

I A G A Bulletin No. 12 s2

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

ASSOCIATION OF GEOMAGNETISM AND AERONOMY

GEOMAGNETIC DATA 1964

RAPID VARIATIONS

by

A. ROMANA and J. VELDKAMP

Published for the International Council of Scientific Unions with the
financial assistance of Unesco

IUGG PUBLICATION OFFICE, 39 TER, RUE GAY-LUSSAC, PARIS (V)
PRINTED BY KRIPS' REPRINT COMPANY, MEPPEL, HOLLAND

1968

How to cite:

Romana, A., Veldkamp, J., & IAGA (1968). *IAGA Bulletin No. 12s2, Geomagnetic Data 1964: Rapid Variations.* IUGG Publications Office.
<https://doi.org/10.25577/a2jr-xm85>

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Unesco subvention - 1968 - DC/2.1/414/26

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GEOMAGNETIC DATA 1964

RAPID VARIATIONS

Introduction

List of observatories. The list of observatories has been taken from bulletin 12 s1 (Geomagnetic Data 1964, indices K and C) with some little changes.

The first three pages of the list of observatories give the name of the observatory and its two-letter symbol, the name of the collaborator and the geographic and geomagnetic coordinates. The fourth to the sixth pages give the scale values of the instruments, used for scaling K or (and) C, the lower limit for K = 9, and the range of disturbances on a day with character-figure C = 1. The seventh to ninth pages give information on the instruments used for recording magnetograms and on the method used by some observatories for checking the solar-flare effects found in the magnetograms. The column "Ionospheric Stations or Radio Services" indicates the ionospheric or solar observatories or the radio services whose reports on Dellingler effects, eruptions on the sun, and black-outs in the radio communication enable the magnetic observatory to distinguish between a solar-flare effect and a bay-disturbance caused by particle radiation from the sun.

Table 1a is a list of sudden commencements followed by a magnetic storm or by an increase in activity lasting at least one hour (ssc), checked by 60 observatories. The times in the column at the left are mean values. Observatories which checked the sudden commencements and agreed with the term ssc are classified in six groups under the letters A, B, C, D, E, X, as follows:

- A... when the phenomenon in their magnetograms is a very remarkable ssc
- B... when it is a fair, ordinary, but unmistakable ssc
- C... when it is a very poor or doubtful ssc
- D... when it was decidedly not recorded in the magnetograms, although the records were satisfactory
- E... when the phenomenon cannot be discerned because of heavy disturbance
- X... when the record is missing

In some cases one or more observatories preferred another qualification (si, b, bp, etc); these observatories are also indicated. The checking observatories were: Ki So Co Do Nu Le Si Kn Mo Es Wn Wi Ir Ni Vl Gt Ha Kv Ma Db Pr Vi Fd CF Hb Od Mb Ag Lg Aq Tk Eb Tl Fr Ak SM Ka Ss Ds Tu Ky Ho Te SJ MB Mu Gu Pa Ba Mc Bi Ap Tn Gn Hr To Am Kg DU SB.

Table 1b is a list of sudden commencements (ssc) originally given by an insufficient number of observatories to be included in the checking-lists and consequently not checked by other observatories; reports that arrived after the sending of the checking-lists have been included. The remarks are the same as for the Table 1a.

Table 2a is a list of commencements of bays or pulsational disturbances associated with bