113	8 27	3 41 [illegible]	18 09 10	17 22				845043
[illegible]	MADISON, WISC.	0146	8 27	3 45 51.0	17 36 12	- 5 36				845042
[illegible]	MADISON, WISC.	0148	8 27	3 49 15.8	18 43 00	-10 30				845042
[illegible]	EDINBURG, TEX.	0066	8 27	3 49 25.5			196 30	76 45		845303
[illegible]	CINCINNATI, OHIO	0050	8 27	3 51 [illegible]	18 51 06	- 9 10				845004
[illegible]	VILLA DOLORES-BN,ARG	9011	8 27	6 45 55.62	1 48 24	-11 42				434013
[illegible]	SHIRAZ-BN, IRAN	9008	8 27	16 41 34.79	18 11 54	22 09				434013
[illegible]	ASOMERA-BN, AUSTR.	9003	8 27	17 36 37.22	3 14 00	-21 28				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	8 27	23 21 20.20	18 37 12	-12 19				434013
[illegible]	SLIFANTSFNTN-BN,S.AF	9002	8 28	0 54 06.70	2 55 12	-23 09				434013
[illegible]	JUPITER-BN, FLA.	9010	8 28	1 29 25.96	17 53 48	5 55				434013
[illegible]	JUPITER-BN, FLA.	9010	8 28	1 28 20.98	20 58 42	8 55				434013
[illegible]	CINCINNATI, OHIO	0050	8 28	3 37 [illegible]	18 38 54	-10 38				845004
[illegible]	CINCINNATI, OHIO	0050	8 28	3 41 35	19 57 36	-17 41				845004
[illegible]	JUPITER-BN, FLA.	9010	8 28	3 41 25.85	19 11 36	- 3 40				434013
[illegible]	VILLA DOLORES-BN,ARG	9011	8 28	5 33 53.77	2 32 30	-16 05				434013
[illegible]	VILLA DOLORES-BN,ARG	9011	8 28	8 45 38.22	23 42 42	-17 42				434013
[illegible]	VILLA DOLORES-BN,ARG	9011	8 28	8 53 21.74	3 19 12	-33 48				434023
[illegible]	SHIRAZ-BN, IRAN	9008	8 28	16 28 05.91	18 11 24	20 34				434013
[illegible]	SHIRAZ-BN, IRAN	9008	8 28	18 48 21.87	18 46 12	- 5 46				434013
10386	SAN FERNANDO-BN, SP.	9004	8 28	20 48 17.70	17 44 18	2 46				434013
10231	N. CANTON, OHIO	8565	8 29	1 04 55.9	17 14	- 0 23				845043
[illegible]	SAN JOSE, CAL.	8573	8 29	5 37 26.3			180	34 21 00		845304
10384	VILLA DOLORES-BN,ARG	9011	8 29	6 32 01.78	23 38 48	-19 05				434013
10385	VILLA DOLORES-BN,ARG	9011	8 29	8 42 16.68	4 52 00	-32 58				434023
10393	SHIRAZ-BN, IRAN	9008	8 29	17 35 36.67	18 54 24	-10 42				434013
10387	ASOMERA-BN, AUSTR.	9003	8 29	19 29 43.08	3 13 30	-37 39				434023
10388	SAN FERNANDO-BN, SP.	9004	8 29	21 35 33.00	17 57 24	- 0 42				434013
10389	SAN FERNANDO-BN, SP.	9004	8 29	22 56 06.30	18 52 12	-19 28				434013
10392	JUPITER-BN, FLA.	9010	8 30	0 53 58.04	18 42 54	23 37				434013
10394	SLIFANTSFNTN-BN,S.AF	9002	8 30	1 54 59.25	2 35 42	-45 16				434023
[illegible]	GENEVA, COLO.	8882	8 30	3 03 57.0	17 28 24	- 4 18				845004
10395	ALBUQUERQUE, N.M.	8574	8 30	3 05 13.5			180 00	54 42		845303
[illegible]	AREQUIPA-BN, PERU	9007	8 30	5 21 53.03	1 28 00	-58 18				434023
[illegible]	SHIRAZ-BN, IRAN	9008	8 30	16 01 16.48	17 16 [illegible]	17 16				434013
[illegible]	ASOMERA-BN, AUSTR.	9003	8 30	18 56 07.7	2 09 30	-22 52				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	8 30	22 41 58.50	18 35 24	-20 10				434013
[illegible]	JUPITER-BN, FLA.	9010	8 31	0 40 41.93	18 41 30	21 21				434013
[illegible]	SHIRAZ-BN, IRAN	9008	8 31	1 46 23.45	19 36 [illegible]	35 46				434013
[illegible]	SLIFANTSFNTN-BN,S.AF	9002	8 31	1 39 20.10	1 19 30	-46 20				434023
[illegible]	GENEVA, COLO.	8882	8 31	2 50 26.8	17 15 16	- 6 06				845004
[illegible]	MONTEREY, CAL.	8577	8 31	3 09 39.6			180 00	29 27		845304
[illegible]	AREQUIPA-BN, PERU	9007	8 31	8 11 11.59	3 35 18	-60 23				434023
[illegible]	SHIRAZ-BN, IRAN	9008	8 31	13 47 46.73	17 47 54	15 43				434013
[illegible]	ASOMERA-BN, AUSTR.	9003	8 31	16 43 18.92	2 29 30	-24 46				434023
[illegible]	ASOMERA-BN, AUSTR.	9003	8 31	19 32 21.0	2 54 18	-37 33				434023
[illegible]	SAN FERNANDO-BN, SP.	9004	8 31	20 37 45.80	17 12 00	- 2 53				434013

1959 ALPHA 2

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01175	PRETORIA, S.AFR.	0405	1 12	18 50 53.0			179 36	69 36		845302
01189	MAUI-BN, HAWAII	9012	5 01	5 55 59.57	13 15	-33 24				434023
00915	HIGASHIMATSUYAMA,JAP	0210	5 02	17 06 21.1	17 31 12	16 42				845003
01187	MAUI-BN, HAWAII	9012	5 04	7 37 03.54	13 12 54	- 8 04				434013
01212	SHIRAZ-BN, IRAN	9008	5 10	19 33 35.78	14 00 30	32 21				434013
01213	SHIRAZ-BN, IRAN	9008	5 10	21 54 56.52	16 22 42	42 55				434013
01184	JUPITER-BN, FLA.	9010	5 11	4 11 34.28	13 46 12	36 57				434013
01186	ORGAN PASS-BN, N.M.	9001	5 11	6 24 12.00	14 26 48	29 34				434013
01185	JUPITER-BN, FLA.	9010	5 11	6 33 35.73	16 31 36	50 41				434013
01188	MAUI-BN, HAWAII	9012	5 11	19 11 12.45	22 24 18	47 48				434013
01158	MITAKA, JAPAN	0229	5 16	14 02 46.8			182 42	81 12		845303
01157	MITAKA, JAPAN	0229	5 17	13 49 20.7			182 24	81 18		845303

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01156	HIGASHIMATSUYAMA,JAP	0210	5 22	12 40 49	13 52	27				845003
01155	MITAKA, JAPAN	0229	5 22	12 41 25.0			184 00	81 36		845303
01153	MITAKA, JAPAN	0229	5 26	11 46 21.2			186 30	81 12		845303
01151	HIGASHIMATSUYAMA,JAP	0210	5 26	11 47 00.0	13 30	25 42				845003
01154	MITAKA, JAPAN	0229	5 26	14 09 51.4			204 24	57 48		845303
01152	HIGASHIMATSUYAMA,JAP	0210	5 26	14 10 01	14 56 54	4 48				845003
01149	HIGASHIMATSUYAMA,JAP	0210	5 29	11 05 47	12 48	23				845003
01150	HIGASHIMATSUYAMA,JAP	0210	5 29	13 27 41	14 27	5				845003
01176	MAUI-BN, HAWAII	9012	5 30	8 59 54.42	15 34 54	21 06				434013

1959 ALPHA 2

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1959.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00584	AREQUIPA-BN, PERU	9007	4 27	8 57 54.85	19 04 54	-29 10				434023
01946	TOKYO-BN, JAPAN	9005	12 10	9 55 54.70	0 35 06	18 03				434013

1959 ALPHA 2

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00644	MAUI-BN, HAWAII	9012	5 06	7 08 36.69	12 23 54	- 8 43				434013
00747	SHIRAZ-BN, IRAN	9008	5 12	16 44 01.18	12 27 54	6 46				434013
00805	SHIRAZ-BN, IRAN	9008	5 17	17 59 08.57	12 58 06	35 31				434013
00859	SHIRAZ-BN, IRAN	9008	5 18	17 45 32.70	13 10 18	36 [illegible]				434013
00993	WHITTIER-D, CAL.	8566	5 23	6 00 51.4			180 00	89 11 48		845304
01001	WHITTIER-D, CAL.	8566	5 24	5 47 10.1			180	84 36 00		845304
01002	WHITTIER-D, CAL.	8566	5 24	5 56 47.7			106 30 00	39 [illegible] 24		845304
01003	WHITTIER-D, CAL.	8566	5 24	5 56 59.6			106 30 00	38 00 07		845304
01044	ROCHESTER, N.Y.	8564	5 28	2 46 22.0	13 58 48	8 48				845832
00467	CURACAO-BN, N.W.I.	9009	5 29	0 11 16.47	12 04 00	62 41				434013

1959 ETA

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01391	CURACAO-BN, N.W.I.	9009	6 01	0 21 16.62	11 15 42	65 03				434013
01376	OLIFANTSFNTN-BN,S.AF	9002	6 01	1 21 24.70	21 53 48	20 40				434013
01496	TERRE HAUTE, IND.	8127	6 01	2 38 40.3	13 27 24	21 50				845044
01484	NORTH CANTON, OHIO	8565	6 01	2 38 58.5	12 58 30	18 54				845043
01570	DAYTON, OHIO	8557	6 01	2 40 10.4			179 45	71 50		845303
01571	DAYTON, OHIO	8557	6 01	2 40 50.8			168 45	71 03		845304
01497	NORTH CANTON, OHIO	8536	6 01	2 41 20.1	13 50	19 30				641034
01498	NORTH CANTON, OHIO	8536	6 01	2 41 39.2	13 58	19 21				641034
01388	CURACAO-BN, N.W.I.	9009	6 01	2 51 04.10	16 30 12	54 41				434013
01377	OLIFANTSFNTN-BN,S.AF	9002	6 01	3 40 48.30	22 19 30	-15 17				434013
01499	SAN JOSE, CAL.	8573	6 01	4 47 55.7			180	78 32 24		845304
01572	CHINA LAKE, CAL.	0098	6 01	4 49 45.1			180 00 00	83 31 12		641303
01375	ORGAN PASS-BN, N.M.	9001	6 01	4 53 10.50	13 40 30	34 12				434013
01392	JUPITER-BN, FLA.	9010	6 01	5 03 27.10	14 34 06	30 27				434013
01393	JUPITER-BN, FLA.	9010	6 01	5 11 47.60	17 15 30	15 26				434013
01389	CURACAO-BN, N.W.I.	9009	6 01	5 18 50.15	18 14 00	23 28				434013
01390	CURACAO-BN, N.W.I.	9009	6 01	7 43 12.95	18 39 42	-23 38				434023
01399	AREQUIPA-BN, PERU	9007	6 01	7 46 49.29	20 22 18	19 38				434013
01412	MAUI-BN, HAWAII	9012	6 01	9 23 52.97	16 01 12	40 57				434013
01400	AREQUIPA-BN, PERU	9007	6 01	10 08 52.25	20 52 42	-38 23				434023
01398	VILLA DOLORES-BN,ARG	9011	6 01	10 11 52.62	22 08 54	- 0 00				434013
01413	MAUI-BN, HAWAII	9012	6 01	11 51 20.84	17 42 00	0 34				434013
01414	MAUI-BN, HAWAII	9012	6 01	14 12 49.23	17 35 18	-29 34				434023
01476	SHIRAZ-BN, IRAN	9008	6 01	17 50 54.15	13 19 12	40 15				434013
01403	NAINI TAL-BN, INDIA	9006	6 01	18 02 55.11	14 56 42	27 01				434013
01477	SHIRAZ-BN, IRAN	9008	6 01	20 18 49.58	16 15 54	15 44				434013
01478	SHIRAZ-BN, IRAN	9008	6 01	22 39 14.35	16 14 30	- 7 05				434013
01408	CURACAO-BN, N.W.I.	9009	6 02	0 10 36.26	10 58 54	66 05				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01401	OLIFANTSFNTN-BN,S.AF	9002	6 02	1 10 45.84	21 33 42	19 08				434013
01576	ROCHESTER-B, N.Y.	8050	6 02	2 32 19.70	14 02 30	15 06				637032
01573	ROCHESTER, N.Y.	0047	6 02	2 32 29.8	14 05	15 12				845002
01574	ROCHESTER, N.Y.	8564	6 02	2 32 34.6	14 07	15 06				845032
01577	ROCHESTER, N.Y.	8050	6 02	2 32 37.53	14 09 30	15 12				637032
01575	ROCHESTER, N.Y.	8564	6 02	2 33 40.6	14 29 12	14 24				845032
01409	CURACAO-BN, N.W.I.	9009	6 02	2 39 00.28	15 52 06	56 35				434013
01402	OLIFANTSFNTN-BN,S.AF	9002	6 02	3 31 26.60	22 53 48	-22 31				434013
01578	SAN JOSE, CAL.	8573	6 02	4 37 12.4			180	78 24 36		845304
01579	SACRAMENTO, CAL.	8517	6 02	4 37 13.8			180 00	74 53		845302
01580	CHINA LAKE, CAL.	0098	6 02	4 39 00.7			180 00 00	83 19 12		641303
01411	JUPITER-BN, FLA.	9010	6 02	4 52 56.86	14 32 42	28 56				434013
01410	CURACAO-BN, N.W.I.	9009	6 02	5 06 25.94	17 33 48	26 04				434013
01763	MAUI-BN, HAWAII	9012	6 02	6 46 49.84	13 16 18	56 55				434013
01470	AREQUIPA-BN, PERU	9007	6 02	7 37 40.51	20 40 30	12 25				434013
01754	MAUI-BN, HAWAII	9012	6 02	9 13 27.21	16 03 00	38 47				434013
01471	AREQUIPA-BN, PERU	9007	6 02	9 58 03.06	12 15 06	-35 28				434023
01474	NAINI TAL-BN, INDIA	9006	6 02	15 28 22.20	13 10 36	41 47				434013
01520	SHIRAZ-BN, IRAN	9008	6 02	17 42 07.85	13 33 48	39 40				434013
01475	NAINI TAL-BN, INDIA	9006	6 02	17 55 00.57	15 47 48	20 56				434013
01472	WOOMERA-BN, AUSTR.	9003	6 02	18 35 02.88	22 05 24	13 43				434013
01521	SHIRAZ-BN, IRAN	9008	6 02	20 07 25.68	15 45 06	16 44				434013
01473	SAN FERNANDO-BN, SP.	9004	6 02	22 05 29.90	14 41 42	22 53				434013
01409	CURACAO-BN, N.W.I.	9009	6 03	0 00 56.97	11 34 24	68 08				434013
01429	JUPITER-BN, FLA.	9010	6 03	2 21 15.81	14 05 06	43 58				434013
01396	CURACAO-BN, N.W.I.	9009	6 03	2 28 03.65	15 41 42	56 29				434013
01592	CHINA LAKE, CAL.	0098	6 03	4 28 13.0			180 00 00	62 58 12		641303
01581	FT. WORTH, TEXAS	0139	6 03	4 37 50	14 56	25 45				845003
01582	FT. WORTH, TEXAS	0139	6 03	4 38 03.6	15 00 30	25 15				845003
01583	JUPITER-BN, FLA.	9010	6 03	4 43 13.15	14 46 54	26 19				434013
01460	CURACAO-BN, N.W.I.	9009	6 03	4 55 01.43	17 12 42	25 49				434013
01697	WALNUT CREEK, CAL.	8556	6 03	6 54 53.6	15 29 00	10 45				845004
01696	WALNUT CREEK, CAL.	8556	6 03	6 55 11.8	15 33 00	10 39				845004
01515	AREQUIPA-BN, PERU	9007	6 03	9 49 07.18	22 04 48	-51 16				434023
01512	NAINI TAL-BN, INDIA	9006	6 03	15 17 55.14	13 06 42	41 41				434013
01506	WOOMERA-BN, AUSTR.	9003	6 03	18 25 31.52	22 16 12	8 50				434013
01507	WOOMERA-BN, AUSTR.	9003	6 03	20 44 12.96	22 58 30	-22 06				434013
01531	JUPITER-BN, FLA.	9010	6 04	2 07 50.60	12 30 36	45 22				434013
01532	JUPITER-BN, FLA.	9010	6 04	2 11 50.54	14 36 18	41 45				434013
01591	CHINA LAKE, CAL.	0098	6 04	4 17 39.1			180 00 00	82 39 36		641303
01516	AREQUIPA-BN, PERU	9007	6 04	7 17 27.18	20 32 30	4 28				434013
01536	VILLA DOLORES-BN,ARG	9011	6 04	7 23 08.00	21 44 12	13 51				434013
01517	AREQUIPA-BN, PERU	9007	6 04	9 37 27.71	19 53 36	-37 41				434023
01513	NAINI TAL-BN, INDIA	9006	6 04	15 07 41.22	13 09 54	41 26				434013
01509	SAN FERNANDO-BN, SP.	9004	6 04	21 41 30.70	13 29 42	23 38				434013
01510	SAN FERNANDO-BN, SP.	9004	6 05	0 05 02.20	15 00 24	3 20				434013
01533	JUPITER-BN, FLA.	9010	6 05	2 00 35.88	14 15 00	42 17				434013
01525	CURACAO-BN, N.W.I.	9009	6 05	2 06 11.03	15 19 00	56 12				434013
01597	ORGAN PASS-BN, N.M.	9001	6 05	4 08 37.70	12 24 54	32 48				434013
01598	ORGAN PASS-BN, N.M.	9001	6 05	4 11 55.30	13 57 18	30 31				434013
01539	ORGAN PASS-BN, N.M.	9001	6 05	4 20 35.40	16 45 54	14 28				434013
01592	CINCINNATI, OHIO	0050	6 05	4 24 09	15 54 30	0 38				845004
01526	CURACAO-BN, N.W.I.	9009	6 05	4 31 54.36	16 26 48	25 48				434013
01518	AREQUIPA-BN, PERU	9007	6 05	7 10 29.41	21 44 54	- 9 55				434013
01519	AREQUIPA-BN, PERU	9007	6 05	9 28 33.90	20 40 30	-47 18				434023
01514	NAINI TAL-BN, INDIA	9006	6 05	14 54 46.89	11 45 54	[illegible] 40				434013
01508	WOOMERA-BN, AUSTR.	9003	6 05	17 23 24.79	22 10 12	-24 43				434023
01511	SAN FERNANDO-BN, SP.	9004	6 05	21 31 55.50	13 50 30	21 31				434013
01540	OLIFANTSFNTN-BN,S.AF	9002	6 06	0 30 44.72	21 25 18	4 28				434013
01534	JUPITER-BN, FLA.	9010	6 06	1 45 25.11	11 31 18	44 56				434013
01535	JUPITER-BN, FLA.	9010	6 06	1 50 10.51	14 16 12	41 23				434013
01527	CURACAO-BN, N.W.I.	9009	6 06	1 56 46.92	15 47 06	52 36				434013
01541	OLIFANTSFNTN-BN,S.AF	9002	6 06	2 49 32.22	21 14 12	-27 14				434023
01528	CURACAO-BN, N.W.I.	9009	6 06	4 20 17.28	16 03 12	25 51				434013
01583	SAN JOSE, CAL.	8573	6 06	6 21 23.4			180	59 28 48		845304
01565	ORGAN PASS-BN, N.M.	9001	6 06	6 31 29.00	16 43 42	- 7 02				434013
01797	MAUI-BN, HAWAII	9012	6 06	8 28 14.11	14 45 24	38 41				434013
01820	AREQUIPA-BN, PERU	9007	6 06	9 18 19.59	20 34 00	-48 26				434023
01544	NAINI TAL-BN, INDIA	9006	6 06	14 45 35.83	12 29 12	41 44				434013
01545	NAINI TAL-BN, INDIA	9006	6 06	17 10 21.42	14 48 48	17 44				434013
01542	WOOMERA-BN, AUSTR.	9003	6 06	17 55 37.68	22 15 30	- 1 49				434013
01543	WOOMERA-BN, AUSTR.	9003	6 06	20 13 36.65	22 24 24	-28 10				434023
01547	OLIFANTSFNTN-BN,S.AF	9002	6 07	0 21 53.00	21 48 54	- 4 37				434013
01546	JUPITER-BN, FLA.	9010	6 07	1 38 21.70	13 32 42	43 00				434013
01548	OLIFANTSFNTN-BN,S.AF	9002	6 07	2 40 28.96	22 02 54	-34 10				434023
01552	VILLA DOLORES-BN,ARG	9011	6 07	6 52 57.88	21 37 30	4 08				434013
01798	MAUI-BN, HAWAII	9012	6 07	8 20 35.85	15 46 42	30 01				434013
01553	VILLA DOLORES-BN,ARG	9011	6 07	9 05 36.08	18 58 36	- 1 52				434013
01554	VILLA DOLORES-BN,ARG	9011	6 07	9 10 55.74	21 24 00	-18 08				434013
01549	WOOMERA-BN, AUSTR.	9003	6 07	17 42 47.18	21 01 18	1 53				434013
01550	WOOMERA-BN, AUSTR.	9003	6 07	20 03 22.54	22 16 18	-29 52				434023
01556	OLIFANTSFNTN-BN,S.AF	9002	6 08	0 12 56.40	21 44 18	- 6 20				434013
01557	OLIFANTSFNTN-BN,S.AF	9002	6 08	2 28 45.60	20 52 24	-30 34				434023
01555	ORGAN PASS-BN, N.M.	9001	6 08	3 39 15.40	13 17 36	28 40				434013
01551	CURACAO-BN, N.W.I.	9009	6 08	3 57 00.48	15 15 24	25 56				434013
01564	MAUI-BN, HAWAII	9012	6 08	8 08 35.90	15 12 36	31 49				434013
01558	VILLA DOLORES-BN,ARG	9011	6 08	8 56 32.85	19 17 24	- 7 30				434013
01559	VILLA DOLORES-BN,ARG	9011	6 08	9 04 43.71	0 34 00	-26 42				434023
01586	SHIRAZ-BN, IRAN	9008	6 08	16 38 28.85	18 21 12	35 56				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01563	NAINI TAL-BN, INDIA	9006	6 08	16 47 17.28	14 00 30	17 24				434013
01561	WOOMERA-BN, AUSTR.	9003	6 08	17 34 35.36	21 49 42	- 6 00				434013
01562	WOOMERA-BN, AUSTR.	9003	6 08	19 53 15.97	22 16 24	-31 42				434023
01584	SAN FERNANDO-BN, SP.	9004	6 08	21 00 25.00	13 40 18	17 05				434013
01560	OLIFANTSFNTN-BN,S.AF	9002	6 09	2 18 18.30	20 39 36	-31 40				434023
01589	MAUI-BN, HAWAII	9012	6 09	7 57 24.97	14 54 42	31 30				434013
01585	AREQUIPA-BN, PERU	9007	6 09	8 48 56.42	21 28 48	-56 36				434023
01588	WOOMERA-BN, AUSTR.	9003	6 09	19 42 43.54	21 55 54	-32 21				434023
01587	OLIFANTSFNTN-BN,S.AF.	9002	6 10	2 08 17.70	20 45 48	-34 30				434023
01608	MAUI-BN, HAWAII	9012	6 10	7 47 41.57	15 08 24	27 15				434013
01598	AREQUIPA-BN, PERU	9007	6 10	8 36 22.78	19 47 30	-49 29				434023
01627	NAINI TAL-BN, INDIA	9006	6 10	16 25 09.46	13 27 36	15 26				434013
01597	WOOMERA-BN, AUSTR.	9003	6 10	17 15 50.37	22 28 18	-14 09				434013
01614	SHIRAZ-BN, IRAN	9008	6 10	18 39 39.71	14 25 30	4 40				434013
01594	OLIFANTSFNTN-BN,S.AF	9002	6 11	1 57 25.70	20 24 12	-34 30				434023
01604	JUPITER-BN, FLA.	9010	6 11	3 15 58.46	13 19 42	15 49				434013
01605	JUPITER-BN, FLA.	9010	6 11	3 22 50.35	15 33 24	0 04				434013
01639	SACRAMENTO, CAL.	8517	6 11	5 26 28.6			180 00	47 47		641302
01609	MAUI-BN, HAWAII	9012	6 11	7 34 56.60	14 10 42	31 27				434013
01606	VILLA DOLORES-BN,ARG	9011	6 11	8 30 32.52	21 36 00	-28 03				434023
01610	MAUI-BN, HAWAII	9012	6 11	9 55 04.78	14 04 12	3 07				434013
01615	SHIRAZ-BN, IRAN	9008	6 11	18 29 22.52	14 06 36	3 48				434013
01596	WOOMERA-BN, AUSTR.	9003	6 11	19 22 02.31	21 43 12	-34 30				434023
01600	CURACAO-BN, N.W.I.	9009	6 12	0 52 29.17	14 59 30	49 35				434013
01595	OLIFANTSFNTN-BN,S.AF	9002	6 12	1 47 07.20	20 23 24	-36 20				434023
01745	EDINBURG, TEXAS	8581	6 12	3 01 27.5			20	89 45		845303
01594	JUPITER-BN, FLA.	9010	6 12	3 10 54.69	14 58 18	1 35				434013
01601	CURACAO-BN, N.W.I.	9009	6 12	3 16 52.15	15 32 36	10 07				434013
01647	SACRAMENTO, CAL.	8517	6 12	5 15 53.2			180 00	45 40		641302
01593	ORGAN PASS-BN, N.M.	9001	6 12	5 19 32.20	14 07 06	- 4 08				434013
01611	MAUI-BN, HAWAII	9012	6 12	7 24 33.69	14 08 48	29 06				434013
01628	AREQUIPA-BN, PERU	9007	6 12	8 16 02.69	19 57 30	-52 58				434023
01612	MAUI-BN, HAWAII	9012	6 12	9 44 18.84	13 52 00	1 13				434013
01629	TOKYO-BN, JAPAN	9005	6 12	11 42 03.50	13 08 36	5 00				434013
01602	CURACAO-BN, N.W.I.	9009	6 13	0 42 23.33	15 05 24	47 03				434013
01616	OLIFANTSFNTN-BN,S.AF	9002	6 13	1 38 08.52	21 12 48	-41 17				434023
01701	EDINBURG, TEXAS	0066	6 13	2 50 43.9			203	88 38		845303
01700	EDINBURG, TEXAS	0066	6 13	2 50 44.4			203	88 40		845303
01699	EDINBURG, TEXAS	0066	6 13	2 50 47.4			210 00	88 30		845303
01603	CURACAO-BN, N.W.I.	9009	6 13	3 04 51.56	15 01 12	11 28				434013
01746	SACRAMENTO, CAL.	8517	6 13	5 05 19.7			180 00	43 32		641302
01617	ORGAN PASS-BN, N.M.	9001	6 13	5 07 30.30	13 33 54	- 3 22				434013
01624	MAUI-BN, HAWAII	9012	6 13	7 15 10.11	14 31 12	23 29				434013
01613	AREQUIPA-BN, PERU	9007	6 13	8 06 48.58	20 43 00	-56 51				434023
01607	VILLA DOLORES-BN,ARG	9011	6 13	8 09 47.94	21 27 24	-30 43				434023
01621	SHIRAZ-BN, IRAN	9008	6 13	18 07 52.15	14 04 30	- 2 18				434013
01619	WOOMERA-BN, AUSTR.	9003	6 13	19 01 01.49	21 23 30	-35 43				434023
01620	SAN FERNANDO-BN, SP.	9004	6 13	22 28 57.40	13 56 48	-12 59				434013
01622	CURACAO-BN, N.W.I.	9009	6 14	0 30 18.83	14 13 54	52 00				434013
01625	OLIFANTSFNTN-BN,S.AF	9002	6 14	1 27 00.37	20 43 18	-40 48				434023
01702	EDINBURG, TEXAS	0066	6 14	2 40 07.4			203	87 15		845303
01703	EDINBURG, TEXAS	0066	6 14	2 40 08			203	87		845303
01704	EDINBURG, TEXAS	0066	6 14	2 40 08.7			203	87 15		845303
01705	EDINBURG, TEXAS	0066	6 14	2 40 19.8			180	86 15		845303
01623	CURACAO-BN, N.W.I.	9009	6 14	2 55 45.59	15 20 48	4 23				434013
01626	OLIFANTSFNTN-BN,S.AF	9002	6 14	3 50 15.35	1 08 30	-52 24				434023
01708	SACRAMENTO, CAL.	8517	6 14	4 54 47.7			180 00	41 19		641302
01706	EDINBURG, TEXAS	0066	6 14	4 58 06.5			211 42	42 48		845303
01618	ORGAN PASS-BN, N.M.	9001	6 14	4 58 15.10	13 50 36	- 8 21				434013
01707	EDINBURG, TEXAS	0066	6 14	4 58 19			211 36	39 18		845303
01630	VILLA DOLORES-BN,ARG	9011	6 14	7 58 57.39	21 08 06	-31 14				434023
01637	MAUI-BN, HAWAII	9012	6 14	9 25 25.77	14 16 00	- 8 52				434013
01635	NAINI TAL-BN, INDIA	9006	6 14	15 43 21.46	13 07 54	5 28				434013
01638	SHIRAZ-BN, IRAN	9008	6 14	17 56 12.94	13 35 06	- 2 10				434013
01633	WOOMERA-BN, AUSTR.	9003	6 14	18 55 11.72	0 32 30	-33 50				434023
01634	SAN FERNANDO-BN, SP.	9004	6 14	22 16 32.80	13 17 54	-11 29				434013
01636	CURACAO-BN, N.W.I.	9009	6 15	0 20 24.11	14 25 48	48 58				434013
01631	OLIFANTSFNTN-BN,S.AF	9002	6 15	1 17 17.60	21 07 54	-43 02				434023
01723	EDINBURG, TEXAS	0066	6 15	2 29 35.8			203 11	86 12		845303
01650	JUPITER-BN, FLA.	9010	6 15	2 34 00.95	12 55 12	6 18				434013
01651	JUPITER-BN, FLA.	9010	6 15	2 38 29.68	14 30 36	- 5 10				434013
01632	OLIFANTSFNTN-BN,S.AF	9002	6 15	3 39 03.90	23 53 18	-53 52				434023
01709	SACRAMENTO, CAL.	8517	6 15	4 44 17.9			180 00	39 02		641304
01654	MAUI-BN, HAWAII	9012	6 15	6 54 24.66	14 24 36	17 48				434013
01655	MAUI-BN, HAWAII	9012	6 15	9 15 08.37	14 13 24	-12 04				434013
01646	NAINI TAL-BN, INDIA	9006	6 15	15 33 08.99	13 07 00	2 15				434013
01647	SHIRAZ-BN, IRAN	9008	6 15	17 48 22.47	14 20 30	-11 01				434013
01644	WOOMERA-BN, AUSTR.	9003	6 15	18 40 06.83	21 15 18	-37 00				434023
01645	SAN FERNANDO-BN, SP.	9004	6 15	22 03 53.20	12 31 12	- 9 30				434013
01648	CURACAO-BN, N.W.I.	9009	6 16	0 10 00.96	14 21 30	47 45				434013
01642	OLIFANTSFNTN-BN,S.AF	9002	6 16	1 07 38.40	21 36 36	-44 33				434023
01785	DAYTON, OHIO	8557	6 16	2 19 23.0			209 30	35 00		845303
01652	JUPITER-BN, FLA.	9010	6 16	2 25 32.12	13 33 24	- 1 36				434013
01653	JUPITER-BN, FLA.	9010	6 16	2 26 04.46	14 06 06	- 5 38				434013
01649	CURACAO-BN, N.W.I.	9009	6 16	2 32 22.71	14 25 48	5 26				434013
01643	OLIFANTSFNTN-BN,S.AF	9002	6 16	3 27 54.90	22 51 12	-53 17				434023
01725	SACRAMENTO, CAL.	8517	6 16	4 33 49.9			180 00	36 44		641304

OBS NO.	STATION	STA N	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01724	SAN DIEF, CAL.	8573	6 16	4 34 48.9			180	38 51 00		845304
01641	ORGAN PASS-BN, N.M.	9001	6 16	4 36 50.90	13 28 54	-12 26				434013
01661	MAUI-BN, HAWAII	9012	6 16	6 42 12.17	13 31 42	21 25				434013
01656	AREQUIPA-BN, PERU	9007	6 16	7 39 03.00	23 13 36	-58 05				434023
01662	MAUI-BN, HAWAII	9012	6 16	9 05 30.78	14 20 36	-16 50				434013
01657	AREQUIPA-BN, PERU	9007	6 16	9 58 35.75	0 26 06	-69 03				434023
01660	NAINI TAL-BN, INDIA	9006	6 16	15 21 27.13	12 28 12	2 50				434013
01681	SHIRAZ-BN, IRAN	9008	6 16	17 34 12.09	12 59 24	- 4 49				434013
01659	SAN FERNANDO-BN, SP.	9004	6 16	21 56 27.80	13 19 24	-17 42				434013
01658	OLIFANTSFNTN-BN,S.AF	9002	6 17	3 18 02.28	23 15 18	-51 26				434023
01663	ORGAN PASS-BN, N.M.	9001	6 17	4 26 15.80	13 19 48	-14 26				434013
01685	MAUI-BN, HAWAII	9012	6 17	6 31 23.36	13 12 54	20 12				434013
01675	AREQUIPA-BN, PERU	9007	6 17	7 28 23.22	23 02 42	-58 02				434023
01687	VILLA DOLORES-BN,ARG	9011	6 17	7 30 14.65	22 32 54	-34 30				434023
01686	MAUI-BN, HAWAII	9012	6 17	8 56 07.15	14 32 30	-22 14				434013
01676	AREQUIPA-BN, PERU	9007	6 17	9 47 56.60	23 56 54	-68 14				434023
01666	VILLA DOLORES-BN,ARG	9011	6 17	9 49 13.49	23 12 30	-32 26				434023
01682	SHIRAZ-BN, IRAN	9008	6 17	17 24 36.73	13 09 18	- 9 39				434013
01664	WOOMERA-BN, AUSTR.	9003	6 17	20 42 18.40	0 42 00	-24 27				434023
01671	SAN FERNANDO-BN, SP.	9004	6 17	21 45 46.20	12 39 42	-16 21				434013
01684	CURACAO-BN, N.W.I.	9009	6 18	2 13 21.49	14 52 42	- 7 11				434013
01677	AREQUIPA-BN, PERU	9007	6 18	2 14 52.79	15 53 48	31 13				434013
01668	OLIFANTSFNTN-BN,S.AF	9002	6 18	3 07 53.28	23 26 12	-49 25				434023
01664	ORGAN PASS-BN, N.M.	9001	6 18	4 14 48.40	12 53 06	-13 44				434013
01691	MAUI-BN, HAWAII	9012	6 18	5 21 16.42	13 14 30	16 17				434013
01692	MAUI-BN, HAWAII	9012	6 18	8 44 40.44	14 11 24	-22 31				434013
01689	VILLA DOLORES-BN,ARG	9011	6 18	9 31 49.28	19 35 06	-29 57				434023
01678	AREQUIPA-BN, PERU	9007	6 18	9 37 14.91	23 26 42	-67 00				434023
01690	VILLA DOLORES-BN,ARG	9011	6 18	9 40 12.27	0 08 12	-27 20				434023
01674	NAINI TAL-BN, INDIA	9006	6 18	15 03 34.20	13 01 48	- 7 58				434013
01683	SHIRAZ-BN, IRAN	9008	6 18	17 12 37.24	12 30 24	- 8 49				434013
01672	SAN FERNANDO-BN, SP.	9004	6 18	21 33 36.40	12 27 48	-18 06				434013
01665	OLIFANTSFNTN-BN,S.AF	9002	6 19	0 38 49.60	23 00 24	-43 30				434023
01679	AREQUIPA-BN, PERU	9007	6 19	2 06 03.23	15 59 18	27 41				434013
01666	OLIFANTSFNTN-BN,S.AF	9002	6 19	2 56 30.50	22 26 00	-49 15				434023
01693	MAUI-BN, HAWAII	9012	6 19	6 11 11.65	13 16 12	12 03				434013
01694	MAUI-BN, HAWAII	9012	6 19	8 33 51.74	13 42 18	-21 44				434013
01680	AREQUIPA-BN, PERU	9007	6 19	9 26 29.03	22 57 36	-65 49				434023
01670	WOOMERA-BN, AUSTR.	9003	6 19	17 58 36.65	21 24 24	-38 26				434023
01673	SAN FERNANDO-BN, SP.	9004	6 19	21 24 44.80	12 50 24	-23 38				434023
01720	AREQUIPA-BN, PERU	9007	6 20	1 55 41.96	15 56 42	25 09				434013
01667	OLIFANTSFNTN-BN,S.AF	9002	6 20	2 45 20.20	22 04 42	-48 03				434023
01695	VILLA DOLORES-BN,ARG	9011	6 20	9 17 34.30	22 36 18	-30 05				434023
01718	WOOMERA-BN, AUSTR.	9003	6 20	17 49 16.25	22 02 24	-37 49				434023
01717	WOOMERA-BN, AUSTR.	9003	6 20	20 09 39.47	23 00 30	-26 29				434023
01719	SAN FERNANDO-BN, SP.	9004	6 20	21 13 34.40	12 27 24	-24 14				434023
01721	AREQUIPA-BN, PERU	9007	6 21	9 06 55.07	23 07 00	-62 13				434023
01722	VILLA DOLORES-BN,ARG	9011	6 21	9 09 08.57	23 46 48	-23 20				434023
01726	WOOMERA-BN, AUSTR.	9003	6 21	17 39 17.95	22 17 54	-36 51				434023
01735	OLIFANTSFNTN-BN,S.AF	9002	6 21	19 04 26.57	15 26 06	32 58				434013
01727	WOOMERA-BN, AUSTR.	9003	6 21	19 58 17.30	22 25 42	-27 01				434023
01731	CURACAO-BN, N.W.I.	9009	6 22	1 33 01.78	14 35 24	-21 34				434013
01729	AREQUIPA-BN, PERU	9007	6 22	1 36 37.35	16 17 30	14 43				434013
01736	OLIFANTSFNTN-BN,S.AF	9002	6 22	2 25 29.70	22 32 06	-44 27				434023
01793	VILLA DOLORES-BN,ARG	9011	6 22	8 54 11.92	21 06 36	-30 51				434023
01730	AREQUIPA-BN, PERU	9007	6 22	8 55 10.26	22 49 00	-60 57				434023
01740	WOOMERA-BN, AUSTR.	9003	6 22	17 29 28.16	22 35 54	-35 14				434023
01737	OLIFANTSFNTN-BN,S.AF	9002	6 22	18 54 54.30	15 35 24	28 57				434013
01739	WOOMERA-BN, AUSTR.	9003	6 22	19 48 29.19	22 44 36	-24 04				434023
01759	AREQUIPA-BN, PERU	9007	6 23	1 24 51.62	15 51 24	16 49				434013
01738	OLIFANTSFNTN-BN,S.AF	9002	6 23	2 14 54.00	22 28 00	-42 54				434023
01760	MAUI-BN, HAWAII	9012	6 23	7 50 01.86	12 51 54	-29 02				434013
01758	WOOMERA-BN, AUSTR.	9003	6 23	17 19 25.14	22 45 48	-33 42				434023
01755	OLIFANTSFNTN-BN,S.AF	9002	6 23	18 46 32.20	16 04 12	21 10				434013
01757	WOOMERA-BN, AUSTR.	9003	6 23	19 37 53.71	22 35 36	-22 53				434013
01778	AREQUIPA-BN, PERU	9007	6 24	1 14 50.23	15 54 00	12 58				434013
01756	OLIFANTSFNTN-BN,S.AF	9002	6 24	2 01 37.40	20 46 30	-43 44				434023
01784	MAUI-BN, HAWAII	9012	6 24	7 38 41.06	12 25 48	-28 50				434013
01769	VILLA DOLORES-BN,ARG	9011	6 24	8 32 44.88	20 53 42	-29 23				434023
01779	AREQUIPA-BN, PERU	9007	6 24	8 34 05.60	22 39 36	-57 38				434023
01770	VILLA DOLORES-BN,ARG	9011	6 24	8 36 57.86	22 59 36	-21 49				434013
01775	WOOMERA-BN, AUSTR.	9003	6 24	12 07 05.73	15 13 18	23 04				434013
01772	OLIFANTSFNTN-BN,S.AF	9002	6 24	18 36 18.65	16 03 24	18 37				434013
01776	WOOMERA-BN, AUSTR.	9003	6 24	19 27 13.42	22 25 18	-21 54				434013
01780	AREQUIPA-BN, PERU	9007	6 25	1 03 38.06	15 35 18	13 24				434013
01753	MAUI-BN, HAWAII	9012	6 25	7 29 56.09	12 47 42	-35 46				434023
01761	AREQUIPA-BN, PERU	9007	6 25	8 23 47.68	22 43 12	-55 35				434023
01773	OLIFANTSFNTN-BN,S.AF	9002	6 25	18 25 22.55	51 51 12	18 28				434013
01751	PRETORIA, S.AFR.	8575	6 25	18 26 42.5			35 24	43 24		845302
01777	WOOMERA-BN, A STR.	9003	6 25	19 16 38.13	22 17 54	-20 40				434013
01782	CURACAO-BN, N.W.I.	9009	6 26	0 46 58.60	12 42 54	-23 20				434023
01789	AREQUIPA-BN, PERU	9007	6 26	0 53 27.95	15 35 18	10 05				434013
01774	OLIFANTSFNTN-BN,S.AF	9002	6 26	1 42 12.34	21 41 06	-40 00				434023
01786	OLIFANTSFNTN-BN,S.AF	9002	6 26	18 15 42.84	15 59 30	14 00				434013
01771	CURACAO-BN, N.W.I.	9009	6 27	0 35 56.29	12 14 30	-23 55				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01790	AREQUIPA-BN, PERU	9007	6 27	0 41 30.27	14 58 30	14 00				434013
01787	OLIFANTSFNTN-BN,S.AF	9002	6 27	1 31 55.82	21 48 24	-37 57				434023
01788	OLIFANTSFNTN-BN,S.AF	9002	6 27	3 54 13.55	22 51 12	0 06				434013
01791	AREQUIPA-BN, PERU	9007	6 27	8 02 21.05	22 26 06	-52 30				434023
01795	WOOMERA-BN, AUSTR.	9003	6 27	11 38 39.68	15 51 00	10 27				434013
01794	WOOMERA-BN, AUSTR.	9003	6 27	18 55 04.42	21 57 48	-18 43				434013
01804	AREQUIPA-BN, PERU	9007	6 28	0 30 44.36	14 44 18	13 17				434013
01792	OLIFANTSFNTN-BN,S.AF	9002	6 28	1 22 44.70	22 25 12	-33 21				434023
01793	OLIFANTSFNTN-BN,S.AF	9002	6 28	3 43 13.10	22 30 36	- 0 33				434013
01807	VILLA DOLORES-BN,ARG	9011	6 28	10 12 19.09	21 52 48	7 04				434013
01805	AREQUIPA-BN, PERU	9007	6 28	10 15 20.66	23 39 36	-12 57				434013
01803	WOOMERA-BN, AUSTR.	9003	6 28	11 28 54.87	15 59 42	6 13				434013
01801	OLIFANTSFNTN-BN,S.AF	9002	6 28	17 53 19.30	15 24 00	16 00				434013
01802	WOOMERA-BN, AUSTR.	9003	6 28	18 44 13.76	21 47 36	-17 45				434013
01806	CURACAO-BN, N.W.I.	9009	6 29	0 15 07.59	11 47 18	-29 31				434023
01817	VILLA DOLORES-BN,ARG	9011	6 29	0 27 52.41	16 13 30	8 21				434013
01810	AREQUIPA-BN, PERU	9007	6 29	2 38 57.09	13 36 18	-20 00				434013
01802	OLIFANTSFNTN-BN,S.AF	9002	6 29	3 33 49.30	12 51 18	5 32				434013
01811	AREQUIPA-BN, PERU	9007	6 29	7 39 42.79	23 54 42	-36 21				434023
01818	VILLA DOLORES-BN,ARG	9011	6 29	7 43 47.64	12 22 00	-15 30				434013
01819	VILLA DOLORES-BN,ARG	9011	6 29	10 03 54.61	22 29 48	15 35				434013
01812	AREQUIPA-BN, PERU	9007	6 29	10 04 37.71	23 22 48	-11 24				434013
01808	WOOMERA-BN, AUSTR.	9003	6 29	11 18 37.12	16 00 06	3 52				434013
01813	OLIFANTSFNTN-BN,S.AF	9002	6 29	17 42 35.22	15 12 48	15 25				434013
01816	WOOMERA-BN, AUSTR.	9003	6 29	18 33 29.55	21 41 18	-16 24				434013
01822	WOOMERA-BN, AUSTR.	9003	6 29	20 55 08.18	22 22 48	19 08				434013
01825	JUPITER-BN, FLA.	9011	6 30	0 16 38.75	15 57 00	3 10				434013
01814	OLIFANTSFNTN-BN,S.AF	9002	6 30	1 01 28.69	22 15 30	-29 40				434023
01815	OLIFANTSFNTN-BN,S.AF	9002	6 30	3 22 32.53	22 25 36	3 59				434013
01826	JUPITER-BN, FLA.	9011	6 30	7 31 43.14	21 45 42	-17 20				434013
01823	AREQUIPA-BN, PERU	9007	6 30	7 31 53.93	22 51 54	-43 30				434023
01824	AREQUIPA-BN, PERU	9007	6 30	9 53 37.70	23 00 42	-14 [illegible]				434013
01821	WOOMERA-BN, AUSTR.	9003	6 30	11 08 02.99	15 55 24	2 20				434013
10001	OLIFANTSFNTN-BN,S.AF	9002	6 30	17 32 55.64	15 24 24	10 34				434023
10011	AREQUIPA-BN, PERU	9007	6 30	23 59 55.03	14 34 42	4 09				434013
10012	AREQUIPA-BN, PERU	9007	7 01	2 19 38.98	13 56 12	-31 03				434023
10004	OLIFANTSFNTN-BN,S.AF	9002	7 01	17 21 52.30	15 05 30	11 34				434013
10013	AREQUIPA-BN, PERU	9007	7 01	23 49 49.51	14 36 54	1 52				434013
10002	OLIFANTSFNTN-BN,S.AF	9002	7 02	0 42 32.05	22 55 30	-19 31				434013
10014	AREQUIPA-BN, PERU	9007	7 02	2 00 02.89	14 10 42	-36 42				434023
10003	OLIFANTSFNTN-BN,S.AF	9002	7 02	2 00 29.20	21 55 18	3 46				434013
10015	AREQUIPA-BN, PERU	9007	7 02	9 31 07.33	22 11 54	-11 14				434013
10018	AREQUIPA-BN, PERU	9007	7 02	23 38 22.57	13 56 48	3 07				434013
10005	OLIFANTSFNTN-BN,S.AF	9002	7 03	0 35 07.90	23 44 42	- 8 37				434013
10019	AREQUIPA-BN, PERU	9007	7 03	1 57 13.54	13 07 00	-31 19				434023
10020	AREQUIPA-BN, PERU	9007	7 03	7 02 05.62	23 18 12	-31 26				434023
10021	AREQUIPA-BN, PERU	9007	7 03	9 21 52.14	22 35 36	- 3 48				434013
10006	WOOMERA-BN, AUSTR.	9003	7 03	10 35 45.18	15 27 12	0 10				434013
10007	WOOMERA-BN, AUSTR.	9003	7 03	17 52 26.67	21 56 12	- 5 36				434013
10022	VILLA DOLORES-BN,ARG	9011	7 03	23 34 04.56	15 28 06	5 47				434013
10016	AREQUIPA-BN, PERU	9007	7 04	1 50 54.75	14 55 18	-47 12				434023
10023	VILLA DOLORES-BN,ARG	9011	7 04	6 54 43.31	23 09 18	2 24				434013
10024	VILLA DOLORES-BN,ARG	9011	7 04	9 07 09.49	21 43 42	20 08				434013
10017	AREQUIPA-BN, PERU	9007	7 04	9 11 09.45	22 26 18	0 15				434013
10008	WOOMERA-BN, AUSTR.	9003	7 04	10 25 21.48	15 25 36	- 1 43				434013
10025	OLIFANTSFNTN-BN,S.AF	9002	7 04	16 49 44.90	14 25 30	10 58				434013
10009	WOOMERA-BN, AUSTR.	9003	7 04	17 42 29.18	22 04 12	- 1 59				434013
10010	WOOMERA-BN, AUSTR.	9003	7 04	20 01 33.69	21 40 24	20 58				434013
10026	AREQUIPA-BN, PERU	9007	7 05	9 00 36.04	22 20 54	0 49				434013
10027	WOOMERA-BN, AUSTR.	9003	7 05	10 13 47.38	14 52 24	0 56				434013
10028	WOOMERA-BN, AUSTR.	9003	7 05	12 30 29.74	13 48 48	-18 27				434013
10029	WOOMERA-BN, AUSTR.	9003	7 05	17 36 03.86	23 08 24	10 13				434013
10030	WOOMERA-BN, AUSTR.	9003	7 05	19 50 15.34	21 25 06	20 03				434013
10031	AREQUIPA-BN, PERU	9007	7 06	8 47 39.19	21 31 00	- 4 30				434013
10032	AREQUIPA-BN, PERU	9007	7 07	1 18 48.05	14 24 42	-52 42				434023
10033	AREQUIPA-BN, PERU	9007	7 07	8 38 39.15	21 56 12	3 21				434013
10034	WOOMERA-BN, AUSTR.	9003	7 07	9 51 44.65	14 08 54	2 43				434013
10035	WOOMERA-BN, AUSTR.	9003	7 08	9 42 25.75	14 37 24	- 3 27				434013
10041	AREQUIPA-BN, PERU	9007	7 09	0 57 58.41	14 24 36	-57 28				434023
10043	VILLA DOLORES-BN,ARG	9011	7 09	1 01 36.99	15 45 30	-31 08				434023
10042	AREQUIPA-BN, PERU	9007	7 09	8 16 23.13	21 29 18	5 13				434013
10038	WOOMERA-BN, AUSTR.	9003	7 09	9 31 57.36	14 31 06	- 4 42				434013
10036	OLIFANTSFNTN-BN,S.AF	9002	7 09	18 17 49.20	14 23 00	-39 55				434023
10044	VILLA DOLORES-BN,ARG	9011	7 09	22 29 15.98	13 50 18	9 05				434013
10045	VILLA DOLORES-BN,ARG	9011	7 09	22 34 53.93	16 44 24	-12 56				434013
10054	AREQUIPA-BN, PERU	9007	7 10	0 46 50.79	13 44 54	-57 53				434023
10046	VILLA DOLORES-BN,ARG	9011	7 10	0 48 32.52	14 15 42	-26 33				434023
10047	VILLA DOLORES-BN,ARG	9011	7 10	0 52 22.69	16 31 24	-33 25				434023
10039	WOOMERA-BN, AUSTR.	9003	7 10	9 20 16.34	13 36 06	0 14				434013
10040	WOOMERA-BN, AUSTR.	9003	7 10	11 42 22.87	15 48 00	-36 24				434023
10048	MAUI-BN, HAWAII	9012	7 10	14 50 50.52	0 40 18	-10 07				434013
10037	OLIFANTSFNTN-BN,S.AF	9002	7 10	18 07 07.20	14 09 42	-41 20				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10052	AREQUIPA-BN, PERU	9007	7 11	0 36 31.24	13 51 24	-60 42				434023
10053	VILLA DOLORES-BN,ARG	9011	7 11	0 39 31.88	15 07 36	-31 36				434023
10060	WOOMERA-BN, AUSTR.	9003	7 11	9 10 29.35	13 54 24	- 4 25				434013
10048	WOOMERA-BN, AUSTR.	9003	7 11	11 31 05.24	15 19 42	-36 22				434023
10053	MAUI-BN, HAWAII	9012	7 11	14 40 20.20	0 33 12	- 6 44				434013
10055	OLIFANTSFNTN-BN,S.AF	9002	7 11	17 56 53.28	14 17 00	-44 05				434023
10056	AREQUIPA-BN, PERU	9007	7 12	7 45 00.02	21 25 54	14 38				434013
10015	MAUI-BN, HAWAII	9012	7 12	14 29 03.06	0 09 12	- 5 52				434013
10057	OLIFANTSFNTN-BN,S.AF	9002	7 12	17 46 11.00	14 01 12	-45 19				434023
10059	AREQUIPA-BN, PERU	9007	7 13	0 14 26.16	12 26 18	-60 57				434023
10060	VILLA DOLORES-BN,ARG	9011	7 13	0 16 26.32	13 34 42	-28 18				434023
10061	WOOMERA-BN, AUSTR.	9003	7 13	11 08 21.02	14 03 54	-34 56				434023
10062	AREQUIPA-BN, PERU	9007	7 14	0 04 57.25	13 19 30	-66 14				434023
10063	AREQUIPA-BN, PERU	9007	7 14	7 25 02.99	21 38 42	23 11				434013
10065	WOOMERA-BN, AUSTR.	9003	7 14	10 59 43.82	15 27 24	-39 02				434023
10064	OLIFANTSFNTN-BN,S.AF	9002	7 14	17 25 16.98	13 52 42	-49 12				434023
10066	CURACAO-BN, N.W.I.	9009	7 15	7 20 21.67	22 54 42	- 2 40				434013
10076	WOOMERA-BN, AUSTR.	9003	7 15	10 49 04.20	15 18 36	-39 31				434023
10083	MAUI-BN, HAWAII	9012	7 15	13 56 30.61	23 35 48	1 25				434013
10077	OLIFANTSFNTN-BN,S.AF	9002	7 15	17 14 33.66	14 37 12	-52 79				434023
10071	OLIFANTSFNTN-BN,S.AF	9002	7 15	19 39 20.81	14 19 48	-44 50				434023
10069	AREQUIPA-BN, PERU	9007	7 15	22 46 57.50	14 46 18	-73 95				434023
10078	SAN FERNANDO-BN, SP.	9004	7 16	1 56 06.60	0 08 54	-14 06				434013
10081	JUPITER-BN, FLA.	9010	7 16	7 46 38.73	22 37 54	-19 06				434013
10079	URGAN PASS-BN, N.M.	9001	7 16	9 23 22.15	23 54 54	-17 14				434013
10077	WOOMERA-BN, AUSTR.	9003	7 16	10 36 16.32	15 05 06	-39 69				434023
10090	MAUI-BN, HAWAII	9012	7 16	11 26 26.37	23 45 48	-16 29				434013
10100	MAUI-BN, HAWAII	9012	7 16	13 45 13.50	23 24 24	2 09				434013
10101	OLIFANTSFNTN-BN,S.AF	9002	7 16	17 34 23.17	13 41 24	-53 02				434023
10079	OLIFANTSFNTN-BN,S.AF	9002	7 16	19 27 40.40	14 13 36	-44 41				434023
10083	AREQUIPA-BN, PERU	9007	7 16	23 32 07.58	13 43 36	-64 35				434023
10085	VILLA DOLORES-BN,ARG	9011	7 16	23 33 44.86	12 06 48	-32 40				434023
10087	VILLA DOLORES-BN,ARG	9011	7 16	23 40 36.79	17 51 00	-31 08				434023
10088	VILLA DOLORES-BN,ARG	9011	7 17	1 51 54.30	13 41 06	-27 54				434023
10097	SAN FERNANDO-BN, SP.	9004	7 17	2 44 59.80	0 12 06	-15 35				434013
10084	CURACAO-BN, N.W.I.	9009	7 17	6 57 34.28	22 20 30	1 37				434013
10108	URGAN PASS-BN, N.M.	9001	7 17	9 10 06.00	23 15 42	-20 05				434013
10109	URGAN PASS-BN, N.M.	9001	7 17	9 15 49.30	0 42 18	- 8 45				434013
10075	WOOMERA-BN, AUSTR.	9003	7 17	10 27 52.69	15 07 12	-40 31				434023
10102	WALNUT CREEK, CAL.	8556	7 17	11 30 03.8	0 40 00	- 7 45				845004
10103	WALNUT CREEK, CAL.	8556	7 17	11 30 14.0	0 44 45	- 7 18				845004
10074	OLIFANTSFNTN-BN,S.AF	9002	7 17	16 53 02.00	13 14 48	-55 04				434023
10075	OLIFANTSFNTN-BN,S.AF	9002	7 17	19 12 45.20	14 36 06	-45 25				434023
10068	SHIRAZ-BN, IRAN	9008	7 17	22 09 44.37	23 36 18	-15 29				434013
10110	VILLA DOLORES-BN,ARG	9011	7 17	23 22 17.55	11 16 24	-23 22				434023
10094	AREQUIPA-BN, PERU	9007	7 17	23 23 11.16	12 33 30	-73 51				434023
10111	VILLA DOLORES-BN,ARG	9011	7 17	23 31 29.19	18 26 36	-26 43				434023
10112	VILLA DOLORES-BN,ARG	9011	7 18	1 42 52.36	14 24 42	-28 41				434023
10113	SAN FERNANDO-BN, SP.	9004	7 18	2 35 00.00	0 17 18	-12 12				434013
10114	JUPITER-BN, FLA.	9010	7 18	6 44 46.72	22 40 36	-21 21				434013
10115	CURACAO-BN, N.W.I.	9009	7 18	6 47 02.72	22 19 18	- 5 15				434013
10116	JUPITER-BN, FLA.	9010	7 18	6 54 13.73	23 42 54	-11 53				434013
10117	JUPITER-BN, FLA.	9010	7 18	8 08 42.80	23 25 24	8 42				434013
10118	CURACAO-BN, N.W.I.	9009	7 18	9 10 44.54	22 39 24	43 05				434013
10119	WOOMERA-BN, AUSTR.	9003	7 18	10 17 19.02	15 30 48	-40 54				434023
10120	PALOMAR, CALIF.	8575	7 18	16 44 44.5			185 36	57 18		845302
10124	OLIFANTSFNTN-BN,S.AF	9002	7 18	16 43 58.70	14 09 36	-57 19				434023
10123	OLIFANTSFNTN-BN,S.AF	9002	7 18	19 00 25.90	14 42 42	-45 26				434023
10114	VILLA DOLORES-BN,ARG	9011	7 18	23 13 22.90	12 25 48	-32 40				434023
10125	VILLA DOLORES-BN,ARG	9011	7 18	23 18 39.57	17 23 54	-32 04				434023
10126	AREQUIPA-BN, PERU	9007	7 19	1 32 27.13	14 45 48	-63 53				434023
10119	SAN FERNANDO-BN, SP.	9004	7 19	2 22 15.60	23 41 36	-13 47				434013
10127	JUPITER-BN, FLA.	9010	7 19	6 36 08.17	23 31 42	-10 33				434013
10128	JUPITER-BN, FLA.	9010	7 19	8 51 45.65	21 34 42	- 3 10				434013
10129	JUPITER-BN, FLA.	9010	7 19	9 06 08.47	2 55 48	25 48				434013
10114	MAUI-BN, HAWAII	9012	7 19	10 54 51.54	23 36 42	- 8 18				434013
10004	SACRAMENTO, CAL.	8517	7 19	11 02 28.8			180 00	36 58		641304
10117	MAUI-BN, HAWAII	9012	7 19	13 12 03.62	22 44 00	8 31				434013
10126	OLIFANTSFNTN-BN,S.AF	9002	7 19	18 53 22.41	15 53 12	44 07				434013
10122	VILLA DOLORES-BN,ARG	9011	7 19	23 01 34.06	10 58 24	-25 21				434023
10123	VILLA DOLORES-BN,ARG	9011	7 19	23 07 12.22	16 46 42	-34 20				434023
10130	AREQUIPA-BN, PERU	9007	7 20	1 22 50.96	15 45 06	-63 52				434023
10124	VILLA DOLORES-BN,ARG	9011	7 20	1 23 08.39	15 08 00	-26 30				434023
10110	SAN FERNANDO-BN, SP.	9004	7 20	2 11 34.20	23 37 36	-11 30				434013
10131	JUPITER-BN, FLA.	9010	7 20	6 28 25.64	23 41 30	- 6 04				434013
10118	URGAN PASS-BN, N.M.	9001	7 20	8 38 58.20	23 16 24	-11 12				434013
10132	JUPITER-BN, FLA.	9010	7 20	8 46 11.91	22 59 36	11 43				434013
10133	JUPITER-BN, FLA.	9010	7 20	8 49 43.88	0 19 24	20 01				434013
10121	CURACAO-BN, N.W.I.	9009	7 20	8 50 52.97	23 09 48	50 12				434013
10119	URGAN PASS-BN, N.M.	9001	7 20	11 00 57.80	0 01 30	13 00				434013
10126	OLIFANTSFNTN-BN,S.AF	9002	7 20	18 43 05.00	6 07 24	-42 31				434023
10134	SHIRAZ-BN, IRAN	9008	7 20	21 38 30.47	23 35 36	- 6 44				434013
10135	SHIRAZ-BN, IRAN	9008	7 20	23 59 40.53	0 34 06	19 03				434013
10136	AREQUIPA-BN, PERU	9007	7 21	1 12 38.79	16 07 24	-63 14				434023

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10127	SAN FERNANDO-BN, SP.	9004	7 21	2 00 48.20	23 32 48	- 9 25				434013
10139	JUPITER-BN, FLA.	9010	7 21	6 14 17.09	22 50 18	-10 48				434013
10128	CURACAO-BN, N.W.I.	9009	7 21	6 14 28.67	22 00 30	11 11				434013
10140	JUPITER-BN, FLA.	9010	7 21	8 34 27.41	22 36 36	11 47				434013
10141	JUPITER-BN, FLA.	9010	7 21	8 38 06.53	23 54 48	20 18				434013
10132	NAINI TAL-BN, INDIA	9006	7 21	9 15 30.47	23 21 24	- 8 20				434013
30005	SACRAMENTO, CAL.	8517	7 21	10 40 37.5			0 00	40 41		641304
10130	WOOMERA-BN, AUSTR.	9003	7 21	12 03 12.98	14 46 00	-22 57				434013
10129	OLIFANTSFNTN-BN,S.AF	9002	7 21	18 31 56.40	15 30 12	-43 02				434023
10146	VILLA DOLORES-BN,ARG	9011	7 21	22 41 16.79	10 55 54	-29 00				434023
10147	VILLA DOLORES-BN,ARG	9011	7 21	22 45 28.48	12 07 06	-36 10				434023
10148	VILLA DOLORES-BN,ARG	9011	7 22	1 02 11.17	15 04 24	-23 04				434023
10149	AREQUIPA-BN, PERU	9007	7 22	1 03 34.56	17 30 48	-57 52				434023
10131	SAN FERNANDO-BN, SP.	9004	7 22	1 48 18.40	23 03 54	-10 21				434013
10142	JUPITER-BN, FLA.	9010	7 22	6 03 37.73	22 48 00	- 8 10				434013
10137	CURACAO-BN, N.W.I.	9009	7 22	6 03 55.14	22 02 24	14 52				434013
10143	JUPITER-BN, FLA.	9010	7 22	8 18 48.24	21 12 42	2 58				434013
10144	JUPITER-BN, FLA.	9010	7 22	8 27 08.31	23 47 00	22 00				434013
10138	CURACAO-BN, N.W.I.	9009	7 22	8 28 49.86	22 51 12	50 59				434013
10145	JUPITER-BN, FLA.	9010	7 22	8 30 05.12	0 59 00	26 50				434013
10152	WOOMERA-BN, AUSTR.	9003	7 22	9 35 22.93	14 44 42	-41 39				434023
10159	NAINI TAL-BN, INDIA	9006	7 22	19 08 31.96	0 32 24	5 10				434013
10171	VILLA DOLORES-BN,ARG	9011	7 23	0 47 25.66	12 05 00	-20 37				434013
10160	AREQUIPA-BN, PERU	9007	7 23	0 53 07.20	17 33 54	-56 49				434023
10172	VILLA DOLORES-BN,ARG	9011	7 23	0 54 10.83	17 40 48	-15 08				434013
10155	SAN FERNANDO-BN, SP.	9004	7 23	1 37 15.80	22 56 30	- 8 44				434013
10156	SAN FERNANDO-BN, SP.	9004	7 23	3 59 28.70	23 50 42	12 27				434013
10169	JUPITER-BN, FLA.	9010	7 23	5 53 32.55	22 53 48	- 4 26				434013
10164	CURACAO-BN, N.W.I.	9009	7 23	5 55 33.85	22 42 06	23 20				434013
10170	JUPITER-BN, FLA.	9010	7 23	8 12 44.65	22 28 18	16 19				434013
10165	CURACAO-BN, N.W.I.	9009	7 23	8 17 09.41	22 27 12	49 53				434013
10154	WOOMERA-BN, AUSTR.	9003	7 23	9 24 49.24	14 30 36	-41 50				434023
30006	SACRAMENTO, CAL.	8517	7 23	10 18 36.0			180 00	44 07		641304
10153	WOOMERA-BN, AUSTR.	9003	7 23	11 44 07.87	15 52 24	-15 07				434013
10150	OLIFANTSFNTN-BN,S.AF	9002	7 23	18 11 31.67	15 57 42	-38 54				434023
30027	PRETORIA, S.AFR.	0405	7 23	18 13 41.9	17 45	-34 06				845042
10162	SHIRAZ-BN, IRAN	9008	7 23	21 01 52.48	22 53 36	- 4 16				434013
10163	SHIRAZ-BN, IRAN	9008	7 23	23 25 37.03	23 25 00	20 15				434013
10173	VILLA DOLORES-BN,ARG	9011	7 24	0 38 00.80	12 34 00	-20 25				434013
10161	AREQUIPA-BN, PERU	9007	7 24	0 41 46.21	16 53 00	-60 00				434023
10174	VILLA DOLORES-BN,ARG	9011	7 24	0 42 04.33	15 34 24	-16 48				434013
10157	SAN FERNANDO-BN, SP.	9004	7 24	1 27 27.00	23 07 06	- 5 00				434013
10166	CURACAO-BN, N.W.I.	9009	7 24	5 43 12.29	22 11 42	22 29				434013
10167	CURACAO-BN, N.W.I.	9009	7 24	8 06 02.22	22 18 48	50 22				434013
10151	OLIFANTSFNTN-BN,S.AF	9002	7 24	18 00 48.10	15 41 54	-38 09				434023
10175	SHIRAZ-BN, IRAN	9008	7 24	23 13 40.21	22 59 00	20 06				434013
10158	SAN FERNANDO-BN, SP.	9004	7 25	1 13 04.70	22 13 36	- 9 16				434013
10168	CURACAO-BN, N.W.I.	9009	7 25	5 32 05.59	22 04 12	24 23				434013
30008	PHOENIX, ARIZ.	8576	7 25	10 02 07.3			180	69 38		845304
10177	WOOMERA-BN, AUSTR.	9003	7 25	11 23 33.45	16 01 36	- 8 01				434013
10179	MAUI-BN, HAWAII	9012	7 25	12 05 42.53	21 56 06	20 28				434013
10180	MAUI-BN, HAWAII	9012	7 25	14 32 33.07	0 17 36	52 37				434013
10185	OLIFANTSFNTN-BN,S.AF	9002	7 25	17 51 01.80	16 17 24	-33 04				434023
10181	AREQUIPA-BN, PERU	9007	7 26	0 21 18.74	17 18 00	-55 56				434023
10183	SAN FERNANDO-BN, SP.	9004	7 26	1 04 01.00	22 34 42	- 4 10				434013
10184	SAN FERNANDO-BN, SP.	9004	7 26	3 28 19.00	0 12 42	18 56				434013
10176	ORGAN PASS-BN, N.M.	9001	7 26	7 30 28.10	22 01 12	- 6 08				434013
10178	JUPITER-BN, FLA.	9010	7 26	7 38 34.20	21 49 48	19 23				434013
30009	N. CANTON, OHIO	8559	7 26	7 43 30.1	23 28 00	6 38				845034
30010	SACRAMENTO, CAL.	8517	7 26	9 45 21.0			180 00	48 50		641304
10182	WOOMERA-BN, AUSTR.	9003	7 26	11 12 42.29	15 42 18	- 6 00				434013
30028	PRETORIA, S.AFR.	0405	7 26	17 40 36.3	16 22	-31 24				845042
10196	SHIRAZ-BN, IRAN	9008	7 26	20 30 06.04	22 24 24	1 20				434013
10186	NAINI TAL-BN, INDIA	9006	7 26	20 38 49.56	22 28 42	18 06				434013
10192	AREQUIPA-BN, PERU	9007	7 27	0 09 22.88	15 33 24	-63 19				434023
10188	ORGAN PASS-BN, N.M.	9001	7 27	7 20 07.10	20 05 12	- 2 18				434013
10187	JUPITER-BN, FLA.	9010	7 27	7 32 29.73	23 28 12	29 50				434013
10189	ORGAN PASS-BN, N.M.	9001	7 27	9 36 03.20	20 52 12	9 21				434013
30012	VAN NUYS, CAL.	0113	7 27	9 36 04.5	21 51 43	8 20				845043
30007	FT. WORTH, TEX.	0139	7 27	9 47 51.0	23 36 36	28 18				845013
10190	ORGAN PASS-BN, N.M.	9001	7 27	9 53 18.50	2 46 00	25 57				434013
10191	WOOMERA-BN, AUSTR.	9003	7 27	11 02 09.39	15 34 00	- 2 55				434013
10193	MAUI-BN, HAWAII	9012	7 27	14 08 52.29	23 15 12	50 35				434013
10195	SHIRAZ-BN, IRAN	9008	7 27	22 39 05.04	22 13 48	22 10				434013
10197	ORGAN PASS-BN, N.M.	9001	7 28	7 09 15.90	22 02 36	- 0 16				434013
10194	CURACAO-BN, N.W.I.	9009	7 28	7 21 03.32	21 40 36	51 57				434013
30011	SACRAMENTO, CAL.	8517	7 28	9 23 03.6			180 00	51 40		641304
10198	ORGAN PASS-BN, N.M.	9001	7 28	9 32 28.10	23 01 30	24 20				434013
10202	WOOMERA-BN, AUSTR.	9003	7 28	10 51 31.76	15 21 06	- 0 01				434013
10206	MAUI-BN, HAWAII	9012	7 28	11 32 01.61	21 29 18	25 12				434013
10203	OLIFANTSFNTN-BN,S.AF	9002	7 28	17 18 18.30	14 37 00	-32 41				434023
30029	PRETORIA, S.AFR.	8575	7 28	17 19 14.8			157 36	86 24		845302
10208	AREQUIPA-BN, PERU	9007	7 28	23 49 36.13	16 52 00	-55 24				434023
10207	VILLA DOLORES-BN,ARG	9011	7 28	23 49 45.76	15 09 42	- 1 17				434013
10209	AREQUIPA-BN, PERU	9007	7 29	2 06 21.41	14 51 06	-14 15				434013
10204	CURACAO-BN, N.W.I.	9009	7 29	4 51 02.85	22 41 42	36 45				434013
10199	ORGAN PASS-BN, N.M.	9001	7 29	6 57 18.10	21 58 18	1 27				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RAN	INDEX
30013	MILWAUKEE, WISC.	0074	7 29	7 07 02.5	22 46 30	3 50				641040
30014	MILWAUKEE, WISC.	0074	7 29	7 07 02.5	22 41 30	3 33				641024
10205	CURACAO-BN, N.W.I.	9009	7 29	7 10 04.00	21 38 48	53 03				434013
10200	ORGAN PASS-BN, N.M.	9001	7 29	9 14 22.20	20 47 00	13 24				434013
10201	ORGAN PASS-BN, N.M.	9001	7 29	9 32 38.20	2 55 18	35 12				434013
10214	WOOMERA-BN, AUSTR.	9003	7 29	10 40 54.39	15 07 00	2 57				434013
10232	MAUI-BN, HAWAII	9012	7 29	11 21 13.71	21 29 18	27 39				434013
30015	SACRAMENTO, CAL.	8517	7 29	11 38 55.9			180 00	74 13		641304
10233	MAUI-BN, HAWAII	9012	7 29	13 48 03.37	23 48 00	52 34				434013
10227	SHIRAZ-BN, IRAN	9008	7 29	22 16 47.01	22 01 42	24 53				434013
10218	AREQUIPA-BN, PERU	9007	7 29	23 39 01.59	16 38 42	-55 28				434023
10219	AREQUIPA-BN, PERU	9007	7 30	1 56 55.72	15 19 06	- 7 03				434013
10220	SAN FERNANDO-BN, SP.	9004	7 30	2 42 43.70	23 23 42	21 54				434013
10228	CURACAO-BN, N.W.I.	9009	7 30	4 38 01.82	21 58 36	36 00				434013
10229	CURACAO-BN, N.W.I.	9009	7 30	6 59 10.70	21 40 00	54 16				434013
10230	JUPITER-BN, FLA.	9010	7 30	9 22 00.67	0 31 18	44 53				434013
10215	WOOMERA-BN, AUSTR.	9003	7 30	10 29 26.31	14 10 24	2 36				434013
10217	WOOMERA-BN, AUSTR.	9003	7 30	12 46 07.87	14 54 24	20 18				434013
10225	SHIRAZ-BN, IRAN	9008	7 30	22 06 13.22	22 08 12	27 08				434013
10231	VILLA DOLORES-BN,ARG	9011	7 30	23 26 55.96	13 05 36	- 1 42				434013
10238	AREQUIPA-BN, PERU	9007	7 30	23 28 49.39	16 45 18	-54 22				434023
10221	SAN FERNANDO-BN, SP.	9004	7 31	0 06 39.60	21 36 42	- 0 35				434013
10226	SHIRAZ-BN, IRAN	9008	7 31	0 32 17.03	0 41 12	39 56				434013
10239	AREQUIPA-BN, PERU	9007	7 31	1 48 51.56	16 31 30	7 37				434013
10222	SAN FERNANDO-BN, SP.	9004	7 31	2 29 42.80	22 40 06	20 57				434013
30017	SACRAMENTO, CAL.	8517	7 31	8 49 32.2			180 00	88 18		641304
30031	VAN NUYS, CAL.	0113	7 31	8 52 40	21 35 42	14 39				845140
30019	PHOENIX, ARIZ.	8576	7 31	9 54 57.5			180	77 08		845304
30020	FT. WORTH, TEX.	0139	7 31	9 02 38.4	23 04 46	30 48				845010
30021	FT. WORTH, TEX.	0139	7 31	9 02 46.2	23 07 07	31 00				845010
10216	WOOMERA-BN, AUSTR.	9003	7 31	10 19 38.08	14 32 24	6 40				434013
10234	MAUI-BN, HAWAII	9012	7 31	10 58 11.10	21 01 18	27 26				434013
30018	SACRAMENTO, CAL.	8517	7 31	11 16 32.7			180 00	78 06		641304
10235	MAUI-BN, HAWAII	9012	7 31	13 25 25.54	23 28 00	56 29				434013
10246	TOKYO-BN, JAPAN	9005	7 31	15 21 33.60	21 45 06	11 12				434013
10212	OLIFANTSFNTN-BN,S.AF	9002	7 31	16 47 16.20	14 31 18	-72 23				434013
10247	TOKYO-BN, JAPAN	9005	7 31	17 45 58.60	23 35 24	28 12				434013
10213	OLIFANTSFNTN-BN,S.AF	9002	7 31	19 06 55.50	15 37 48	22 23				434013
10236	SHIRAZ-BN, IRAN	9008	7 31	21 54 18.23	21 47 18	27 08				434013
10250	VILLA DOLORES-BN,ARG	9011	7 31	23 19 11.39	15 23 48	12 30				434013
10223	SAN FERNANDO-BN, SP.	9004	7 31	23 54 54.00	21 20 36	- 0 35				434013
10237	SHIRAZ-BN, IRAN	9008	8 01	0 19 56.80	0 02 18	39 43				434013
10240	AREQUIPA-BN, PERU	9007	8 01	1 38 01.52	16 13 30	10 11				434013
10224	SAN FERNANDO-BN, SP.	9004	8 01	2 17 21.30	22 11 18	20 40				434013
30022	MILWAUKEE, WISC.	0074	8 01	6 32 53.0	22 18	6 24				641002
10241	CURACAO-BN, N.W.I.	9009	8 01	6 35 36.76	20 59 54	53 42				434013
30023	MILWAUKEE, WISC.	0074	8 01	6 56 09.7	23 50	17 14				641002
10242	CURACAO-BN, N.W.I.	9009	8 01	9 05 54.94	1 55 54	62 25				434013
10249	MAUI-BN, HAWAII	9012	8 01	13 14 26.02	23 33 30	52 07				434013
10243	OLIFANTSFNTN-BN,S.AF	9002	8 01	16 36 41.30	14 03 18	-19 49				434013
10258	SHIRAZ-BN, IRAN	9008	8 01	21 41 53.92	21 16 18	26 17				434013
10252	VILLA DOLORES-BN,ARG	9011	8 01	23 07 14.44	13 50 36	9 58				434013
10244	SAN FERNANDO-BN, SP.	9004	8 01	23 42 49.99	21 15 06	0 42				434013
10259	SHIRAZ-BN, IRAN	9008	8 02	0 12 27.14	1 35 36	37 05				434013
10253	AREQUIPA-BN, PERU	9007	8 02	1 27 04.27	15 44 30	12 08				434013
10245	SAN FERNANDO-BN, SP.	9004	8 02	2 07 17.50	22 28 36	22 38				434013
10248	CURACAO-BN, N.W.I.	9009	8 02	6 20 19.00	19 30 42	45 54				434013
30024	PHOENIX, ARIZ.	8576	8 02	8 32 27.0			180	79 16		845304
10251	WOOMERA-BN, AUSTR.	9003	8 02	9 58 30.43	14 00 54	14 45				434013
30025	PHOENIX, ARIZ.	8576	8 02	10 58 31.4			180	89 34		845304
10257	NAINI TAL-BN, INDIA	9006	8 02	19 19 39.80	21 23 24	25 55				434013
10264	SHIRAZ-BN, IRAN	9008	8 02	21 31 56.63	21 35 42	29 27				434013
10254	SAN FERNANDO-BN, SP.	9004	8 02	23 32 00.10	20 56 42	0 18				434013
10265	SHIRAZ-BN, IRAN	9008	8 02	23 58 24.22	0 11 36	39 03				434013
10255	SAN FERNANDO-BN, SP.	9004	8 03	1 57 06.10	22 44 24	24 11				434013
10256	SAN FERNANDO-BN, SP.	9004	8 03	4 21 53.60	0 53 36	24 04				434013
10260	JUPITER-BN, FLA.	9010	8 03	6 10 11.62	21 17 18	32 22				434013
30032	PHOENIX, ARIZ.	8576	8 03	8 21 10.4			180	80 06		845304
10261	JUPITER-BN, FLA.	9010	8 03	8 37 44.44	0 03 06	43 35				434013
10263	WOOMERA-BN, AUSTR.	9003	8 03	9 48 14.55	13 57 12	18 51				434013
10268	MAUI-BN, HAWAII	9012	8 03	10 23 20.36	20 09 06	31 22				434013
30033	PHOENIX, ARIZ.	8576	8 03	10 47 17.0			180	89 26		845304
10262	ORGAN PASS-BN, N.M.	9001	8 03	10 48 46.76	23 58 36	33 22				434013
10267	MAUI-BN, HAWAII	9012	8 03	12 51 13.76	22 57 00	52 26				434013
10269	SHIRAZ-BN, IRAN	9008	8 03	21 20 40.67	21 29 00	30 25				434013
10275	VILLA DOLORES-BN,ARG	9011	8 03	22 47 54.45	14 55 00	23 23				434013
10266	SAN FERNANDO-BN, SP.	9004	8 04	4 08 35.50	23 59 48	25 22				434013
10270	JUPITER-BN, FLA.	9010	8 04	5 58 37.54	21 02 48	32 56				434013
10271	JUPITER-BN, FLA.	9010	8 04	8 25 47.93	23 51 00	43 10				434013
10280	TOKYO-BN, JAPAN	9005	8 04	10 01 47.40	23 33 48	09 01				434013
10273	SHIRAZ-BN, IRAN	9008	8 04	20 08 52.48	21 09 00	30 35				434013
10274	SHIRAZ-BN, IRAN	9008	8 04	23 36 06.89	0 03 06	38 08				434013
10272	SAN FERNANDO-BN, SP.	9004	8 05	1 35 [illegible]	22 30 36	34 15				434013
10284	CURACAO-BN, N.W.I.	9009	8 05	3 26 47.46	19 15 12	57 32				434013
30035	PHOENIX, ARIZ.	8576	8 05	7 58 35.1			180	81 52		845304
10276	JUPITER-BN, FLA.	9010	8 05	8 13 47.74	23 27 18	43 33				434013
10288	MAUI-BN, HAWAII	9012	8 05	10 00 16.54	19 33 12	32 42				434013
10281	TOKYO-BN, JAPAN	9005	8 [illegible]	14 25 46.57	21 27 00	17 10				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10282	TOKYO-BN, JAPAN	9005	8 05	16 47 46.00	22 24 06	28 44				434013
10283	SHIRAZ-BN, IRAN	9008	8 05	23 24 40.63	23 40 54	38 04				434013
10277	SAN FERNANDO-BN, SP.	9004	8 06	3 45 46.90	23 38 54	24 52				434013
10285	CURACAO-BN, N.W.I.	9009	8 07	0 40 47.37	18 07 06	-13 42				434013
10278	SAN FERNANDO-BN, SP.	9004	8 07	1 09 26.90	21 24 36	24 15				434013
10286	CURACAO-BN, N.W.I.	9009	8 07	3 02 34.93	18 16 36	37 35				434013
10279	SAN FERNANDO-BN, SP.	9004	8 07	3 36 15.70	0 09 30	22 51				434013
10287	MAUI-BN, HAWAII	9012	8 07	7 15 01.04	18 22 12	- 9 14				434013
10289	SAN FERNANDO-BN, SP.	9004	8 07	22 34 47.60	19 46 30	0 27				434013
10292	CURACAO-BN, N.W.I.	9009	8 08	0 30 02.54	17 53 24	-12 21				434013
10290	SAN FERNANDO-BN, SP.	9004	8 08	0 57 45.00	21 30 06	25 11				434013
10291	SAN FERNANDO-BN, SP.	9004	8 08	3 23 08.10	23 24 24	23 56				434013
10293	MAUI-BN, HAWAII	9012	8 08	7 05 19.63	18 40 00	- 2 51				434013
30034	SACRAMENTO, CAL.	8517	8 08	7 20 13.6			180 00	62 27		641304
10298	TOKYO-BN, JAPAN	9005	8 08	16 15 22.90	22 38 48	29 01				434013
10294	SAN FERNANDO-BN, SP.	9004	8 08	22 24 58.90	20 04 42	4 14				434013
10295	SAN FERNANDO-BN, SP.	9004	8 09	0 47 20.90	21 20 06	25 29				434013
10297	CURACAO-BN, N.W.I.	9009	8 09	2 40 56.02	17 58 48	42 39				434013
10296	SAN FERNANDO-BN, SP.	9004	8 09	3 12 15.20	23 26 30	23 02				434013
10303	MAUI-BN, HAWAII	9012	8 09	6 55 02.31	18 45 18	1 14				434013
30035	SACRAMENTO, CAL.	8517	8 09	7 09 08.3			180 00	63 05		641304
10304	MAUI-BN, HAWAII	9012	8 09	9 15 46.66	18 49 00	38 44				434013
10301	TOKYO-BN, JAPAN	9005	8 09	11 18 27.60	19 36 18	-11 20				434013
10302	TOKYO-BN, JAPAN	9005	8 09	13 38 15.90	19 56 30	15 33				434013
10305	MAUI-BN, HAWAII	9012	8 09	14 12 10.34	1 35 36	33 05				434013
10297	SHIRAZ-BN, IRAN	9008	8 09	17 50 01.00	18 53 12	2 14				434013
10299	SAN FERNANDO-BN, SP.	9004	8 09	22 17 23.60	19 44 18	3 27				434013
10300	SAN FERNANDO-BN, SP.	9004	8 10	0 47 26.30	21 44 42	25 32				434013
10306	JUPITER-BN, FLA.	9010	8 10	3 28 11.96	18 47 00	5 57				434013
10307	JUPITER-BN, FLA.	9010	8 10	4 [illegible] 14.96	19 44 36	37 14				434013
30036	SACRAMENTO, CAL.	8517	8 10	6 58 03.6			180 00	63 42		641304
10308	JUPITER-BN, FLA.	9010	8 10	7 18 07.61	20 17 00	40 40				434013
10309	JUPITER-BN, FLA.	9010	8 10	9 44 39.35	1 22 00	12 50				434013
10310	SAN FERNANDO-BN, SP.	9004	8 10	22 02 04.50	19 28 24	3 08				434013
10311	SAN FERNANDO-BN, SP.	9004	8 11	0 24 59.60	21 08 42	26 09				434013
10312	SAN FERNANDO-BN, SP.	9004	8 11	2 48 45.30	23 55 24	22 29				434013
30037	TERRE HAUTE, IND.	8127	8 11	4 37 51.7	20 05 46	12 39				845044
10315	MAUI-BN, HAWAII	9012	8 11	6 33 17.73	18 19 48	3 45				434013
30038	SACRAMENTO, CAL.	8517	8 11	6 47 00.5			180 00	64 16		641304
10316	MAUI-BN, HAWAII	9012	8 11	8 53 50.18	18 29 24	42 16				434013
10317	MAUI-BN, HAWAII	9012	8 11	11 21 51.72	22 39 30	52 33				434013
10318	SAN FERNANDO-BN, SP.	9004	8 11	21 51 54.80	19 40 42	5 55				434013
10319	CURACAO-BN, N.W.I.	9009	8 11	23 47 16.29	16 54 18	- 5 27				434013
10319	SAN FERNANDO-BN, SP.	9004	8 12	0 14 12.60	21 12 24	25 36				434013
10320	SAN FERNANDO-BN, SP.	9004	8 12	2 38 50.20	23 16 36	20 16				434013
30039	FT. WORTH, TEX.	0139	8 12	4 22 39.0	19 14 24	16 54				845013
10314	CURACAO-BN, N.W.I.	9009	8 12	4 29 26.68	16 07 06	56 55				434013
30041	N. CANTON, OHIO	8936	8 12	4 29 28.0	20 26 32	14 24				641304
10327	MAUI-BN, HAWAII	9012	8 12	6 21 55.69	17 45 48	1 53				434013
30045	SACRAMENTO, CAL.	8517	8 12	6 35 58.7			180 00	64 47		641304
10321	SAN FERNANDO-BN, SP.	9004	8 12	21 41 11.80	19 39 30	[illegible]				434013
10322	SAN FERNANDO-BN, SP.	9004	8 13	0 04 07.30	21 08 36	25 41				434013
10324	JUPITER-BN, FLA.	9010	8 13	1 56 45.65	18 46 48	10 [illegible]				434013
10323	SAN FERNANDO-BN, SP.	9004	8 13	2 26 50.10	22 57 36	20 08				434013
30040	LAWTON, OKLA.	0110	8 13	4 14 12			127	67		845303
30042	MADISON, WIS.	0148	8 13	4 14 44.2	19 47 00	5 45				845042
10325	JUPITER-BN, FLA.	9010	8 13	4 19 16.61	20 35 18	43 07				434013
30043	MADISON, WIS.	0148	8 13	6 32 04.6	19 38 30	13 36				845042
10326	JUPITER-BN, FLA.	9010	8 13	6 46 03.23	23 40 54	36 16				434013
10334	MAUI-BN, HAWAII	9012	8 13	10 57 07.71	21 18 30	53 45				434013
10328	WOOMERA-BN, AUSTR.	9003	8 13	20 24 38.50	5 44 18	28 13				434013
10330	SAN FERNANDO-BN, SP.	9004	8 13	21 29 22.40	19 06 36	5 58				434013
10331	SAN FERNANDO-BN, SP.	9004	8 13	23 50 45.70	20 30 00	26 14				434013
10332	SAN FERNANDO-BN, SP.	9004	8 14	2 14 44.10	22 35 12	20 07				434013
10333	SAN FERNANDO-BN, SP.	9004	8 14	4 37 39.60	23 39 48	- 0 58				434013
30046	SACRAMENTO, CAL.	8517	8 14	6 13 59.2			180 00	65 32		641304
10335	MAUI-BN, HAWAII	9012	8 14	8 21 30.31	18 14 48	48 48				434013
10336	MAUI-BN, HAWAII	9012	8 14	13 13 19.67	0 02 06	31 03				434013
10329	WOOMERA-BN, AUSTR.	9003	8 14	20 13 37.30	5 39 54	26 47				434013
10339	SAN FERNANDO-BN, SP.	9004	8 14	21 18 38.30	19 03 06	5 52				434013
10340	SAN FERNANDO-BN, SP.	9004	8 14	23 43 13.60	21 58 54	26 16				434013
10341	SAN FERNANDO-BN, SP.	9004	8 15	2 03 45.90	22 33 06	18 53				434013
30044	LAWTON, OKLA.	0110	8 15	3 50 52			144	70		845303
30068	MADISON, WIS.	0148	8 15	3 54 04.7	19 58 12	7 51				845042
30069	MADISON, WIS.	0148	8 15	3 54 42.8	20 15 00	8 48				845042
10337	JUPITER-BN, FLA.	9010	8 15	3 55 50.55	19 34 48	43 56				434013
30070	MADISON, WIS.	0148	8 15	6 10 35.4	19 38 30	13 45				845042
10338	JUPITER-BN, FLA.	9010	8 15	8 48 37.14	0 42 48	5 02				434013
10346	MAUI-BN, HAWAII	9012	8 15	13 02 33.75	0 05 12	28 32				434013
10345	TOKYO-BN, JAPAN	9005	8 15	17 17 48.80	22 41 18	11 48				434013
10342	SAN FERNANDO-BN, SP.	9004	8 15	21 08 48.50	19 28 24	9 25				434013
10343	SAN FERNANDO-BN, SP.	9004	8 15	23 29 11.60	20 35 30	26 38				434013
10348	JUPITER-BN, FLA.	9010	8 16	1 23 21.60	17 42 36	13 49				434013
10344	SAN FERNANDO-BN, SP.	9004	8 16	1 53 22.80	22 44 18	16 39				434013

LBLN	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10343	TERRE HAUTE, IN.	8127	8 16	3 42 51.6	19 21 23	13 52				845043
10344	TERRE HAUTE, IN.	8127	8 16	3 42 53.4	19 21 25	14 12				845044
10345	JUPITER-BN, FLA.	9010	8 16	3 44 15.14	19 03 42	44 08				434013
30047	SACRAMENTO, CAL.	8517	8 16	3 52 25.7			180 00	66 02		641304
10347	CURACAO-BN, N.A.I.	9009	8 16	6 18 54.01	0 30 00	44 39				434013
30048	SACRAMENTO, CAL.	8517	8 16	6 15 25.9			180 00	72 56		641304
10349	JUPITER-BN, FLA.	9010	8 16	6 36 18.78	0 15 36	5 56				434013
10355	TOKYO-BN, JAPAN	9005	8 16	12 02 24.60	15 09 54	21 39				434013
10357	MIGAHIMATSUYAMA,JAP	0210	8 16	14 44 06.6	12 42	60 36				845003
10356	TOKYO-BN, JAPAN	9005	8 16	17 08 33.20	23 09 36	7 18				434013
10351	SAN FERNANDO-BN, SP.	9004	8 16	20 56 27.62	18 30 24	5 04				434013
10352	SAN FERNANDO-BN, SP.	9004	8 16	23 16 08.10	20 29 48	26 13				434013
10358	JUPITER-BN, FLA.	9010	8 17	1 12 19.55	17 16 30	13 52				434013
10353	CURACAO-BN, N.A.I.	9009	8 17	1 14 19.42	15 52 06	59 18				434013
30051	TERRE HAUTE, IND.	8127	8 17	3 31 51.8	19 24 18	13 55				845004
30071	MADISON, WIS.	0248	8 17	3 32 15.7	19 47 36	7 45				845042
30056	SACRAMENTO, CAL.	8517	8 17	5 41 10.9			180 00	66 14		641304
30052	CHINA LAKE, CAL.	0098	8 17	5 42 42.8			180 00 00	78 54 00		641303
30072	MADISON, WIS.	0248	8 17	5 46 04.4	19 38 12	13 12				845042
10354	JUPITER-BN, FLA.	9010	8 17	6 09 07.20	23 49 54	27 56				434013
10354	CURACAO-BN, N.A.I.	9009	8 17	6 05 54.38	0 05 06	45 08				434013
10361	MAUI-BN, HAWAII	9012	8 17	7 48 06.12	17 43 48	54 27				434013
30057	SACRAMENTO, CAL.	8517	8 17	7 54 12.4			18 00	76 10		641304
10360	JUPITER-BN, FLA.	9010	8 17	8 34 14.08	23 59 30	5 32				434013
10359	TOKYO-BN, JAPAN	9005	8 17	12 22 19.60	18 52 42	20 26				434013
10365	MITAKA, JAPAN	0224	8 17	12 [illegible]			180 00	76 18		845304
10362	MAUI-BN, HAWAII	9012	8 17	14 45 45.38	0 14 46	23 37				434013
10364	TOKYO-BN, JAPAN	9005	8 17	14 32 53.40	21 12 48	35 12				434013
10370	MITAKA, JAPAN	0224	8 17	14 33 02.4			180 00	80 36		845304
10369	MAUI-BN, HAWAII	9012	8 17	16 54 46.35	0 49 18	-14 21				434013
10368	TOKYO-BN, JAPAN	9005	8 17	16 54 51.40	22 45 36	5 44				434013
10372	JUPITER-BN, FLA.	9010	8 18	0 20 20.09	17 49 42	19 44				434013
10371	CURACAO-BN, N.A.I.	9009	8 18	1 04 00.14	15 53 00	62 17				434013
10378	ELIFANTENFONTEIN,S.AF	9002	8 18	2 03 29.90	3 54 12	28 25				434013
30083	FT. WORTH, TEX.	0199	8 18	3 17 22.6	18 30 00	32 54				845013
30086	TERRE HAUTE, IND.	8127	8 18	3 20 55.1	19 17 17	14 00				845004
10373	JUPITER-BN, FLA.	9010	8 18	3 23 41.52	19 49 12	47 28				434013
30066	SACRAMENTO, CAL.	8517	8 18	5 30 16.1			180 00	66 21		641304
30073	MADISON, WIS.	0248	8 18	5 34 15.65	18 05 00	9 09				845042
30067	SACRAMENTO, CAL.	8517	8 18	7 52 59.2			180 00	71 11		641304
10374	JUPITER-BN, FLA.	9010	8 18	8 11 27.60	23 24 42	7 21				434013
10366	VILLA DOLORES-BN,ARG	9011	8 18	8 37 59.46	4 34 24	24 02				434013
10377	MAUI-BN, HAWAII	9012	8 18	10 03 01.26	21 53 30	52 37				434013
10376	MAUI-BN, HAWAII	9012	8 18	12 28 58.97	23 47 36	23 06				434013
10375	MAUI-BN, HAWAII	9012	8 18	14 57 35.37	1 25 54	-23 36				434023
10367	SAN FERNANDO-BN, SP.	9004	8 18	20 35 18.40	18 32 18	7 27				434013
10366	SAN FERNANDO-BN, SP.	9004	8 18	22 56 07.60	20 21 54	26 05				434013
10402	JUPITER-BN, FLA.	9010	8 19	0 52 20.10	18 13 36	25 25				434013
10369	SAN FERNANDO-BN, SP.	9004	8 19	1 17 19.40	21 36 00	15 56				434013
30076	FT. WORTH, TEX.	0199	8 19	3 06 37.8	18 26 36	24 05				845013
10403	JUPITER-BN, FLA.	9010	8 19	3 07 58.48	18 16 54	46 33				434013
10370	SAN FERNANDO-BN, SP.	9004	8 19	3 42 06.10	23 16 24	- 8 49				434013
30075	SACRAMENTO, CAL.	8517	8 19	5 16 27.7			180 00	66 23		641304
30081	SAN DIEGO, CAL.	0119	8 19	5 20 37.0	19 17 45	18 27				845043
30081	CHINA LAKE, CAL.	0098	8 19	5 20 44.4			180 00 0	79 28 12		641303
10404	JUPITER-BN, FLA.	9010	8 19	5 33 53.64	21 1 24	48 29				434013
10405	MAUI-BN, HAWAII	9012	8 19	7 28 13.78	18 26 48	40 70				434013
10406	JUPITER-BN, FLA.	9010	8 19	8 53 11.16	0 08 54	- 1 19				434013
10396	AREQUIPA-BN, PERU	9007	8 19	8 18 53.45	3 15 24	23 32				434013
10407	MAUI-BN, HAWAII	9012	8 19	9 52 07.56	21 57 18	52 11				434013
10389	NAINI TAL-BN, INDIA	9006	8 19	16 11 01.26	19 34 12	42 42				434013
10392	SHIRAZ-BN, IRAN	9008	8 19	18 22 28.91	19 33 36	42 41				434013
10387	WOOMERA-BN, AUSTR.	9003	8 19	19 12 57.94	1 02 18	38 42				434013
10382	SAN FERNANDO-BN, SP.	9004	8 19	20 24 27.98	18 17 06	7 09				434013
10383	SAN FERNANDO-BN, SP.	9004	8 19	22 44 27.00	19 51 54	25 49				434013
10393	SHIRAZ-BN, IRAN	9008	8 19	23 10 19.52	18 20 42	- 1 18				434013
10384	SAN FERNANDO-BN, SP.	9004	8 20	1 06 10.50	21 30 24	14 32				434013
10397	JUPITER-BN, FLA.	9010	8 20	3 02 00.72	19 49 18	49 14				434013
10385	SAN FERNANDO-BN, SP.	9004	8 20	3 29 22.20	22 48 30	- 7 42				434013
30080	SACRAMENTO, CAL.	8517	8 20	5 08 30.7			180 00	66 21		641304
30062	CHINA LAKE, CAL.	0098	8 20	5 09 54.8			180 00 00	79 36 00		641303
10398	JUPITER-BN, FLA.	9010	8 20	5 23 42.68	21 25 06	36 25				434013
10410	MAUI-BN, HAWAII	9012	8 20	7 17 28.99	18 20 00	62 09				434013
30081	SACRAMENTO, CAL.	8517	8 20	7 30 37.5			180 00	69 14		641304
10399	JUPITER-BN, FLA.	9010	8 20	7 49 43.08	23 23 00	1 38				434013
10390	AREQUIPA-BN, PERU	9007	8 20	8 07 03.57	2 55 12	24 42				434013
10408	MAUI-BN, HAWAII	9012	8 20	9 41 52.34	22 21 42	49 44				434013
30082	SACRAMENTO, CAL.	8517	8 20	9 52 25.1			180 00	43 47		641304
10409	MAUI-BN, HAWAII	9012	8 20	10 07 54.25	0 00 42	15 38				434013
10394	SHIRAZ-BN, IRAN	9008	8 20	18 11 41.24	19 35 00	43 20				434013
10386	SAN FERNANDO-BN, SP.	9004	8 20	20 13 42.30	18 15 00	7 55				434013
10395	SHIRAZ-BN, IRAN	9008	8 20	20 42 32.91	0 55 48	30 56				434013
10387	SAN FERNANDO-BN, SP.	9004	8 21	3 18 33.30	22 47 24	-40 02				434013
30083	SACRAMENTO, CAL.	8517	8 21	4 57 35.6			180 00	66 18		641304
30063	CHINA LAKE, CAL.	0098	8 21	4 59 01.2			180 00 00	79 55 48		641303
30064	CINCINNATI, OHIO	8565	8 21	5 10 35	21 06 48	14 32				845003
10411	MAUI-BN, HAWAII	9012	8 21	7 06 17.53	17 41 00	63 27				434013
10400	JUPITER-BN, FLA.	9010	8 21	7 38 34.72	23 18 30	- 0 13				434013
10391	AREQUIPA-BN, PERU	9007	8 21	7 55 10.74	2 36 24	22 54				434013
10412	MAUI-BN, HAWAII	9012	8 21	9 28 58.48	21 13 00	53 42				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10401	JUPITER-BN, FLA.	9010	8 21	9 58 53.11	23 19 12	-18 47				434013
10416	SHIRAZ-BN, IRAN	9008	8 21	16 29 04.89	27 57 48	35 06				434013
10381	WOOMERA-BN, AUSTR.	9003	8 21	18 55 28.09	4 00 42	15 22				434013
30065	WICHITA, KAN.	0028	8 22	2 34 19.6	18 07 39	10 20				845043
30108	MADISON, WISC.	0148	8 22	2 37 15.4	18 57 30	4 06				845042
30066	CINCINNATI, OHIO	0050	8 22	2 38 30	19 08 42	15 36				845004
10388	SAN FERNANDO-BN, SP.	9004	8 22	3 11 02.20	23 30 30	-18 23				434013
30113	WALNUT CREEK, CAL.	8556	8 22	4 46 46.0	18 41 00	16 30				845004
30084	SACRAMENTO, CAL.	8517	8 22	4 46 49.3			180 00	65 58		641304
10414	AREQUIPA-BN, PERU	9007	8 22	7 44 43.58	2 39 12	18 58				434013
10417	VILLA DOLORES-BN,ARG	9011	8 22	7 52 53.68	3 47 48	18 04				434013
10415	AREQUIPA-BN, PERU	9007	8 22	10 07 47.33	2 51 54	-16 33				434013
10419	WOOMERA-BN, AUSTR.	9003	8 22	18 44 27.62	3 54 24	13 05				434013
10424	SHIRAZ-BN, IRAN	9008	8 22	20 07 31.00	19 20 06	31 05				834013
30067	WICHITA, KAN.	0028	8 23	2 23 33.7	17 59 44	10 42				845043
10420	CURACAO-BN, N.W.I.	9009	8 23	2 34 05.16	21 21 12	69 02				434013
10418	OLIFANTSFNTN-BN,S.AF	9002	8 23	3 31 01.90	4 05 24	-11 11				434013
30074	CHINA LAKE, CAL.	0098	8 23	4 37 18.0			180 00 00	79 55 12		641303
30109	MADISON, WISC.	0148	8 23	4 44 58.8	19 48 36	7 42				845042
10428	MAUI-BN, HAWAII	9012	8 23	6 46 47.72	20 30 36	64 24				434013
10421	AREQUIPA-BN, PERU	9007	8 23	7 32 44.47	2 20 24	18 43				434013
10423	VILLA DOLORES-BN,ARG	9011	8 23	7 41 04.15	3 59 00	13 33				434013
10427	MAUI-BN, HAWAII	9012	8 23	9 07 35.15	21 33 06	51 37				434013
10422	AREQUIPA-BN, PERU	9007	8 23	9 57 28.61	3 02 00	-21 25				434013
10429	SHIRAZ-BN, IRAN	9008	8 23	17 39 16.30	19 35 36	44 41				434013
10425	WOOMERA-BN, AUSTR.	9003	8 23	18 32 47.90	3 38 42	12 07				434013
10430	SHIRAZ-BN, IRAN	9008	8 23	19 55 55.15	18 45 42	30 11				434013
10426	SAN FERNANDO-BN, SP.	9004	8 23	22 01 24.20	19 58 42	23 04				434013
30085	CINCINNATI, OHIO	0050	8 24	2 16 42	18 52 30	14 36				845004
30118	VAN NUYS, CAL.	0113	8 24	4 26 13.2	18 43 52	30 03				845043
30117	WHITTIER, CAL.	8566	8 24	4 26 20.1			180 00	87 12		845303
30076	CHINA LAKE, CAL.	0098	8 24	4 26 27.2			180 00 00	79 47 24		641303
10431	AREQUIPA-BN, PERU	9007	8 24	7 20 34.24	2 00 36	18 39				434013
10434	MAUI-BN, HAWAII	9012	8 24	8 56 28.36	21 25 18	51 34				434013
10444	SHIRAZ-BN, IRAN	9008	8 24	17 27 57.01	19 01 06	45 38				434013
10432	WOOMERA-BN, AUSTR.	9003	8 24	18 21 11.81	3 24 42	10 53				434013
10445	SHIRAZ-BN, IRAN	9008	8 24	19 45 39.48	19 01 24	29 04				434013
10433	SAN FERNANDO-BN, SP.	9004	8 24	21 49 59.50	19 31 24	22 35				434013
10413	OLIFANTSFNTN-BN,S.AF	9002	8 25	0 46 28.48	3 10 54	12 42				434013
30086	N. CANTON, OHIO	8584	8 25	2 06 32.4	18 42	9 42				845033
10439	OLIFANTSFNTN-BN,S.AF	9002	8 25	3 06 35.81	3 02 00	-10 00				434013
30114	WALNUT CREEK, CAL.	8586	8 25	4 14 22.4	18 22 12	15 39				845003
30115	WALNUT CREEK, CAL.	8586	8 25	4 14 32.4	18 31 48	15 51				845003
30119	VAN NUYS, CAL.	0113	8 25	4 15 23.1	18 35 57	30 23				845043
30120	VAN NUYS, CAL.	0113	8 25	4 15 28.1	18 37 57	30 12				845043
30087	CHINA LAKE, CAL.	0098	8 25	4 15 38.4			180 00 00	79 28 12		641303
30088	TUCSON, ARIZ.	0003	8 25	4 17 40.6			0 00	85 00		845303
10435	AREQUIPA-BN, PERU	9007	8 25	7 09 24.22	1 53 24	16 35				434013
10437	VILLA DOLORES-BN,ARG	9011	8 25	7 18 54.50	3 18 48	13 16				434013
10436	AREQUIPA-BN, PERU	9007	8 25	9 39 29.94	4 36 00	-36 10				434023
10438	VILLA DOLORES-BN,ARG	9011	8 25	9 43 51.42	5 20 24	-16 00				434013
10449	SHIRAZ-BN, IRAN	9008	8 25	17 17 27.54	19 18 24	45 40				434013
10442	WOOMERA-BN, AUSTR.	9003	8 25	18 09 25.41	3 09 06	10 04				434013
10450	SHIRAZ-BN, IRAN	9008	8 25	19 34 09.71	18 34 30	28 06				434013
10443	SAN FERNANDO-BN, SP.	9004	8 25	21 39 00.40	19 20 18	21 36				434013
10440	OLIFANTSFNTN-BN,S.AF	9002	8 26	0 32 32.40	2 27 36	16 33				434013
30093	CINCINNATI, OHIO	0050	8 26	1 55 04	18 37 00	13 15				845004
30094	CINCINNATI, OHIO	0050	8 26	2 04 32	23 02 30	5 01				845004
10441	OLIFANTSFNTN-BN,S.AF	9002	8 26	2 56 15.90	3 12 42	-14 20				434013
30089	CHINA LAKE, CAL.	0098	8 26	4 04 50.5			180 00 00	79 22 12		641303
30090	ALBUQUERQUE, N.M.	8579	8 26	4 08 13.7			180 00	81 00		845303
10446	JUPITER-BN, FLA.	9010	8 26	4 13 59.12	18 43 42	34 40				434013
30095	CINCINNATI, OHIO	0050	8 26	4 14 03.5	19 57 00	7 49				845004
10447	AREQUIPA-BN, PERU	9007	8 26	6 56 15.41	1 17 24	18 48				434013
10448	AREQUIPA-BN, PERU	9007	8 26	9 28 29.58	2 32 24	-26 08				434023
10451	VILLA DOLORES-BN,ARG	9011	8 26	9 31 26.16	4 39 48	-15 43				434013
10461	TOKYO-BN, JAPAN	9005	8 26	10 33 25.00	18 13 18	23 29				434013
30135	MITAKA, JAPAN	0229	8 26	12 53 04.5			195 48	70 06		845302
10463	SHIRAZ-BN, IRAN	9008	8 26	17 07 06.06	19 46 12	44 41				434013
10454	WOOMERA-BN, AUSTR.	9003	8 26	17 57 35.73	2 52 48	9 17				434013
10464	SHIRAZ-BN, IRAN	9008	8 26	19 23 31.98	18 37 48	26 36				434013
10455	WOOMERA-BN, AUSTR.	9003	8 26	20 19 47.61	3 31 24	-16 27				434013
10459	SAN FERNANDO-BN, SP.	9004	8 26	21 27 52.00	18 56 12	20 46				434013
10452	OLIFANTSFNTN-BN,S.AF	9002	8 27	0 22 37.90	2 27 36	16 32				434013
30091	TERRE HAUTE, IND.	8127	8 27	1 43 25.8	18 15 00	9 38				845044
30116	WALNUT CREEK, CAL.	8586	8 27	3 52 49.9	18 06 12	14 19				845003
30136	VAN NUYS, CAL.	0113	8 27	3 53 50.2	18 22 57	30 13				845043
30098	CHINA LAKE, CAL.	0098	8 27	3 54 04.00			180 00 00	78 52 12		641303
30110	MADISON, WISC.	0148	8 27	3 58 48.7	18 02 00	2 03				845042
30111	MADISON, WISC.	0148	8 27	4 00 01.0	18 44 00	1 33				845042
10466	JUPITER-BN, FLA.	9010	8 27	4 02 31.23	18 54 36	29 50				434013
30096	CINCINNATI, OHIO	0050	8 27	4 03 03.6	19 48 24	5 46				845004
30092	MILWAUKEE, WIS.	0074	8 27	4 03 30.3	20 19	- 1 20				641004
10469	VILLA DOLORES-BN,ARG	9011	8 27	6 51 55.19	2 03 54	18 22				434013
10470	VILLA DOLORES-BN,ARG	9011	8 27	6 59 45.73	3 51 24	3 26				434013
10465	SHIRAZ-BN, IRAN	9008	8 27	16 55 29.76	18 43 54	46 59				434013
10456	WOOMERA-BN, AUSTR.	9003	8 27	17 46 00.28	2 42 24	7 55				434013
10457	WOOMERA-BN, AUSTR.	9003	8 27	20 13 13.52	5 26 48	-25 36				434023
10460	SAN FERNANDO-BN, SP.	9004	8 27	21 17 06.30	18 56 12	19 19				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10453	OLIFANTSFNTN-BN,S.AF	9002	8 26	0 11 04.70	2 28 12	10 30				434013
30100	TERRE HAUTE, IND.	8127	8 26	1 32 42.2	18 06 11	8 37				845044
30097	CINCINNATI, OHIO	8555	8 26	1 33 31	16 21 18	10 33				845003
10467	JUPITER-BN, FLA.	9010	8 28	1 34 30.81	18 14 42	57 10				434013
30137	VAN NUYS, CAL.	0113	8 28	3 43 05.1	18 15 56	30 04				845043
30112	MADISON, WISC.	0148	8 28	3 50 20.35	19 18 00	- 1 12				845042
10468	JUPITER-BN, FLA.	9010	8 28	3 51 34.67	18 02 12	32 34				434013
30121	MADISON, WISC.	0148	8 28	3 52 25.0	20 25 48	- 3 30				845042
30101	CINCINNATI, OHIO	0050	8 28	3 52 27	19 52 18	3 08				845004
10471	VILLA DOLORES-BN,ARG	9011	8 28	6 40 47.19	1 59 00	16 22				434013
10472	VILLA DOLORES-BN,ARG	9011	8 28	6 51 16.05	4 23 42	- 2 46				434013
10462	AREQUIPA-BN, PERU	9007	8 28	9 00 39.15	2 12 36	-28 53				434023
10473	VILLA DOLORES-BN,ARG	9011	8 28	9 08 35.31	4 14 36	-18 20				434013
10481	SHIRAZ-BN, IRAN	9008	8 28	16 45 25.97	19 35 00	44 57				434013
10482	SHIRAZ-BN, IRAN	9008	8 28	19 01 26.80	18 09 54	23 49				434013
10458	WOOMERA-BN, AUSTR.	9003	8 28	19 57 52.66	3 32 06	-21 01				434013
10474	OLIFANTSFNTN-BN,S.AF	9002	8 29	0 00 07.98	2 25 42	8 07				434013
30102	TERRE HAUTE, IND.	8127	8 29	1 21 58.5	18 01 42	7 30				845044
30125	CINCINNATI, OHIO	8555	8 29	1 22 38.0	18 06 48	9 14				845003
10475	OLIFANTSFNTN-BN,S.AF	9002	8 29	2 20 30.73	2 53 00	-20 28				434013
30138	VAN NUYS, CAL.	0113	8 29	3 32 20.6	18 06 33	29 48				845041
30099	CHINA LAKE, CAL.	0098	8 29	3 32 35.4			180 00 00	77 43 12		845004
30103	TERRE HAUTE, IND.	8127	8 29	3 40 04.8			237	50		845044
10476	VILLA DOLORES-BN,ARG	9011	8 29	6 31 27.91	2 28 54	10 44				434013
10477	VILLA DOLORES-BN,ARG	9011	8 29	8 57 23.28	4 09 00	-09 10				434013
10484	SHIRAZ-BN, IRAN	9008	8 29	16 33 47.19	18 15 00	47 51				434013
10478	WOOMERA-BN, AUSTR.	9003	8 29	17 23 44.26	2 34 30	3 32				434013
10485	SHIRAZ-BN, IRAN	9008	8 29	18 51 24.59	18 21 42	51 07				434013
10479	WOOMERA-BN, AUSTR.	9003	8 29	19 44 15.98	2 34 36	-17 50				434013
10480	SAN FERNANDO-BN, SP.	9004	8 29	20 55 20.20	18 33 06	16 21				434013
10483	JUPITER-BN, FLA.	9010	8 30	1 14 32.00	20 25 00	51 19				434013
10486	OLIFANTSFNTN-BN,S.AF	9002	8 30	2 11 37.12	2 56 05	-02 41				434013
30139	VAN NUYS, CAL.	0113	8 30	3 21 39.0	18 01 52	29 28				845041
30140	VAN NUYS, CAL.	0113	8 30	3 21 41.3	18 04 00	29 25				845041
30104	ALBUQUERQUE, N.M.	8579	8 30	3 24 57.4			180 00	76 06		845004
30122	MADISON, WISC.	0148	8 30	3 28 34.5	19 00 48	- 5 30				845041
30123	MADISON, WISC.	0148	8 30	3 29 04.0	19 19 00	- 6 03				845041
30105	MILWAUKEE, WIS.	0074	8 30	3 30 40.2	20 05	- 8 00				845004
30106	MILWAUKEE, WIS.	0074	8 30	3 30 45.5	20 08	- 8 00				845004
10490	SHIRAZ-BN, IRAN	9008	8 30	16 23 13.21	18 24 36	47 35				434013
10487	WOOMERA-BN, AUSTR.	9003	8 30	17 10 55.37	2 04 48	4 55				434013
10491	SHIRAZ-BN, IRAN	9008	8 30	18 40 21.88	18 18 18	19 09				434013
10488	WOOMERA-BN, AUSTR.	9003	8 30	19 36 43.19	3 53 00	-26 03				434013
10489	SAN FERNANDO-BN, SP.	9004	8 30	20 44 59.80	18 50 54	13 44				434013
10492	JUPITER-BN, FLA.	9010	8 31	1 02 27.68	18 13 06	59 26				434013
10496	OLIFANTSFNTN-BN,S.AF	9002	8 31	1 58 10.00	2 06 24	-20 02				434013
30141	VAN NUYS, CAL.	0113	8 31	3 10 56.1	17 55 51	28 53				845041
30107	CHINA LAKE, CAL.	0098	8 31	3 11 09.1			181 [illegible]	[illegible]		845004
30124	MADISON, WISC.	0148	8 31	3 19 48.0	20 06 30	-10 24				845041
30126	SACRAMENTO, CAL.	8517	8 31	5 29 36.6			187 [illegible]	[illegible]		845004
10493	AREQUIPA-BN, PERU	9007	8 31	6 24 33.79	1 31 42	-31 22				434013
10502	SHIRAZ-BN, IRAN	9008	8 31	16 12 31.51	18 21 18	47 30				434013
10494	WOOMERA-BN, AUSTR.	9003	8 31	16 59 35.37	1 58 48	3 10				434013
10503	SHIRAZ-BN, IRAN	9008	8 31	18 29 27.38	18 00 36	17 15				434013
10495	SAN FERNANDO-BN, SP.	9004	8 31	20 33 45.00	18 12 36	12 01				434013

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1959.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00983	CHINA LAKE-C, CAL.	5073	9 29	3 45 31.01			262 41 30	49 21 33		229304
00984	CHINA LAKE-C, CAL.	5073	9 29	3 45 32.01			262 40 20	49 26 56		229304
00985	CHINA LAKE-C, CAL.	5073	9 29	3 45 33.01			262 32 37	49 27 36		229304
00986	CHINA LAKE-C, CAL.	5073	9 29	3 45 34.01			262 46 10	49 47 15		229304
00987	CHINA LAKE-C, CAL.	5073	9 29	3 45 35.01			262 39 30	49 43 06		229304
00988	CHINA LAKE-C, CAL.	5073	9 29	3 45 36.01			262 47 41	50 00 25		229304
00989	CHINA LAKE-C, CAL.	5073	9 29	3 45 37.01			262 49 25	50 00 12		229304
00990	CHINA LAKE-C, CAL.	5073	9 29	3 45 38.01			262 23 36	50 05 08		229304
00991	CHINA LAKE-C, CAL.	5073	9 29	3 45 39.01			262 07 25	50 27 49		229304
00992	CHINA LAKE-C, CAL.	5073	9 29	3 45 40.01			262 17 47	50 35 21		229304
00993	CHINA LAKE-C, CAL.	5073	9 29	3 45 41.01			262 17 05	50 41 27		229304
00994	CHINA LAKE-C, CAL.	5073	9 29	3 45 42.01			262 08 25	50 50 43		229304
00995	CHINA LAKE-C, CAL.	5073	9 29	3 45 43.01			261 53 36	50 47 12		229304
00996	CHINA LAKE-C, CAL.	5073	9 29	3 46 13.01			259 19 27	54 57 41		229304
00997	CHINA LAKE-C, CAL.	5073	9 29	3 46 14.01			259 18 41	54 59 43		229304
00998	CHINA LAKE-C, CAL.	5073	9 29	3 46 15.01			259 05 16	55 06 17		229304
00999	CHINA LAKE-C, CAL.	5073	9 29	3 46 16.01			258 47 54	55 15 14		229304
01000	CHINA LAKE-C, CAL.	5073	9 29	3 46 17.01			258 36 40	55 18 25		229304
01001	CHINA LAKE-C, CAL.	5073	9 29	3 46 18.01			258 39 58	55 23 49		229304
01002	CHINA LAKE-C, CAL.	5073	9 29	3 46 19.01			258 33 32	55 33 02		229304
01003	CHINA LAKE-C, CAL.	5073	9 29	3 46 20.01			255 27 20	55 35 28		229304
01004	CHINA LAKE-C, CAL.	5073	9 29	3 46 21.01			258 31 49	55 47 45		229304
01005	CHINA LAKE-C, CAL.	5073	9 29	3 46 22.01			258 13 46	55 52 58		229304
01006	CHINA LAKE-C, CAL.	5073	9 29	3 46 23.01			256 07 36	55 44 09		229304
01007	CHINA LAKE-C, CAL.	5073	9 29	3 47 07.01			251 51 28	62 33 05		229304

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01008	CHINA LAKE-C, CAL.	5073	9 29	3 47 08.01			251 25 59	62 42 28		229304
01009	CHINA LAKE-C, CAL.	5073	9 29	3 47 09.01			251 24 38	62 44 45		229304
01010	CHINA LAKE-C, CAL.	5073	9 29	3 47 10.01			251 01 31	63 02 01		229304
01011	CHINA LAKE-C, CAL.	5073	9 29	3 47 11.01			251 07 25	63 05 31		229304
01012	CHINA LAKE-C, CAL.	5073	9 29	3 47 12.01			250 45 08	63 22 04		229304
01013	CHINA LAKE-C, CAL.	5073	9 29	3 47 13.01			250 20 16	63 33 50		229304
01014	CHINA LAKE-C, CAL.	5073	9 29	3 47 14.01			250 00 12	63 40 22		229304
01015	CHINA LAKE-C, CAL.	5073	9 29	3 47 15.01			249 46 13	63 50 03		229304
01016	CHINA LAKE-C, CAL.	5073	9 29	3 47 16.01			249 27 55	63 54 31		229304
01017	CHINA LAKE-C, CAL.	5073	9 29	3 47 17.01			249 10 49	64 06 51		229304
01018	CHINA LAKE-C, CAL.	5073	9 29	3 47 18.01			248 42 20	63 59 17		229304
01019	CHINA LAKE-C, CAL.	5073	9 29	3 47 19.01			248 50 27	64 07 44		229304
01020	CHINA LAKE-C, CAL.	5073	9 29	3 47 53.01			237 52 35	69 45 55		229304
01021	CHINA LAKE-C, CAL.	5073	9 29	3 47 54.01			237 38 19	69 46 53		229304
01022	CHINA LAKE-C, CAL.	5073	9 29	3 47 55.01			237 38 26	69 54 59		229304
01023	CHINA LAKE-C, CAL.	5073	9 29	3 47 56.01			237 14 27	69 55 24		229304
01024	CHINA LAKE-C, CAL.	5073	9 29	3 47 57.01			236 13 57	70 01 41		229304
01025	CHINA LAKE-C, CAL.	5073	9 29	3 47 58.01			236 30 12	70 07 57		229304
01026	CHINA LAKE-C, CAL.	5073	9 29	3 47 59.01			235 54 52	70 18 32		229304
01027	CHINA LAKE-C, CAL.	5073	9 29	3 48 00.01			235 25 20	70 31 37		229304
01028	CHINA LAKE-C, CAL.	5073	9 29	3 48 01.01			235 10 38	70 31 41		229304
01029	CHINA LAKE-C, CAL.	5073	9 29	3 48 02.01			235 32 17	70 52 54		229304
01030	CHINA LAKE-C, CAL.	5073	9 29	3 48 03.01			234 53 51	71 06 23		229304
01031	CHINA LAKE-C, CAL.	5073	9 29	3 49 57.01			145 28 42	70 14 09		229304
01032	CHINA LAKE-C, CAL.	5073	9 29	3 49 58.01			145 28 47	70 00 29		229304
01033	CHINA LAKE-C, CAL.	5073	9 29	3 49 59.01			144 08 15	69 45 24		229304
01034	CHINA LAKE-C, CAL.	5073	9 29	3 50 00.01			143 44 27	69 29 42		229304
01035	CHINA LAKE-C, CAL.	5073	9 29	3 50 01.01			144 05 44	69 21 53		229304
01036	CHINA LAKE-C, CAL.	5073	9 29	3 50 02.01			143 11 14	69 00 28		229304
01037	CHINA LAKE-C, CAL.	5073	9 29	3 50 03.01			142 47 19	68 56 42		229304
01038	CHINA LAKE-C, CAL.	5073	9 29	3 50 04.01			142 03 02	68 42 52		229304
01039	CHINA LAKE-C, CAL.	5073	9 29	3 50 05.01			141 32 48	68 32 55		229304
01040	CHINA LAKE-C, CAL.	5073	9 29	3 50 06.01			141 05 06	68 12 50		229304
01041	CHINA LAKE-C, CAL.	5073	9 29	3 50 07.01			140 38 44	68 03 25		229304

1959 ETA

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01741	PRETORIA, S.AFR.	0405	1 01	2 01 48.9			179 36	27 48		845302
01742	PRETORIA, S.AFR.	0405	1 31	18 47 52.0			179 36	72 42		845302
01743	PRETORIA, S.AFR.	0405	2 01	18 37 47.6			179 36	73 42		845302
01767	MAUI-BN, HAWAII	9012	4 15	15 07 49.05	21 01 00	-21 05				434013
01748	AREQUIPA-BN, PER	9007	4 19	2 48 25.89	9 08 54	-53 05				434023
01768	MAUI-BN, HAWAII	9012	4 24	13 37 14.33	17 50 00	4 11				434013
01747	MAUI-BN, HAWAII	9012	4 27	13 07 37.67	17 34 36	16 48				434013
01255	HIGASHIMATSUYAMA,JAP	0210	5 02	16 39 45.0	17 55 54	2 00				845003
01750	SHIRAZ-BN, IRAN	9008	5 03	20 45 14.86	18 08 24	6 07				434013
01749	SHIRAZ-BN, IRAN	9008	5 03	23 01 39.08	17 24 48	26 20				434013
01766	MAUI-BN, HAWAII	9012	5 04	11 56 25.42	16 33 18	33 32				434013
01733	PRETORIA, S.AFR.	0405	5 10	16 34 53.1			0 30	75 36		845302
01799	SHIRAZ-BN, IRAN	9008	5 10	21 49 38.34	16 47 18	35 47				434013
01800	SHIRAZ-BN, IRAN	9008	5 11	0 10 31.78	18 06 06	42 19				434013
01761	JUPITER-BN, FLA.	9010	5 11	6 27 39.33	16 04 48	38 35				434013
01764	ORGAN PASS-BN, N.M.	9001	5 11	8 37 29.00	15 15 24	26 33				434013
01762	JUPITER-BN, FLA.	9010	5 11	8 51 10.78	19 06 18	48 31				434013
01765	ORGAN PASS-BN, N.M.	9001	5 11	8 51 54.80	21 15 18	20 04				434013
01715	MITAKA, JAPAN	0229	5 16	14 10 50.0			167 30	76 30		845303
01716	MITAKA, JAPAN	0229	5 16	16 34 56.3			186 18	81 54		845303
01713	MITAKA, JAPAN	0229	5 17	14 00 01.9			166 54	77 30		845303
01714	MITAKA, JAPAN	0229	5 17	16 24 21.1			186 42	81 48		845303
01712	MITAKA, JAPAN	0229	5 22	13 05 37.6			173 54	81 00		845303
01744	BRATISLAVA-P, CZECH.	5702	5 25	21 09 56.7	12 42 19	7 04				634042
01710	MITAKA, JAPAN	0229	5 26	12 22 11.4			176 00	82 30		845303
01711	MITAKA, JAPAN	0229	5 26	14 47 26.8			193 48	77 24		845303
01751	MAUI-BN, HAWAII	9012	5 30	9 44 17.86	15 46 12	44 55				434013
01752	MAUI-BN, HAWAII	9012	5 30	12 10 46.61	17 25 24	9 49				434013
01753	MAUI-BN, HAWAII	9012	5 30	14 34 39.95	18 03 24	-31 26				434023

1959 ETA

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00190	WHITTIER-D, CAL.	8566	1 29	13 21 05.6			180 00	33 42		845301
00857	MAUI-BN, HAWAII	9012	4 26	13 16 56.35	12 16 12	9 59				434013
00944	VILLA DOLORES-BN,ARG	9011	5 05	0 03 57.72	8 36 48	-16 47				434013
01039	SAN JOSE, CAL.	8573	5 08	11 28 23.6			180	74 45 36		845304
01162	SAN FERNANDO-BN, SP.	9004	5 20	2 58 45.50	17 24 36	17 19				434013
01244	WHITTIER-D, CAL.	8566	5 20	4 31 46.5			180 00 00	57 10 48		845304
01421	WHITTIER-D, CAL.	8566	5 23	4 00 04.6			180 00	61 18 00		845304
01422	WHITTIER-D, CAL.	8566	5 23	4 00 31.8			175 34 12	62 16 48		845304
01423	WHITTIER-D, CAL.	8566	5 23	6 26 58.1			180 00 00	87 16 12		845304
01234	SHIRAZ-BN, IRAN	9008	5 24	0 18 37.78	18 28 00	- 9 32				434013
01429	WHITTIER-D, CAL.	8566	5 24	3 49 32.1			180	62 36		845304
01430	WHITTIER-D, CAL.	8566	5 24	3 49 36.0			178 36	62 39 00		845304
01431	WHITTIER-D, CAL.	8566	5 24	3 50 13.0			172 34 48	64 03 00		845304
01432	WHITTIER-D, CAL.	8566	5 24	6 16 06.5			180	87 30 00		845304
01433	WHITTIER-D, CAL.	8566	5 24	8 42 00.3			180	80 06 00		845304
01268	SHIRAZ-BN, IRAN	9008	5 24	16 53 46.96	12 22 42	23 21				434013
01281	JUPITER-BN, FLA.	9010	5 26	1 20 12.23	11 48 18	26 54				434013
01327	AREQUIPA-BN, PERU	9007	5 27	8 39 43.09	22 01 24	28 58				434013
01328	SHIRAZ-BN, IRAN	9008	5 27	21 12 37.54	16 37 54	24 06				434013
01356	MAUI-BN, HAWAII	9012	5 29	7 30 12.94	13 58 12	54 35				434013
01343	NAINI TAL-BN, INDIA	9006	5 29	21 02 08.36	17 14 16	- 5 28				434013
01368	NAINI TAL-BN, INDIA	9006	5 30	16 01 36.26	13 56 48	41 19				434013
01385	SHIRAZ-BN, IRAN	9008	5 30	18 13 54.70	13 45 12	40 15				434013
01396	MAUI-BN, HAWAII	9012	5 31	11 59 47.66	17 11 42	8 47				434013

1959 IOTA 1

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00904	ALBUQUERQUE, N.M.	8579	6 01	10 12 33.5			0 00	82 18		845302
00892	MAUI-BN, HAWAII	9012	6 01	13 33 24.66	13 53 36	67 10				434013
00891	NAINI TAL-BN, INDIA	9006	6 01	22 00 55.55	15 07 00	61 16				434013
00899	SHIRAZ-BN, IRAN	9008	6 01	23 41 50.11	15 31 00	59 11				434013
00915	DAYTON-D, OHIO	8557	6 02	8 07 45.4			150 00	47 48		845303
00916	DAYTON-D, OHIO	8557	6 02	8 08 42.6			113 00	45 02		845303
00917	ALBUQUERQUE, N.M.	8579	6 02	9 49 01.0			0 00	87 24		845303
00918	WICHITA, KAN.	0028	6 02	9 51 45.53	20 38	69 24				845042
00908	JUPITER-BN, FLA.	9010	6 03	7 43 33.38	16 04 16	67 18				434013
00900	ORGAN PASS-BN, N.M.	9001	6 03	9 25 05.20	18 13 00	45 55				434013
00919	WICHITA, KAN.	0028	6 03	9 28 15.28	20 08	66 18				845042
00933	CHINA LAKE, CAL.	0096	6 03	11 10 41.0			0 00	36 47 24		641303
00909	JUPITER-BN, FLA.	9010	6 04	7 20 35.56	17 13 12	75 50				434013
00920	ROCHESTER, N.Y.	8564	6 04	7 21 43.7	18 59 48	- 5 49				845034
00922	DAYTON, OHIO	8557	6 04	7 21 54.8			114 30	42 09		845304
00921	ROCHESTER, N.Y.	8564	6 04	7 22 21.8	19 49 01	1 12				845034
00905	ORGAN PASS-BN, N.M.	9001	6 04	9 01 59.20	18 57 24	50 39				434013
00924	WICHITA, KAN.	0028	6 04	9 04 44.8	19 48	62 42				845042
00923	DAYTON, OHIO	8557	6 04	9 05 50.0			296 24	38 04		845304
00906	SAN FERNANDO-BN, SP.	9004	6 05	1 54 33.60	21 02 42	26 02				434013
00910	ORGAN PASS-BN, N.M.	9001	6 05	8 39 14.10	20 44 54	56 07				434013
00907	SAN FERNANDO-BN, SP.	9004	6 06	1 31 28.50	21 20 54	27 15				434013
00925	DAYTON-D, OHIO	8557	6 06	8 18 46.4			291 24	41 12		845303
00926	DAYTON-D, OHIO	8557	6 06	8 18 50.7			292 30	41 24		845303
00927	DAYTON-D, OHIO	8557	6 06	8 20 48.3			35 54	24 21		845303
00911	WOOMERA-BN, AUSTR.	9003	6 06	9 21 55.76	19 12 42	-70 32				434023
01053	MITAKA, JAPAN	0229	6 06	16 43 54.9			328 36	48 12		845303
00919	TOKYO-BN, JAPAN	9005	6 06	16 44 03.90	15 44 48	67 37				434013
00912	SAN FERNANDO-BN, SP.	9004	6 07	2 52 49.50	13 41 06	68 40				434013
00955	BEDFORD, WASH.	8142	6 07	9 36 42.9			180 00	44 53 24		845302
00914	ORGAN PASS-BN, N.M.	9001	6 08	9 14 13.60	11 57 06	65 38				434013
00928	SAN FERNANDO-BN, SP.	9004	6 09	2 05 35.60	13 43 12	53 43				434013
00929	DAYTON, OHIO.	0148	6 09	7 10 30.6	22 03 30	46 24		845000		
00913	WOOMERA-BN, AUSTR.	9003	6 09	9 58 38.39	15 01 00	-57 52				434023
00931	[illegible]-BN, S.AF.	9002	6 09	14 42 29.80	17 39 30	-66 20				434023
00934	SAN FERNANDO-BN, SP.	9004	6 10	1 42 15.60	13 42 48	67 05				434013
00940	DAYTON-D, OHIO	8557	6 10	8 09 04.6			86 30	23 48		845303
00951	WOOMERA-BN, AUSTR.	9003	6 10	9 35 00.53	14 53 12	-59 21				434023

OBS NO.	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00941	SAN FERNANDO-BN, SP.	9004	6 11	1 19 00.50	13 45 54	72 27				434013
00961	CINCINNATI, OHIO	0050	6 11	8 09 39	7 49 24	75 24				845004
00940	WOOMERA-BN, AUSTR.	9003	6 11	9 16 41.17	14 03 06	-71 30				434023
00939	WOOMERA-BN, AUSTR.	9003	6 11	10 56 58.55	10 25 42	- 6 19				434013
00937	OLIFANTSFNTN-BN,S.AF	9002	6 11	17 42 08.80	12 02 24	-30 01				434023
00942	VILLA DOLORES-BN,ARG	9011	6 11	22 41 33.42	13 46 12	-53 12				434023
00936	ORGAN PASS-BN, N.M.	9001	6 12	7 39 55.60	11 33 12	66 00				434013
00020	SPOKANE, WASH.	8142	6 12	9 26 00.2			0	78 34 45		845302
00938	WOOMERA-BN, AUSTR.	9003	6 12	10 34 14.32	10 54 24	1 08				434013
31 54	SAN JOSE, CAL.	8573	6 12	11 10 57.3			0	18 54 00		845304
00944	OLIFANTSFNTN-BN,S.AF	9002	6 12	17 18 35.20	11 56 06	-32 10				434023
00943	AREQUIPA-BN, PERU	9007	6 13	0 05 44.78	13 28 54	-44 39				434023
00945	ORGAN PASS-BN, N.M.	9001	6 13	7 16 19.80	11 32 42	65 17				434013
00022	SPOKANE, WASH.	8142	6 13	9 02 28.9			0	83 21 36		845302
00948	WOOMERA-BN, AUSTR.	9003	6 13	10 10 40.92	10 42 36	- 0 03				434013
00950	OLIFANTSFNTN-BN,S.AF	9002	6 13	16 55 09.52	12 00 00	-32 05				434023
00954	AREQUIPA-BN, PERU	9007	6 13	23 43 18.15	14 22 12	-28 20				434023
00949	SAN FERNANDO-BN, SP.	9004	6 14	0 07 52.60	13 27 30	59 45				434013
00955	AREQUIPA-BN, PERU	9007	6 14	1 27 10.40	9 42 30	7 00				434013
00946	ORGAN PASS-BN, N.M.	9001	6 14	5 07 27.70	18 01 24	28 33				434013
01006	FORT WORTH, TEXAS	0139	6 14	5 08 40.6	16 06	53 36				845013
01007	WICHITA, KAN.	0028	6 14	5 08 42.6	16 09 47	20 43				845003
00947	ORGAN PASS-BN, N.M.	9001	6 14	6 52 48.10	11 21 54	65 56				434013
00951	OLIFANTSFNTN-BN, .AF	9002	6 14	16 32 40.20	12 59 42	-15 57				434013
00952	SAN FERNANDO-BN, SP.	9004	6 14	21 58 21.00	16 59 54	- 2 09				434013
00957	VILLA DOLORES-BN,ARG	9011	6 14	23 16 56.16	9 57 05	5 02				434013
00958	AREQUIPA-BN, PERU	9007	6 14	23 19 02.27	13 46 00	-40 58				434023
00959	[illegible] RAGA-BN, N.Z.I.	9009	6 15	1 12 51.63	13 54 36	7 00				434013
00967	JUPITER-BN, FLA.	9010	6 15	2 57 37.77	12 38 36	-11 47				434013
01017	EL PAZ, MEX.	0200	6 15	2 57 41.[illegible]	17 37 30	19 17				845041
00968	JUPITER-BN, FLA.	[illegible]	6 15	3 05 27.95	19 39 24	54 47				434013
00953	SAN FERNANDO-BN, SP.	9004	6 15	3 19 29.80	5 12 36	65 43				434013
01016	EDINBURG, TEXAS	0066	6 15	4 42 3[illegible]			300	49 [illegible]		845[illegible]
01006	WICHITA, KAN.	0028	6 15	4 45 02.6	15 49 55	17 00				845003
01009	WICHITA, KAN.	0028	6 15	4 45 02.75	15 49 55	17 32				845003
01010	WICHITA, KAN.	0028	6 15	4 45 03.75	15 49 56	17 26				845003
01011	WICHITA, KAN.	0028	6 15	4 45 03.8	15 49 56	16 54				845003
30101	MADISON, WISC.	0148	6 15	4 46 58.9	15 45 00	13 18				845042
01060	MADISON, WISC.	0148	6 15	4 47 16.7	16 07 00	17 06				845042
01061	MADISON, WISC.	0148	6 15	4 48 10.2	17 31 00	28 00				845042
01062	MADISON, WISC.	0148	6 15	4 50 06.0	20 45 00	36 21				845042
00970	MAUI-BN, HAWAII	9012	6 15	6 16 37.13	16 33 24	-22 12				434013
01063	MADISON, WISC.	0148	6 15	6 32 29.1	13 06 00	43 00				845042
01064	MADISON, WISC.	0148	6 15	6 33 10.0	13 18 00	55 00				845042
00971	MAUI-BN, HAWAII	9012	6 15	8 02 35.67	12 35 36	37 20				434013
00963	WOOMERA-BN, A STR.	9003	6 15	9 23 31.14	10 17 12	- 3 06				434013
01016	SAN JOSE, CAL.	8573	6 15	11 47 04.3			0	26 40 48		845[illegible]
00964	SAN FERNANDO-BN, SP.	9004	6 15	21 34 32.90	16 31 12	- 5 32				434013
00965	SAN FERNANDO-BN, SP.	9004	6 15	23 20 44.60	13 18 30	67 39				434013
00972	AREQUIPA-BN, PERU	9007	6 16	0 41 57.62	13 02 24	24 11				434013
00966	[illegible]RAGA-BN, N.Z.I.	9009	6 16	0 49 39.37	14 10 30	11 18				434013
00969	JUPITER-BN, FLA.	9010	6 16	2 36 35.61	14 18 24	21 07				434013
01019	EDINBURG, TEXAS	0066	6 16	4 14 02.6			300 00	52 45		845302
00962	ORGAN PASS-BN, N.M.	9001	6 16	4 19 16.00	16 08 36	12 48				434013
01020	EDINBURG, TEXAS	0066	6 16	4 19 28.6			315 12	54 12		845[illegible]
01032	FT. WORTH, TEXAS	0139	6 16	4 21 22	15 34	45 10				845003
01095	DAYTON, OHIO	8557	6 16	4 23 36.2			262 12	55 54		845[illegible]
01096	DAYTON, OHIO	8557	6 16	4 23 39.2			263 00	36 24		845[illegible]
30102	MADISON, WISC.	0148	6 16	4 24 02.0	16 19 00	19 16				845042
01097	DAYTON, OHIO	8557	6 16	4 25 41.8			19 06	65 18		845[illegible]
01098	DAYTON, OHIO	8557	6 16	6 11 19.0			342 57	30 54		845[illegible]
00976	MAUI-BN, HAWAII	9012	6 16	7 40 06.84	13 32 30	55 15				434013
00974	SAN FERNANDO-BN, SP.	9004	6 16	21 11 27.60	16 42 42	- 1 45				434013
01228	BRATISLAVA-P, CZECH.	5702	6 16	21 16 40.5	16 21 06	3 42				634042
01229	BRATISLAVA-P, CZECH.	5702	6 16	21 16 55.5	16 29 36	5 42				634042
01230	BRATISLAVA-P, CZECH.	5702	6 16	21 17 40.5	17 27 00	11 48				634042
01231	BRATISLAVA-P, CZECH.	5702	6 16	21 19 00.8	19 17 30	19 18				634042
01232	BRATISLAVA-P, CZECH.	5702	6 16	21 23 38.3	17 50 06	57 36				634042
01233	BRATISLAVA-P, CZECH.	5702	6 16	23 04 46.4	22 19 54	46 06				634042
00978	AREQUIPA-BN, PERU	9007	6 17	0 13 29.85	9 20 54	13 25				434013
00975	SAN FERNANDO-BN, SP.	9004	6 17	2 32 05.30	5 22 48	69 44				434013
01022	EDINBURG, TEXAS	0066	6 17	3 55 49.4			313	57 30		845303
01101	WICHITA, KAN.	0028	6 17	3 57 40.7	15 09 54	10 31				845003
01099	WICHITA, KAN.	0028	6 17	3 57 43.0	15 10 20	11 05				845003
01100	WICHITA, KAN.	0028	6 17	3 57 43.1	15 10 30	10 59				845003
01021	ROCHESTER, N.Y.	8155	6 17	4 03 18.5	16 42 36	55 12				845032
01195	WALNUT CREEK, CAL.	8186	6 17	5 30 10.4	15 12 36	13 42				845003
01233	VAN NUYS, CAL.	0113	6 17	5 40 20			0	70 30		845302
01023	CHINA LAKE, CAL.	0268	6 17	5 40 35.8			0 00	76 11 24		641303
00977	ORGAN PASS-BN, N.M.	9001	6 17	5 41 13.00	11 15 48	51 20				434013
00021	SPOKANE, WASH.	8142	6 17	5 42 04.5			180	35 29 00		845302
01001	MAUI-BN, HAWAII	9012	6 17	7 16 20.00	13 16 00	50 37				434013
01034	PHOENIX, ARIZ.	8175	6 17	7 24 29.3			0 45	15 55		845303
30047	MITAKA, JAPAN	0129	6 17	12 44 58.5			323 36	80 00		845302
01004	TOKYO-BN, JAPAN	[illegible]	6 17	13 25 21.50	15 02 42	46 00				434013
00985	NAINI TAL-BN, INDIA	9006	6 17	15 44 39.63	14 43 00	41 05				434013
00984	SAN FERNANDO-BN, SP.	9004	6 17	22 34 23.15	13 57 00	65 29				434013

CARD NO.	STATION	STATION NO.	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
[illegible]	[illegible]	[illegible]	6 17	2[illegible] [illegible] [illegible]	[illegible]	[illegible]				434013
[illegible]	SAN FERNANDO-BN, SP.	[illegible]	6 18	[illegible] 4[illegible]	[illegible] 42 [illegible]	71 4[illegible]				434013
[illegible]	[illegible]	[illegible]	6 18	[illegible] 38 27.[illegible]	2[illegible] [illegible] 42	32 16				845042
[illegible]	SAN FERNANDO-BN, SP.	[illegible]	6 18	[illegible]	[illegible]	71 00				434013
[illegible]	[illegible] N.M.	[illegible]	6 18	[illegible] 31 [illegible]	[illegible]	[illegible] 22				434013
[illegible]	FT. WORTH, TEXAS	[illegible]	6 18	[illegible] 52	14 39	35 00				845013
[illegible]	FT. WORTH, TEXAS	[illegible]	6 18	[illegible] 54.6	14 4[illegible]	36 00				845013
[illegible]	[illegible], MO.	0140	6 18	[illegible] 36 16.6	15 [illegible]	34 36				845032
[illegible]	[illegible], MO.	0140	6 18	[illegible] 36 16.5	15 21 48	34 24				845032
[illegible]	[illegible] HAUTE, IND.	8127	6 18	[illegible] 47 08.8	15 [illegible]	39 50				845043
[illegible]	SAN FERNANDO-BN, SP.	9004	6 18	[illegible] 55 11.60	[illegible] 40 00	69 05				434013
[illegible]	WALNUT CREEK, CAL.	8556	6 18	[illegible] 15 30.5	14 55 00	10 38				845003
[illegible]	CHINA LAKE, CAL.	0048	6 18	5 16 56.2			0 00 00	79 54 36		641303
[illegible]	ORGAN PASS-BN, N.M.	9001	6 18	5 18 27.10	11 04 30	64 53				434013
[illegible]	MAUI-BN, HAWAII	9012	6 18	6 51 50.55	12 19 46	33 38				434013
[illegible]	PHOENIX, ARIZ.	8576	6 18	[illegible]			0	17 11		845304
[illegible]	SPOKANE, WASH.	8142	6 18	[illegible] 56.[illegible]			0	64 38 24		845302
[illegible]	ORGAN PASS-BN, N.M.	9001	6 18	1[illegible] 40 3[illegible]	[illegible]	73 03				434013
[illegible]	TOKYO-BN, JAPAN	9005	6 18	12 [illegible] 17.[illegible]	14 24 [illegible]	38 44				434013
[illegible]	NAINI TAL-BN, INDIA	9006	6 18	1[illegible] 58.[illegible]	14 26 41	35 59				434013
[illegible]	[illegible]-BN, [illegible]	90[illegible]	6 18	1[illegible] 42 44.[illegible]	[illegible]	[illegible]				434013
[illegible]	[illegible]	[illegible]	6 18	[illegible] 33 37.[illegible]	14 46 3[illegible]	46 48				845009
[illegible]	[illegible]	[illegible]	6 18	[illegible] 34 52.[illegible]	1[illegible]	55 36				845009
[illegible]	[illegible]	[illegible]	6 18	[illegible] 34 57.	18 [illegible]	[illegible] 42				845009
[illegible]	[illegible]	[illegible]	6 18	[illegible] 35 19.[illegible]	19 [illegible]	58 06				845009
[illegible]	[illegible]	[illegible]	6 18	[illegible] 38 02.[illegible]	18 [illegible] 48	[illegible] 42				845009
[illegible]	[illegible]	[illegible]	6 18	[illegible] 38 06.[illegible]	18 2[illegible]	[illegible] 46				845009
[illegible]	SAN FERNANDO-BN, SP.	[illegible]	6 18	[illegible]	[illegible]	[illegible]				434013
[illegible]	[illegible]	[illegible]	6 18	[illegible]	[illegible]	[illegible] 46				845009
[illegible]	[illegible]-BN, [illegible]	[illegible]	6 18	[illegible] 32.[illegible]	[illegible]	[illegible] 34				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 18	[illegible] 56 03.[illegible]	[illegible] 11 00	69 10				434013
[illegible]	[illegible], CZECH.	[illegible]	6 19	0 02 50.6	19 5[illegible]	64 18				634042
[illegible]	[illegible], CZECH.	[illegible]	6 19	0 02 58.5	[illegible] 26 42	62 54				634042
[illegible]	[illegible], CZECH.	[illegible]	6 19	0 04 18.3	22 59 18	[illegible] 54				634042
[illegible]	SAN FERNANDO-BN, SP.	9004	6 19	1 44 55.50	4 59 00	71 00				434013
[illegible]	EDINBURG, TEXAS	0066	6 19	3 08 20.2			298	62 05		845303
[illegible]	EDINBURG, TEXAS	0066	6 19	3 08 25.2			300	62 18		845303
[illegible]	EDINBURG, TEXAS	0066	6 19	3 08 26.7			300	62 05		845303
[illegible]	FT. WORTH, TEXAS	0139	6 19	3 10 11.4	14 23	31 12				845013
[illegible]	FT. WORTH, TEXAS	0139	6 19	3 10 12.4	14 24	31 36				845013
[illegible]	WICHITA, KAN.	0028	6 19	3 10 15.9	14 30 37	4 0[illegible]				845002
[illegible]	FT. WORTH, TEXAS	0139	6 19	3 10 17.4	14 28	32 54				845013
[illegible]	MADISON, WISC.	0148	6 19	3 13 24.0	15 43 00	15 48				845042
[illegible]	MADISON, WISC.	0148	6 19	3 13 56.9	16 28 00	21 30				845042
[illegible]	SAN FERNANDO-BN, SP.	9004	6 19	3 31 37.40	1 32 06	7[illegible] 57				434013
[illegible]	WALNUT CREEK, CAL.	8586	6 19	4 51 45.1	14 34 00	7 06				845003
[illegible]	WHITTIER, CAL.	8566	6 19	4 53 07.4			0	73 16 12		845302
[illegible]	ORGAN PASS-BN, N.M.	9001	6 19	4 54 51.00	11 02 48	44 [illegible]				434013
[illegible]	MADISON, WISC.	0148	6 19	4 59 06.5	12 46 00	66 36				845042
[illegible]	MADISON, WISC.	0148	6 19	5 00 06.8	14 30 00	75 51				845042
[illegible]	MADISON, WISC.	0148	6 19	5 01 01.5	21 03 30	77 34				845042
[illegible]	MAUI-BN, HAWAII	9012	6 19	6 28 18.74	12 17 [illegible]	32 32				434013
[illegible]	MADISON, WISC.	0148	6 19	6 46 22.2	10 28	82 48				845042
[illegible]	NAINI TAL-BN, INDIA	9006	6 19	14 56 53.00	13 4[illegible]	24 17				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 19	21 46 57.50	13 46 12	62 1[illegible]				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 19	23 34 23.50	[illegible] 50 12	[illegible] 16				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 20	[illegible] 21 3[illegible]	4 24 [illegible]	7[illegible] 31				434013
[illegible]	[illegible]	8581	6 20	2 44 54.2			300	65		845302
[illegible]	N. CANTON, OHIO	8584	6 20	2 51 29.2	15 17	49 55				845032
[illegible]	N. CANTON, OHIO	8584	6 20	2 51 32.2	15 17 10	49 47				845032
[illegible]	ROCHESTER, N.Y.	8585	6 20	2 52 24.2	15 34 45	47 12				845032
[illegible]	SAN FERNANDO-BN, SP.	9004	6 20	3 08 51.80	1 24 48	53 09				434013
[illegible]	WHITTIER, CAL.	8566	6 20	4 29 25.6			0	77 22 12		845302
[illegible]	MADISON, WISC.	0148	6 20	4 35 30.4	12 35 30	55 09				845042
[illegible]	DAYTON, OHIO	8557	6 20	4 35 58.1			320 18	32 54		845303
[illegible]	MADISON, WISC.	0148	6 20	4 36 54.1	16 29 30	69 12				845042
[illegible]	MADISON, WISC.	0148	6 20	4 38 56.1	22 46 30	54 06				845042
[illegible]	ROCHESTER, N.Y.	8585	6 20	4 39 14.4	22 15	89 06				845032
[illegible]	WALNUT CREEK, CAL.	8556	6 20	6 16 35.5	15 00 00	88 06				845003
[illegible]	WALNUT CREEK, CAL.	8556	6 20	6 16 41.0	21 20 00	87 48				845003
[illegible]	SPOKANE, WASH.	8142	6 20	6 17 47.9			180	89 34 12		845302
[illegible]	PHOENIX, ARIZ.	8576	6 20	6 18 44.6			0	18 34		845304
[illegible]	SPOKANE, WASH.	8142	6 20	8 03 52.8			0	66 47 24		845302
[illegible]	MADISON, WISC.	0148	6 20	8 07 20.1	14 01 00	51 09				845042
[illegible]	MADISON, WISC.	0148	6 20	8 08 11.3	14 57 30	61 54				845042
[illegible]	MADISON, WISC.	0148	6 20	8 09 07.9	18 21 00	72 15				845042
[illegible]	N. CANTON, OHIO	8559	6 20	8 11 17.9	20 44	61 15				845032
[illegible]	SPOKANE, WASH.	8142	6 20	9 48 17.4			180 00	83 29 24		845302
[illegible]	[illegible], JAPAN	0272	6 20	13 00 03			0 00	26 00		845302
[illegible]	SAN FERNANDO-BN, SP.	9004	6 20	21 23 05.40	13 12 30	55 45				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 20	23 09 34.30	9 03 30	67 57				434013
[illegible]	SAN FERNANDO-BN, SP.	9004	6 21	[illegible] 57 11.70	6 20 00	73 44				434013
[illegible]	EDINBURG, TEXAS	0066	6 21	2 21 20			303	70 30		845302
[illegible]	EDINBURG, TEXAS	0066	6 21	2 21 20.6			302	69		845302
[illegible]	ROCHESTER, N.Y.	8585	6 21	2 28 47.9	15 16 36	44 54				845032
[illegible]	ROCHESTER, N.Y.	[illegible]	6 21	2 28 53.43	15 19 00	44 51				637042
[illegible]	ROCHESTER, N.Y.	8564	6 21	2 28 55.2	15 18 00	45 06				845032
[illegible]	ROCHESTER, N.Y.	8564	6 21	2 29 27.0	16 31 12	50 06				845032
[illegible]	SAN FERNANDO-BN, SP.	9004	6 21	2 44 29.40	1 16 30	73 44				434013
[illegible]	[illegible]	0113	6 21	4 05 35			0	66 15 00		845302
[illegible]	WHITTIER, CAL.	8566	6 21	4 05 43.7			4 27 36	81 00 00		845302

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01117	ROCHESTER, N.Y.	8585	6 21	4 15 43.7	21 33	88 12				845032
01037	ROCHESTER, N.Y.	8564	6 21	4 16 00.4	22 22 24	84 36				845032
30064	WALNUT CREEK, CAL.	8566	6 21	5 52 56.2	15 50 00	87 36				845003
01123	PHOENIX, ARIZ.	8576	6 21	5 55 09.2			0	19 14		845304
01124	PHOENIX, ARIZ.	8576	6 21	7 41 20.5			0	14 01		845304
01126	VAN NUYS, CAL.	0113	6 21	11 13 46			358 30	73 45 00		845302
01125	PHOENIX, ARIZ.	8576	6 21	11 15 57.0			180	62 46		845304
01026	SAN FERNANDO-BN, SP.	9004	6 21	20 59 38.60	13 21 24	56 36				434013
50003	BRATISLAVA-P, CZECH.	5702	6 21	21 05 53.3	16 25 30	51 42				634042
01027	SAN FERNANDO-BN, SP.	9004	6 21	22 46 01.70	8 49 06	68 56				434013
01028	SAN FERNANDO-BN, SP.	9004	6 22	0 33 31.20	6 25 00	73 55				434013
01029	SAN FERNANDO-BN, SP.	9004	6 22	2 20 58.40	1 07 06	73 37				434013
01127	ALBUQUERQUE, N.M.	8579	6 22	3 45 33.2			0 00	48 57 00		845303
01129	DAYTON, OHIO	8557	6 22	3 51 02.8			4 54	35 30		845303
01131	ROCHESTER, N.Y.	8585	6 22	3 52 05.5	17 48	88 06				845032
01118	ROCHESTER, N.Y.	8564	6 22	3 52 12.8	18 00	87 18				845032
01202	CHINA LAKE, CAL.	0096	6 22	5 30 22.9			0 00	29 15 36		641303
01130	DAYTON, OHIO	8557	6 22	5 37 02.2			1 15	29 30		845303
01132	ROCHESTER, N.Y.	8585	6 22	5 38 13.6	22 24	89 06				845032
01133	ROCHESTER, N.Y.	8585	6 22	7 24 57.0	20 15 24	37 12				845032
01128	ALBUQUERQUE, N.M.	8579	6 22	9 05 29.1			0 00	32 30		845303
01134	BILOXI, MISS.	0090	6 22	9 11 33.5			90	59 30		845302
01045	JUPITER-BN, FLA.	9010	6 22	9 13 23.86	21 50 48	11 30				434013
01030	CURACAO-BN, N.W.I.	9009	6 22	9 18 04.68	22 52 46	17 20				434013
01200	VAN NUYS, CAL.	0113	6 22	10 50 16.1			358 30	70 12		845302
01201	PHOENIX, ARIZ.	8576	6 22	10 52 20.7			180	69 00		845304
30050	YATSUSHIRO, JAPAN	0272	6 22	12 12 40			0 00	26 00		845302
30049	KONKO, JAPAN	0224	6 22	12 13 36	4 30	86				845002
01071	MAUI-BN, HAWAII	9012	6 22	14 18 25.72	0 02 48	27 08				434013
01041	SAN FERNANDO-BN, SP.	9004	6 22	22 22 55.50	7 49 42	74 28				434013
50004	BRATISLAVA-P, CZECH.	5702	6 22	22 28 21.5	17 05 36	65 48				634042
50005	BRATISLAVA-P, CZECH.	5702	6 22	22 28 39.3	18 24 24	65 12				634042
50006	BRATISLAVA-P, CZECH.	5702	6 22	22 29 46.0	21 27 30	46 18				634042
01049	NAINI TAL-BN, INDIA	9006	6 22	22 43 19.85	20 10 36	-13 44				434013
50007	BRATISLAVA-P, CZECH.	5702	6 23	0 14 55.6	19 30 06	25 30				634042
50008	BRATISLAVA-P, CZECH.	5702	6 23	0 15 38.6	20 44 06	15 54				634042
50009	BRATISLAVA-P, CZECH.	5702	6 23	0 16 43.7	21 55 42	3 42				634042
01058	SHIRAZ-BN, IRAN	9008	6 23	0 23 50.57	19 42 00	- 2 51				434013
01042	SAN FERNANDO-BN, SP.	9004	6 23	1 57 41.10	0 50 12	68 31				434013
30065	WALNUT CREEK, CAL.	8566	6 23	5 05 46.7	15 32 00	84 45				845004
30066	WALNUT CREEK, CAL.	8566	6 23	5 05 48.4	15 55 00	48 48				845004
01203	CHINA LAKE, CAL.	0098	6 23	5 06 45.8			0 00	30 12 00		641303
01204	PHOENIX, ARIZ.	8576	6 23	8 40 37.4			0	21 59		845304
01044	CURACAO-BN, N.W.I.	9009	6 23	8 54 56.36	23 27 54	10 07				434013
01206	VAN NUYS, CAL.	0113	6 23	10 26 45.0			2 48	67 00		845302
01205	PHOENIX, ARIZ.	8576	6 23	10 28 44.1			180	75 24		845304
01068	SAN FERNANDO-BN, SP.	9004	6 23	21 59 49.10	6 06 00	79 09				434013
50010	BRATISLAVA-P, CZECH.	5702	6 23	22 04 52.7	17 08 38	65 47				620042
50011	BRATISLAVA-P, CZECH.	5702	6 23	23 51 19.4	19 04 39	28 33				625042
50012	BRATISLAVA-P, CZECH.	5702	6 23	23 51 23.5	19 14 00	27 36				634042
50013	BRATISLAVA-P, CZECH.	5702	6 23	23 51 49.4	20 00 12	22 00				634042
50014	BRATISLAVA-P, CZECH.	5702	6 23	23 52 48.3	20 42 54	15 30				634042
01076	SHIRAZ-BN, IRAN	9008	6 24	0 00 30.82	19 46 12	- 3 06				434013
01065	SAN FERNANDO-BN, SP.	9004	6 24	1 34 18.10	0 35 12	65 32				434013
01207	N. CANTON, OHIO	8559	6 24	2 04 18.2	1 25	89 00				845033
01075	SAN FERNANDO-BN, SP.	9004	6 24	3 20 15.70	19 18 24	3 08				434013
01067	OLIFANTSFENTN-BN,S.AF	9002	6 24	3 39 19.50	3 03 30	15 07				434013
01220	PHOENIX, ARIZ.	8576	6 24	8 17 04.3			0	22 09		845304
01092	AREQUIPA-BN, PERU	9007	6 24	10 22 15.38	23 59 24	- 8 03				434013
01091	NAINI TAL-BN, INDIA	9006	6 24	14 47 08.28	7 14 24	79 54				434013
01089	WOOMERA-BN, AUSTR.	9003	6 24	20 32 48.56	2 41 36	16 22				434013
01083	SAN FERNANDO-BN, SP.	9004	6 24	21 34 53.30	8 34 24	65 51				434013
50015	BRATISLAVA-P, CZECH.	5702	6 24	21 41 23.8	17 08 38	65 46				625042
50016	BRATISLAVA-P, CZECH.	5702	6 24	21 41 40.2	18 13 36	64 22				625042
50017	BRATISLAVA-P, CZECH.	5702	6 24	21 43 28.0	21 32 24	38 24				634042
50018	BRATISLAVA-P, CZECH.	5702	6 24	23 27 42.4	18 38 36	31 24				634042
50019	BRATISLAVA-P, CZECH.	5702	6 24	23 28 53.7	20 37 17	15 44				625042
01094	SHIRAZ-BN, IRAN	9008	6 24	23 36 42.12	19 08 18	6 14				434013
01084	SAN FERNANDO-BN, SP.	9004	6 25	1 11 18.20	0 14 36	55 00				434013
01085	SAN FERNANDO-BN, SP.	9004	6 25	2 57 00.00	19 29 06	1 54				434013
30103	MADISON, WISC.	0148	6 25	4 26 08.9	23 04	75 00				845042
50027	SPOKANE, WASH.	8142	6 25	6 06 05.4			0	68 38 24		845302
30013	MADISON, WISC.	0148	6 25	6 11 19.1	16 10	76 21				845042
30014	MADISON, WISC.	0148	6 25	6 12 21.5	21 19	64 42				845042
01208	VAN NUYS, CAL.	0113	6 25	9 39 31.7			0	59 30		845302
01093	AREQUIPA-BN, PERU	9007	6 25	9 58 39.35	23 39 36	2 19				434013
01090	TOKYO-BN, JAPAN	9005	6 25	16 24 43.10	20 26 24	45 25				434013
01081	WOOMERA-BN, AUSTR.	9003	6 25	20 09 48.27	2 57 00	10 48				434013
01086	SAN FERNANDO-BN, SP.	9004	6 25	22 59 07.00	5 39 48	74 42				434013
01089	SAN FERNANDO-BN, SP.	9004	6 26	0 47 18.70	0 06 00	64 13				434013
01079	OLIFANTSFENTN-BN,S.AF	9002	6 26	2 52 08.70	2 19 12	21 39				434013
01077	ORGAN PASS-BN, N.M.	9001	6 26	3 56 59.00	6 23 12	70 53				434013
30052	CLEVELAND, OHIO	8551	6 26	4 03 01.4	6 20	83 48				845002
01210	ROCHESTER, N.Y.	8585	6 26	4 03 58.8	19 40	88 50				845032
01212	ROCHESTER, N.Y.	8564	6 26	4 04 21.6	21 43 06	83 36				845034
01213	ROCHESTER, N.Y.	8564	6 26	4 05 23.8	22 37 24	63 06				845033
50028	SPOKANE, WASH.	8142	6 26	5 42 31.8			0	69 08 24		845309
30016	DAYTON, OHIO	8557	6 26	5 49 01.1			19 55	45 59		845303
01211	ROCHESTER, N.Y.	8585	6 26	5 50 40.3	18 53 20	49 15				845032
01214	ROCHESTER, N.Y.	8564	6 26	5 51 39.2	20 37 48	29 43				845033

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01078	ORGAN PASS-BN, N.M.	9001	6 26	7 32 57.60	1 05 00	62 53				434013
01221	WICHITA, KAN.	0026	6 26	7 33 32.2	19 22 18	63 08				845002
30017	DAYTON, OHIO	8557	6 26	7 33 40.2			278 00	30 24		845303
30018	DAYTON, OHIO	8557	6 26	7 35 06.5			248 54	42 44		845303
30019	SAN NUNY, CAL.	0113	6 26	7 35 56.3			1 06	57 24		845302
01082	WOOMERA-BN, AUSTR.	9003	6 26	19 45 06.29	1 21 06	29 37				434013
01086	SAN FERNANDO-BN, SP.	9004	6 26	22 35 42.20	4 50 00	75 22				434013
01087	SAN FERNANDO-BN, SP.	9004	6 27	0 23 35.00	23 57 00	67 52				434013
01222	N. CANTON, OHIO	8536	6 27	1 53 26.2	14 58	87 25				641034
01223	N. CANTON, OHIO	8536	6 27	1 53 27.3	15 25	87 18				641034
01224	STATE COLLEGE, PA.	0060	6 27	1 54 02.1			356 06	39 48		845302
01136	OLIFANTSFNTN-BN,S.AF	9002	6 27	2 28 32.07	1 56 42	24 49				434013
01135	ORGAN PASS-BN, N.M.	9001	6 27	3 33 01.20	6 41 18	68 20				434013
01225	TERRE HAUTE, IND.	8127	6 27	3 38 35.7	4 10	80 50				845044
01226	CINCINNATI, OHIO	0050	6 27	3 39 10	4 21 12	79 54				845003
30020	N. CANTON, OHIO	8559	6 27	3 39 48.6	3 47	84 00				845034
30021	PHOENIX, ARIZ.	8576	6 27	7 06 21.4			0 00	21 52		845304
30015	MADISON, WISC.	0148	6 27	7 10 41.1	17 32 30	12 42				845042
01191	WOOMERA-BN, AUSTR.	9003	6 27	19 22 48.93	2 21 00	14 23				434013
01192	SAN FERNANDO-BN, SP.	9004	6 27	22 12 18.30	3 53 42	75 44				434013
01193	SAN FERNANDO-BN, SP.	9004	6 27	23 59 38.60	0 01 54	74 47				434013
30024	N. CANTON, OHIO	8536	6 28	3 16 09.5	4 20	84 42				641034
01227	ROCHESTER, N.Y.	8564	6 28	3 16 11.2	20 54	83 45				845034
01190	OLIFANTSFNTN-BN,S.AF	9002	6 28	3 50 27.00	19 32 06	-44 13				434023
01189	ORGAN PASS-BN, N.M.	9001	6 28	6 46 17.40	0 16 36	56 59				434013
30022	WICHITA, KAN.	0026	6 28	6 46 19.8	18 42 23	67 55				845042
30023	WICHITA, KAN.	0026	6 28	6 46 20.6	18 43 06	67 55				845042
01238	WOOMERA-BN, AUSTR.	9003	6 28	20 44 29.24	19 56 00	-56 15				434023
30091	ADELAIDE, AUSTR.	8528	6 28	20 45 24.2	21 23	-54 30				845042
30092	ADELAIDE, AUSTR.	8528	6 28	20 46 02	23 04	-73 48				845042
01216	SAN FERNANDO-BN, SP.	9004	6 28	21 48 39.00	3 49 00	76 02				434013
01217	SAN FERNANDO-BN, SP.	9004	6 28	23 36 23.10	23 33 48	70 22				434013
01215	OLIFANTSFNTN-BN,S.AF	9002	6 29	2 28 14.60	19 52 00	-78 01				434023
30029	SPOKANE, WASH.	8142	6 29	6 18 53.7			0	83 13 12		845309
30025	PHOENIX, ARIZ.	8576	6 29	6 19 11.6			0	21 54		845304
01218	ORGAN PASS-BN, N.M.	9001	6 29	6 21 54.60	0 30 30	67 04				434013
30104	MADISON, WISC.	0148	6 29	6 23 15.5	16 28 30	21 00				845042
01237	WOOMERA-BN, AUSTR.	9003	6 29	20 21 05.35	12 54 06	-57 43				434023
30069	ADELAIDE, AUSTR.	8528	6 29	20 21 57	21 25	-56				845042
30070	ADELAIDE, AUSTR.	0600	6 29	20 22 38			208 15	57 45		845343
30071	ADELAIDE, AUSTR.	0600	6 29	20 22 43.5			202 30	57 45		845343
30105	MADISON, WISC.	0148	6 30	4 13 46.2	16 50 30	79 36				845042
30033	PHOENIX, ARIZ.	8576	6 30	5 55 35.9			0	21 39		845304
30106	MADISON, WISC.	0148	6 30	5 59 40.4	16 09 30	23 36				845042
30051	YATSUSHIRO, JAPAN	0272	6 30	12 40 23			0 00	11 00		845302
50001	LAREDO-RADAR, TEXAS	4012	6 30	22 23 48			179 48	52 48	385	895307
50002	LAREDO-RADAR, TEXAS	4012	6 30	22 24 10.5			179 48	52 48	269	895307
10001	SAN FERNANDO-BN, SP.	9004	6 30	22 48 43.50	23 42 12	77 50				434013
30034	N. CANTON, OHIO	8536	7 01	3 51 54.0	17 05	78 12				641034
30035	N. CANTON, OHIO	8536	7 01	3 51 56.2	17 15	77 48				641034
10002	ORGAN PASS-BN, N.M.	9001	7 01	5 35 26.10	23 32 54	59 58				434013
10003	SAN FERNANDO-BN, SP.	9004	7 01	22 24 59.50	23 52 00	79 47				434013
30026	N. CANTON, OHIO	8557	7 02	3 26 19.9	16 45	79 22				845033
30030	SPOKANE, WASH.	8142	7 02	5 06 53.2			0	78 43 48		845309
10008	TOKYO-BN, JAPAN	9005	7 02	13 39 42.20	19 12 30	62 14				434013
30058	MITAKA, JAPAN	0229	7 02	13 39 57.5			33 36	60 12		845303
30059	HIGASHIMATSUYAMA,JAP	0210	7 02	13 40 03.6	19 40 30	53 06				845003
10009	SAN FERNANDO-BN, SP.	9004	7 02	22 01 42.50	22 57 12	75 20				434013
10010	SAN FERNANDO-BN, SP.	9004	7 02	23 46 58.70	14 41 54	46 47				434013
30039	DAYTON, OHIO	8557	7 03	3 03 37.90			349 49 48	39 54 12		845302
30036	N. CANTON, OHIO	8544	7 03	3 04 37.2	15 42 30	80 40				845043
30054	N. CANTON, OHIO	8536	7 03	3 04 40	15 52	80 12				641033
30055	N. CANTON, OHIO	8536	7 03	3 04 40.8	16 24	79 47				641034
30056	N. CANTON, OHIO	8536	7 03	3 04 41.6	16 28	79 37				641034
30040	PITTSBURGH, PA.	8571	7 03	3 05 09	17 01	78 36				845003
30037	STATE COLLEGE, PA.	0060	7 03	3 06 10.5			25 30	58 18		845302
30041	KANSAS CITY, MO.	0036	7 03	4 48 57.45			0 00	66 48		845303
30027	ST. LOUIS, MO.	0140	7 03	4 49 25.6	15 45 48	55 27				845032
30028	ST. LOUIS, MO.	0140	7 03	4 50 16.5	17 53 18	45 39				845032
30029	ST. LOUIS, MO.	0140	7 03	4 50 17.4	17 55 48	45 21				845032
30030	ST. LOUIS, MO.	0140	7 03	4 50 38.7	18 34 30	38 54				845032
30038	TERRE HAUTE, IND.	8127	7 03	4 50 57.0			180	78 30		845303
10006	SAN FERNANDO-BN, SP.	9004	7 03	21 38 08.80	22 39 00	74 47				434013
10007	SAN FERNANDO-BN, SP.	9004	7 03	23 24 32.70	16 45 24	40 11				434013
30057	N. CANTON, OHIO	8536	7 04	2 40 58	15 31	81 06				641033
30058	N. CANTON, OHIO	8536	7 04	2 41 03.9	16 04	80 45				641034
30059	N. CANTON, OHIO	8536	7 04	2 41 04.2	16 06	80 42				641034
30053	N. CANTON, OHIO	8544	7 04	2 41 38.7	18 47	73 50				845033
30042	ROCHESTER, N.Y.	8564	7 04	2 42 01.6	16 26 40	62 15				845032
30043	KANSAS CITY, MO.	0036	7 04	4 25 20.25			0	65 06		845303
30044	ST. LOUIS, MO.	0140	7 04	4 26 45.0	17 49 30	46 50				845032
30061	TERRE HAUTE, IND.	8127	7 04	4 27 20.7	17 26 24	32 00				845043
30045	ST. LOUIS, MO.	0140	7 04	4 27 44.7	19 16 00	27 45				845032
30046	N. CANTON, OHIO	8544	7 04	4 28 01.2	16 23 45	11 30				845043
30068	WALNUT CREEK, CAL.	8586	7 04	6 06 49.2	19 12 00	62 30				845003
30067	WALNUT CREEK, CAL.	8535	7 04	6 06 49.6	19 09 30	63 18				845004
30031	SPOKANE, WASH.	8142	7 04	6 07 14.2			180	45 48 36		845309

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10004	SAN FERNANDO-BN, SP.	9004	7 04	21 14 32.00	22 25 12	74 56				434013
10005	SAN FERNANDO-BN, SP.	9004	7 04	23 01 18.70	17 13 54	37 34				434013
30060	N. CANTON, OHIO	8536	7 05	2 17 26.1	15 14	81 18				641034
30062	N. CANTON, OHIO	8559	7 05	2 17 31.2	16 00	81 22				845033
30072	MADISON, WISC.	0143	7 05	3 02 45.0	16 25 30	25 54				845042
30063	KANSAS CITY, MO.	0036	7 05	4 01 42.0			2 00	63 24		845303
10011	SAN FERNANDO-BN, SP.	9004	7 05	22 37 35.00	16 47 12	42 38				434013
30073	TERRE HAUTE, IND.	8127	7 06	3 40 00.9	16 46 54	39 20				845043
30074	STATE COLLEGE, PA.	0060	7 06	3 41 32.9			219 42	50 36		845302
30075	CHINA LAKE, CAL.	0098	7 06	5 20 54.4			31 49 48	53 36 00		641303
10012	SAN FERNANDO-BN, SP.	9004	7 06	22 14 24.40	17 20 42	38 01				434013
30076	N. CANTON, OHIO	8544	7 07	3 16 20.2	14 16 30	28 50				845033
10014	JUPITER-BN, FLA.	9010	7 07	3 19 11.21	18 55 12	71 08				434013
30077	CHINA LAKE, CAL.	0098	7 07	4 57 18.2			31 18 36	51 57 36		641303
10013	SAN FERNANDO-BN, SP.	9004	7 07	21 50 46.20	17 06 36	41 09				434013
30078	TERRE HAUTE, IND.	8127	7 08	2 52 41.1	16 07 24	46 25				845044
30093	DAYTON-D, OHIO	8557	7 08	2 53 24.5			214 18	81 39		845304
10015	JUPITER-BN, FLA.	9010	7 08	2 56 34.39	19 55 12	53 54				434013
10022	SHIRAZ-BN, IRAN	9008	7 08	18 07 32.00	18 06 24	41 06				434013
10016	SAN FERNANDO-BN, SP.	9004	7 08	21 27 02.00	16 43 00	45 47				434013
10017	SAN FERNANDO-BN, SP.	9004	7 08	23 11 32.10	13 50 42	- 2 49				434013
30079	TERRE HAUTE, IND.	8127	7 09	2 29 00.5	15 47 30	49 35				845044
30094	CINCINNATI, OHI	0050	7 09	2 30 08			209	88		845302
10024	JUPITER-BN, FLA.	9010	7 09	2 32 53.33	19 43 00	56 14				434013
30087	DENVER, COLO.	8582	7 09	4 11 55.2			218 00	68 00		845303
30088	SACRAMENTO, CAL.	8517	7 09	5 54 39.8	14 38 54	5 49				641013
10027	MAUI-BN, HAWAII	9012	7 09	7 37 26.34	21 00 42	60 02				434013
10023	SHIRAZ-BN, IRAN	9008	7 09	17 43 57.00	17 45 00	46 50				434013
10018	SAN FERNANDO-BN, SP.	9004	7 09	21 03 30.40	16 41 18	46 25				434013
10019	SAN FERNANDO-BN, SP.	9004	7 09	22 48 04.40	13 42 24	- 3 08				434013
10025	JUPITER-BN, FLA.	9010	7 10	2 09 05.50	19 27 00	60 05				434013
30082	DENVER, COLO.	8582	7 10	3 48 19			217 15 00	70 45 00		845303
30083	SAN ANTONIO, TEX.	0049	7 10	3 51 11			0	74 30		845302
10021	TOKYO-BN, JAPAN	9005	7 10	12 16 51.10	14 13 30	7 17				434013
30100	NIIGATA, JAPAN	0229	7 10	12 17 22.9			224 54	45 54		845303
10030	SHIRAZ-BN, IRAN	9008	7 10	17 20 10.59	17 36 42	48 54				434013
10020	SAN FERNANDO-BN, SP.	9004	7 10	22 25 45.60	14 16 42	-12 41				434013
10026	JUPITER-BN, FLA.	9010	7 11	1 46 00.27	19 31 30	51 29				434013
10028	ORGAN PASS-BN, N.M.	9001	7 11	3 25 53.00	17 44 12	51 02				434013
30084	SAN ANTONIO, TEX.	0049	7 11	3 27 28			1	71		845302
30085	DALLAS, TEX.	0129	7 11	3 27 37.9	15 42 54	24 10				845043
30086	WICHITA, KAN.	0028	7 11	3 27 51.8	16 13 54	- 5 19				845043
30087	SACRAMENTO, CAL.	8517	7 11	5 07 23.1	14 03 48	11 12				641013
30088	SACRAMENTO, CAL.	8517	7 11	5 07 46.8	14 31 12	7 34				641013
10029	MAUI-BN, HAWAII	9012	7 11	6 51 40.50	20 37 18	40 00				434013
10031	SHIRAZ-BN, IRAN	9008	7 11	16 57 15.61	17 02 06	56 30				434013
10032	SAN FERNANDO-BN, SP.	9004	7 11	22 01 53.00	13 49 18	- 8 37				434013
30089	WICHITA, KAN.	0028	7 12	3 04 07.8	15 54 06	- 1 28				845043
30090	WICHITA, KAN.	0028	7 12	3 04 08.3	15 54 30	- 1 39				845043
30091	WICHITA, KAN.	0028	7 12	3 04 08.5	15 54 39	- 1 43				845043
30092	CHINA LAKE, CAL.	0098	7 12	4 45 30.1			224 08 24	50 48 36		641303
10030	ORGAN PASS-BN, N.M.	9001	7 12	4 48 22.00	14 16 54	-13 53				434013
10038	MAUI-BN, HAWAII	9012	7 12	6 27 15.60	20 20 06	51 25				434013
10036	SHIRAZ-BN, IRAN	9008	7 12	16 33 03.27	17 28 12	50 07				434013
10034	SAN FERNANDO-BN, SP.	9004	7 12	21 37 59.70	13 21 00	- 4 22				434013
30095	FT. WORTH, TEX.	0139	7 13	2 40 25.2	15 36	30 30				845013
30096	W. PALM BEACH, FLA.	0016	7 13	2 44 51			229	42		845303
10037	JUPITER-BN, FLA.	9010	7 13	2 44 57.09	14 34 00	- 9 45				434013
30097	CHINA LAKE, CAL.	0098	7 13	4 21 54.1			223 41 24	53 37 48		641303
10033	ORGAN PASS-BN, N.M.	9001	7 13	4 24 39.70	13 58 24	-11 12				434013
10035	SAN FERNANDO-BN, SP.	9004	7 13	21 14 22.10	13 04 30	- 2 39				434013
10040	SAN FERNANDO-BN, SP.	9004	7 14	20 51 01.80	18 01 48	- 3 41				434013
30107	W. PALM BEACH, FLA.	0016	7 16	1 34 25			228	52		845303
10045	MAUI-BN, HAWAII	9012	7 16	6 38 53.03	14 33 30	12 18				434013
10041	WOOMERA-BN, AUSTR.	9003	7 16	20 49 37.73	7 34 00	-63 08				434023
10043	CURACAO-BN, N.W.I.	9009	7 17	1 15 51.39	14 26 42	- 8 37				434013
10044	VILLA DOLORES-BN,ARG	9011	7 17	10 20 03.73	6 11 24	-52 53				434023
10042	WOOMERA-BN, AUSTR.	9003	7 17	20 26 11.43	7 23 24	-61 25				434023
10046	CURACAO-BN, N.W.I.	9009	7 18	0 52 26.36	14 30 24	- 9 18				434013
10047	VILLA DOLORES-BN,ARG	9011	7 18	9 56 26.38	1 00 54	-56 21				434023
10048	WOOMERA-BN, AUSTR.	9003	7 18	20 02 38.10	7 19 18	-62 00				434023
10049	CURACAO-BN, N.W.I.	9009	7 19	0 28 43.96	14 18 06	- 4 25				434013
10050	WOOMERA-BN, AUSTR.	9003	7 19	19 39 20.64	6 56 36	-57 37				434023
10051	CURACAO-BN, N.W.I.	9009	7 20	0 05 17.10	14 21 48	- 4 32				434013
10052	OLIFANTSFNTN-BN,S.AF	9002	7 21	3 46 33.34	3 46 36	-36 04				434023
10053	WOOMERA-BN, AUSTR.	9003	7 21	20 38 11.49	23 59 42	1 53				434013
10054	AREQUIPA-BN, PERU	9007	7 22	10 09 21.08	5 31 24	-59 16				434023
10056	WOOMERA-BN, AUSTR.	9003	7 22	20 14 27.21	23 22 48	- 5 51				434013

[illegible]	[illegible]	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10062	VILLA DOLORES-BN,AR	9011	7 26	9 44 24.13	22 56 46	9 26				434013
10063	AREQUIPA-BN, PERU	9007	7 23	9 46 42.84	5 32 42	-40 56				434023
10064	AREQUIPA-BN, PERU	9007	7 24	9 22 44.06	14 50 24	-21 03				434013
10065	AREQUIPA-BN, PER	9007	7 24	9 22 31.20	5 26 06	-65 09				434023
10066	OLIFANTSFONTN-BN,S.AF	9002	7 24	17 15 54.67	17 23 42	12 05				434013
10061	WOOMERA-BN, AUSTR.	9003	7 25	10 09 24.12	17 02 18	12 55				434013
10064	OLIFANTSFONTN-BN,S.AF	9002	7 25	16 51 57.80	16 49 24	18 09				434013
10063	WOOMERA-BN, AUSTR.	9003	7 26	9 46 22.91	17 23 18	6 47				434013
10067	AREQUIPA-BN, PERU	9007	7 26	10 21 44.10	22 30 54	27 08				434013
10068	VILLA DOLORES-BN,ARG	9011	7 26	23 15 58.63	16 20 06	9 34				434013
10065	WOOMERA-BN, AUSTR.	9003	7 27	9 23 14.04	17 33 36	2 34				434013
10067	AREQUIPA-BN, PERU	9007	7 27	9 58 25.62	22 29 48	29 48				434013
10068	WOOMERA-BN, AUSTR.	9003	7 28	10 44 43.69	11 59 36	-48 20				434023
30104	PRETORIA, S.AFR.	8575	7 28	17 27 55.2			218 36	37 36		845302
10069	OLIFANTSFONTN-BN,S.AF	9002	7 28	17 28 12.40	11 52 42	-61 23				434023
10070	WOOMERA-BN, AUSTR.	9003	7 29	10 21 38.95	12 05 00	-57 55				434023
10071	WOOMERA-BN, AUSTR.	9003	7 30	9 58 57.36	13 08 30	-55 54				434023
10072	OLIFANTSFONTN-BN,S.AF	9002	7 30	16 45 48.05	11 42 18	-64 39				434023
10074	VILLA DOLORES-BN,ARG	9011	7 30	23 29 10.17	11 45 00	-76 28				434023
10073	WOOMERA-BN, AUSTR.	9003	7 31	9 34 19.72	12 04 48	-56 52				434023
10074	VILLA DOLORES-BN,ARG	9011	7 31	23 42 19.97	11 18 12	-81 49				434023
10075	MOUNT-BN, ARIZ.	9012	8 01	14 55 51.85	1 48 00	- 9 45				434013
10077	JUPITER-BN, FLA.	9013	8 02	9 30 47.72	4 36 24	- 3 31				434013
10078	SHIRAZ-BN, IRAN	9008	8 03	0 42 08.50	3 19 12	-12 12				434013
30109	PUEBLA, MEX.	8400	8 04	10 24 42.2	0 46 30	43 53				845043
30110	PUEBLA, MEX.	8400	8 04	10 25 25.5	2 18 54	55 34				845043
30114	SAN NUXS, CAL.	8112	8 05	11 44 15			179 30	31 09 00		845303
30111	ALBUQUERQUE, N.M.	8579	8 07	11 00 59.0			180 00	48 24		845303
30112	ALBUQUERQUE, N.M.	8579	8 08	10 37 20.3			180 00	82 18		845302
30113	DENVER, COLO.	8582	8 08	10 38 32.0			142 00	59 45 00		845303
50032	ROCHESTER-P, N.Y.	5050	8 09	8 34 53.8	2 36 30	5 48				637034
10079	SAN FERNANDO-BN, SP.	9004	8 10	3 06 16.80	2 45 24	20 10				434013
10080	SAN FERNANDO-BN, SP.	9004	8 10	3 06 25.80	2 52 18	21 03				434013
10081	SAN FERNANDO-BN, SP.	9004	8 11	4 28 05.50	18 58 00	70 50				434013
10082	SAN FERNANDO-BN, SP.	9004	8 11	4 28 07.50	18 55 18	71 31				434013
10083	SAN FERNANDO-BN, SP.	9004	8 12	4 04 05.00	19 08 54	61 07				434013
10084	SAN FERNANDO-BN, SP.	9004	8 12	4 04 46.00	18 23 48	75 17				434013
50037	TASHKENT, USSR	1052	8 12	22 36 18.3	23 21 36	63 30				845009
50035	STALINGRAD, USSR	1046	8 13	23 55 43.4	0 14 18	7 54				845009
50036	STALINGRAD, USSR	1046	8 13	23 55 44.9	0 16 48	8 12				845009
30115	DENVER, COLO.	8582	8 14	10 03 14			336 00	41 40 00		845303
50033	ASTRAKHAN, USSR	1055	8 14	23 35 44.6	22 07 06	3 36				845009
50034	ASTRAKHAN, USSR	1055	8 14	23 35 54.6	22 14 06	3 36				845009
10085	SAN FERNANDO-BN, SP.	9004	8 15	2 55 23.20	8 20 30	75 26				434013
10086	SAN FERNANDO-BN, SP.	9004	8 15	2 55 26.60	8 17 06	74 47				434013
10089	WOOMERA-BN, AUSTR.	9003	8 17	10 02 20.07	21 31 30	-74 26				434023
10090	WOOMERA-BN, AUSTR.	9003	8 17	10 02 43.56	21 31 00	-66 28				434023
10087	VILLA DOLORES-BN,ARG	9011	8 17	23 30 36.69	10 40 30	-72 08				434023
10088	VILLA DOLORES-BN,ARG	9011	8 17	23 33 15.75	20 22 48	-52 14				434023
10099	VILLA DOLORES-BN,ARG	9011	8 18	23 06 33.24	9 49 54	-69 31				434023
10100	VILLA DOLORES-BN,ARG	9011	8 18	23 11 39.84	20 54 24	-13 18				434013
10101	VILLA DOLORES-BN,ARG	9011	8 20	0 30 01.79	13 45 00	- 4 57				434013
10102	VILLA DOLORES-BN,ARG	9011	8 20	0 30 32.42	14 11 06	0 45				434013
10098	SAN FERNANDO-BN, SP.	9004	8 20	4 29 55.10	11 27 12	69 30				434013
10104	SAN FERNANDO-BN, SP.	9004	8 20	4 29 59.10	11 17 48	68 56				434013
10094	WOOMERA-BN, AUSTR.	9003	8 20	10 38 12.60	15 31 00	5 27				434013
10091	OLIFANTSFONTN-BN,S.AF	9002	8 20	17 22 00.48	15 59 12	-53 21				434023
30116	PRETORIA, S.AFR.	8575	8 20	17 22 55.9			135 36	74 48		845302
30117	PRETORIA, S.AFR.	8575	8 20	17 22 56.5			135 36	75 00		845302
10092	OLIFANTSFONTN-BN,S.AF	9002	8 20	17 23 59.61	19 16 12	- 6 56				434013
50038	KOMSOMOLSK, USSR	1025	8 20	17 55 44.0	22 34 24	43 42				845009
50039	SARATOV, USSR	1044	8 20	22 58 08.1	1 56 12	32 54				845009
50040	UFA, USSR	1057	8 20	22 59 16.3	0 44 00	15 18				845009
50041	UFA, USSR	1057	8 20	22 59 28.1	1 07 30	15 18				845009
10103	VILLA DOLORES-BN,ARG	9011	8 21	0 08 30.61	15 27 48	19 26				434013
30106	ROCHESTER, N.Y.	8564	8 21	0 30 31.4	17 58	15 06				845033
10096	WOOMERA-BN, AUSTR.	9003	8 21	10 13 56.17	14 29 42	- 7 41				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10097	WOOMERA-BN, AUSTR.	9003	8 21	10 15 33.74	16 31 18	17 51				434013
10093	OLIFANTSFNTN-BN,S.AF	9002	8 21	16 58 25.73	16 04 00	-55 26				434023
10094	OLIFANTSFNTN-BN,S.AF	9002	8 21	17 00 22.51	19 07 30	-10 07				434013
10110	VILLA DOLORES-BN,ARG	9011	8 21	23 43 54.04	14 12 42	3 43				434013
10111	VILLA DOLORES-BN,ARG	9011	8 21	23 46 20.89	16 42 54	33 54				434013
10109	AREQUIPA-BN, PERU	9007	8 21	23 47 39.69	20 50 42	-17 55				434013
10105	WOOMERA-BN, AUSTR.	9003	8 22	9 49 44.27	13 29 42	-18 55				434013
10106	WOOMERA-BN, AUSTR.	9003	8 22	9 51 15.36	15 28 18	4 09				434013
10114	VILLA DOLORES-BN,ARG	9011	8 22	23 18 47.14	12 33 18	-15 13				434013
10115	VILLA DOLORES-BN,ARG	9011	8 22	23 19 31.29	13 12 54	- 8 06				434013
10112	WOOMERA-BN, AUSTR.	9003	8 23	9 26 46.23	14 06 42	-13 18				434013
10113	WOOMERA-BN, AUSTR.	9003	8 23	9 27 35.66	15 14 06	0 23				434013
10116	SAN FERNANDO-BN, SP.	9004	8 24	4 42 30.00	7 02 36	59 37				434013
50042	BLAGOVESTCHENSK,USSR	1010	8 24	18 04 44.8	20 43 00	33 48				845009
50043	BLAGOVESTCHENSK,USSR	1010	8 24	18 07 34.3	3 46 00	23 48				845009
10119	AREQUIPA-BN, PERU	9007	8 25	0 21 26.94	14 03 42	26 33				434013
50045	TCHERNOVITSY, USSR	1062	8 25	0 51 26.4	1 40 00	54 30				845009
50046	TCHERNOVITSY, USSR	1062	8 25	0 51 50.4	3 10 00	48 00				845009
50044	ODESSA, USSR	1036	8 25	0 52 14.6	1 59 00	64 42				845009
50047	NIKOLAEV, USSR	1077	8 25	0 52 43.1	2 42 36	53 42				845009
50048	NIKOLAEV, USSR	1077	8 25	0 53 02.2	3 32 30	46 54				845009
10118	SAN FERNANDO-BN, SP.	9004	8 25	4 18 54.20	6 59 00	59 33				434013
30155	ALBUQUERQUE, N.M.	8579	8 25	11 02 46.2			0 00	31 54		845303
10120	AREQUIPA-BN, PERU	9007	8 25	23 57 52.65	13 52 30	25 42				434013
50083	TBILISI, USSR	1053	8 27	0 08 12.5	3 12 00	65 12				845009
40156	CINCINNATI, OHIO	0050	8 27	8 34 11	5 55	70 31				845004
10123	JUPITER-BN, FLA.	9010	8 28	1 04 14.75	20 04 00	- 0 14				434013
10121	SAN FERNANDO-BN, SP.	9004	8 28	3 07 24.50	7 33 12	73 56				434013
10122	SAN FERNANDO-BN, SP.	9004	8 28	4 53 39.10	1 06 36	6 41				434013
30157	CINCINNATI, OHIO	8559	8 28	9 56 27			222	45		845302
10124	JUPITER-BN, FLA.	9010	8 28	9 59 17.85	2 28 06	36 27				434013
10128	SHIRAZ-BN, IRAN	9008	8 28	16 16 01.56	19 51 24	4 52				434013
10129	SHIRAZ-BN, IRAN	9008	8 29	1 10 20.22	1 28 54	5 53				434013
10125	SAN FERNANDO-BN, SP.	9004	8 29	4 30 04.70	0 55 48	8 10				434013
10132	SHIRAZ-BN, IRAN	9008	8 29	15 52 22.08	19 34 18	0 27				434013
10126	SAN FERNANDO-BN, SP.	9004	8 29	21 00 04.10	17 13 24	44 38				434013
10133	SHIRAZ-BN, IRAN	9008	8 30	0 47 04.11	1 48 30	1 51				434013
10130	JUPITER-BN, FLA.	9010	8 30	2 03 06.32	12 32 30	60 37				434013
10127	SAN FERNANDO-BN, SP.	9004	8 30	4 06 57.10	1 29 06	2 21				434013
10131	JUPITER-BN, FLA.	9010	8 30	9 13 19.14	4 10 00	12 44				434013
10139	TOKYO-BN, JAPAN	9005	8 30	10 28 33.70	20 36 54	24 16				434013
10134	SAN FERNANDO-BN, SP.	9004	8 30	20 36 16.10	16 44 06	34 00				434013
10135	SHIRAZ-BN, IRAN	9008	8 31	0 22 57.73	0 45 42	15 07				434013
10136	JUPITER-BN, FLA.	9010	8 31	1 39 41.61	12 08 30	64 02				434013
30118	DENVER, COLO.	8582	8 31	3 23 07.5			328 30	81 15 00		845303
10137	SAN FERNANDO-BN, SP.	9004	8 31	20 13 06.40	17 36 48	44 18				434013

1959 IOTA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1959.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00460	EDWARDS AFB-6, CAL.	5086	11 20	13 41 00			264 36 54	30 27 00		521305
00461	EDWARDS AFB-6, CAL.	5086	11 20	13 41 30			252 42 00	33 54 00		521305
00462	EDWARDS AFB-6, CAL.	5086	11 20	13 42 00			238 16 12	36 14 24		521305
00466	EDWARDS AFB-6, CAL.	5086	11 20	13 42 22			266 37 12	36 33 07		521305
00463	EDWARDS AFB-6, CAL.	5086	11 20	13 42 30			222 27 36	36 19 48		521305
00464	EDWARDS AFB-6, CAL.	5086	11 20	13 43 00			206 57 36	34 11 42		521305
00465	EDWARDS AFB-6, CAL.	5086	11 20	13 43 30			193 48 54	31 55 12		521305

1959 IOTA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01050	PRETORIA, S.AFR.	0405	1 20	18 34 51.0			179 36	54 48		845302
01051	PRETORIA, S.AFR.	0405	1 21	18 11 58.3			179 36	52 12		845302
01052	PRETORIA, S.AFR.	0405	3 06	2 45 35.3			179 24	48 48		845302
01137	TCHERNOVITSY, USSR	1062	3 26	2 24 51.6	14 29 42	30 36				845009
01138	TCHERNOVITSY, USSR	1062	3 26	2 25 18.1	15 01 24	35 24				845009
01139	BLAGOVESTCHENSK,USSR	1010	3 29	18 09 43.8	17 19 00	32 42				845009
01140	BLAGOVESTCHENSK,USSR	1010	3 29	18 09 56.8	17 37 00	32 48				845009
01141	NIKOLAEV, USSR	1077	3 30	0 55 15.7	16 53 12	58 18				845009

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
01142	NIKOLAEV, USSR	1077	3 30	0 55 30.1	17 30 00	57 54				845009
01143	ODESSA, USSR	1036	3 30	2 41 04.8	17 24 30	71 54				845009
01157	ORENBURGH, USSR	1063	3 30	22 51 12.5	17 37	30 12				845009
01158	ORENBURGH, USSR	1063	3 30	22 51 32.0	17 10	32 06				845009
01150	BLAGOVESTCHENSK,USSR	1010	4 01	18 42 55.3	12 11 00	31 18				845009
01151	BLAGOVESTCHENSK,USSR	1010	4 01	18 43 30.1	12 40 00	36 30				845009
01152	BLAGOVESTCHENSK,USSR	1010	4 01	18 43 40.9	12 53 00	38 18				845009
01153	BLAGOVESTCHENSK,USSR	1010	4 01	18 43 56.8	13 14 00	41 00				845009
01154	BLAGOVESTCHENSK,USSR	1010	4 01	18 44 04.9	13 24 00	42 48				845009
01155	BLAGOVESTCHENSK,USSR	1010	4 01	18 44 33.1	14 10 00	46 48				845009
01156	BLAGOVESTCHENSK,USSR	1010	4 01	18 46 21.2	16 01 00	47 54				845009
01163	ROSTOV, USSR	1041	4 01	23 46 11.9	13 37 30	57 30				845009
01164	ROSTOV, USSR	1041	4 01	23 46 24.8	14 00 36	59 42				845009
01148	KIEV, USSR	1023	4 03	1 07 33.6	14 35 36	48 24				845009
01149	KIEV, USSR	1023	4 03	1 07 55.2	15 27 18	50 42				845009
01147	RIAZAN, USSR	1042	4 03	1 08 33.0			49 00	52 42		845009
01159	ORENBURGH, USSR	1063	4 03	23 02 53.3	14 26 00	41 18				845009
01160	ORENBURGH, USSR	1063	4 03	23 03 40.1	15 55 00	42 48				845009
01161	ORENBURGH, USSR	1063	4 03	23 03 48.1	16 10 30	42 36				845009
01165	TCHERNOVITSY, USSR	1062	4 04	0 43 58.6	15 19 00	62 42				845009
01162	RIAZAN, USSR	1042	4 04	0 47 17.4			243 00	58 06		845009
01166	ASTRAKHAN, USSR	1005	4 04	0 52 18.1	14 28 00	52 48				845009
01167	ASTRAKHAN, USSR	1005	4 04	0 52 52.7	15 08 00	53 00				845009
01168	ASTRAKHAN, USSR	1005	4 04	0 53 02.9	15 19 00	51 12				845009
01169	BLAGOVESTCHENSK,USSR	1010	4 06	18 34 15.3	13 10 00	40 36				845009
01144	KOMSOMOLSK, USSR	1025	4 08	17 50 23.1	14 41 12	33 12				845009
01145	KOMSOMOLSK, USSR	1025	4 08	17 50 28.1	14 48 48	32 18				845009
01059	FARNHAM, ENG.	8048	4 13	20 46 59.4	11 49	8 12				845009
01146	ASTRAKHAN, USSR	1005	4 13	22 47 52.8	11 24 00	15 00				845009
01065	SAN FERNANDO-BN, SP.	9004	4 15	21 44 19.10	1 31 00	77 26				434013
01066	SAN FERNANDO-BN, SP.	9004	4 15	23 31 06.60	0 58 12	76 45				434013
01170	DNEPROPETROVSK, USSR	1017	4 25	18 00 45.1	12 08	51 00				845009
01171	DNEPROPETROVSK, USSR	1017	4 25	18 00 50.2	12 26	49 54				845009
01172	DNEPROPETROVSK, USSR	1017	4 25	18 00 51.5	12 30	49 36				845009
01173	UGOROD, USSR	1055	4 25	19 46 04.6	10 55 00	34 05				845009
01174	UGOROD, USSR	1055	4 25	19 46 06.4	11 20 00	34 22				845009
01175	TCHERNOVITSY, USSR	1062	4 26	19 21 19.3	10 50 00	31 42				845009
01176	TCHERNOVITSY, USSR	1062	4 26	19 21 22.8	10 54 06	30 30				845009
01177	TCHERNOVITSY, USSR	1062	4 26	19 22 17.5	12 23 12	21 00				845009
01178	ODESSA, USSR	1036	4 27	18 59 50.6	12 05 00	23 18				845009
01179	ODESSA, USSR	1036	4 27	19 00 11.6	12 35 00	19 00				845009
01180	NIKOLAEV, USSR	1077	4 28	18 36 08.8	10 52 54	26 00				845009
01181	NIKOLAEV, USSR	1077	4 28	18 36 51.3	11 55 00	17 24				845009
01209	TOKYO-BN, JAPAN	9005	5 02	12 06 14.70	9 43 48	3 23				434013
00877	HIGASHIMATSUYAMA,JAP	0210	5 02	12 06 38.7	10 18	- 3 00				845003
00878	MITAKA, JAPAN	0225	5 03	11 48 04.3			225 30	46 18		845303
01072	MAUI-BN, HAWAII	9012	5 04	6 17 18.40	15 33 30	44 47				434013
01073	WOOMERA-BN, AUSTR.	9003	5 11	19 34 12.46	0 30 12	-61 26				434023
01031	PRETORIA, S.AFR.	0405	5 22	16 35 39.3			179 36	34 00		845303
01074	VILLA DOLORES-BN,ARG	9011	5 23	22 57 12.78	6 41 30	-46 31				434023
01075	VILLA DOLORES-BN,ARG	9011	5 23	23 01 11.26	17 06 18	-73 12				434023

1959 IOTA 1

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1959.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00350	LAREDO-RADAR, TEXAS	4012	12 08	21 39 06.6			349 42	71 04 12	1102	895307
00353	LAREDO-RADAR, TEXAS	4012	12 09	21 16 13.5			1 42	73 30	1081	895307
00354	LAREDO-RADAR, TEXAS	4012	12 09	21 16 29.5			1 42	73 30	1103	895307
00427	LAREDO-RADAR, TEXAS	4012	12 24	15 36 12.5			84 00	46 18	1130	895307
00426	LAREDO-RADAR, TEXAS	4012	12 24	15 36 24			84 00	46 18	1172	895307

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00100	LAREDO-B, TEXAS	4012	1 29	3 42 31.5			135 00	82 00	592	895307
00101	LAREDO-B, TEXAS	4012	1 29	3 42 40.0			135 00	82 00	592	895307
00110	LAREDO-RADAR, TEXAS	4012	2 05	1 03 45			97 48	51 54	804	895307
00111	LAREDO-RADAR, TEXAS	4012	2 05	1 03 54.75			97 48	51 54	821	895307
00112	LAREDO-RADAR, TEXAS	4012	2 05	2 49 51			339 00	16 30	1532	895307
00113	LAREDO-RADAR, TEXAS	4012	2 05	2 50 00			339 00	16 30	1540	895307
00126	TOKYO-BN, JAPAN	9005	2 08	10 09 32.20	22 27 36	63 17				434013
00184	LAREDO-RADAR, TEXAS	4012	2 22	19 58 06			342 18	44 00	1139	895307
00185	LAREDO-RADAR, TEXAS	4012	2 22	19 58 16.55			342 18	44 00	1159	895307
00186	LAREDO-RADAR, TEXAS	4012	2 23	3 08 04.5			62 36	36 12	904	895307
00187	LAREDO-RADAR, TEXAS	4012	2 23	3 08 16.5			62 36	36 12	928	895307
00224	LAREDO-RADAR, TEXAS	4012	2 25	18 48 27.0			314 00	54 51 00	1078	895307
00225	LAREDO-RADAR, TEXAS	4012	2 25	18 48 36.7			314 00	54 51 00	1078	895307
00250	LAREDO-RADAR, TEXAS	4012	2 27	1 36 37.5			57	30 54	1037	895307
00251	LAREDO-RADAR, TEXAS	4012	2 27	1 36 46.5			57	30 54	1050	895307
00254	LAREDO-RADAR, TEXAS	4012	3 01	2 11 51.0			257 48	23 24	1230	895307
00255	LAREDO-RADAR, TEXAS	4012	3 01	2 12 09.0			257 48	23 24	1174	895307
00259	LAREDO-RADAR, TEXAS	4012	3 02	0 12 04.5			59 12	31 00	1082	895307
00260	LAREDO-RADAR, TEXAS	4012	3 02	0 12 12.0			59 12	31 00	1065	895307
00261	LAREDO-RADAR, TEXAS	4012	3 02	1 49 00.0			258 46	24 48	1196	895307
00262	LAREDO-RADAR, TEXAS	4012	3 02	1 49 16.5			258 46	24 48	1146	895307
00270	LAREDO-RADAR, TEXAS	4012	3 02	16 31 13.5			358 12	64 18	1070	895307
00271	LAREDO-RADAR, TEXAS	4012	3 02	16 31 31.5			358 12	64 18	1100	895307
00370	LAREDO-RADAR, TEXAS	4012	3 19	18 57 52.5			142	69	822	895307
00371	LAREDO-RADAR, TEXAS	4012	3 19	18 58 07.5			142	69	854	895307
00340	LAREDO-RADAR, TEX.	4012	3 21	18 11 43.5			121 06	69 30	656	895307
00341	LAREDO-RADAR, TEX.	4012	3 21	18 12 01.5			121 06	69 30	707	895307
00389	LAREDO-RADAR, TEXAS	4012	3 25	16 39 25.5			89	64 54	954	895307
00390	LAREDO-RADAR, TEXAS	4012	3 25	16 39 42			89	64 54	982	895307
00406	LAREDO-RADAR, TEXAS	4012	3 30	7 30 51.0			340 54	45 30	1322	895307
00409	LAREDO-RADAR, TEXAS	4012	3 30	7 31 07.5			340 54	45 30	1348	895307
00436	LAREDO-RADAR, TEXAS	4012	3 31	7 06 40.5			312 42	48 24	1246	895307
00437	LAREDO-RADAR, TEXAS	4012	3 31	7 06 55.5			312 42	48 24	1241	895307
00442	LAREDO-RADAR, TEXAS	4012	3 31	14 19 33			27 42	57	1191	895307
00443	LAREDO-RADAR, TEXAS	4012	3 31	14 19 46.5			27 42	57	1150	895307
00500	BLAGOVESTCHENSK,USSR	1010	3 31	19 06 52.4	13 09 00	38 42				845009
00475	BLAGOVESTCHENSK,USSR	1010	3 31	19 09 26.5	18 03 00	49 00				845009
00479	RIAZAN, USSR	1042	4 01	0 10 03			0 00	57 48		845309
00480	RIAZAN, USSR	1042	4 01	0 10 21.2			350 00	58 00		845309
00451	LAREDO-RADAR, TEXAS	4012	4 02	6 20 15			310 42	51 30	1163	895307
00452	LAREDO-RADAR, TEXAS	4012	4 02	6 20 34.5			310 42	51 30	1163	895307
00453	LAREDO-RADAR, TEXAS	4012	4 04	5 33 24			308 24	54 54	1088	895307
00454	LAREDO-RADAR, TEXAS	4012	4 04	5 33 37.5			308 24	54 54	1083	895307
00583	SAN FERNANDO-BN, SP.	9004	4 19	20 10 36.20	2 03 12	68 56				434013
00555	NORTH CANTON, OHIO	0053	4 20	1 15 44.6	1 10	88 53				845042
00774	ROCHESTER, N.Y.	8564	5 03	1 34 03.8	11 11 12	- 7 30				845032
00863	OLIFANTSFNTN-BN,S.AF	9002	5 18	16 20 31.00	11 25 06	16 32				434013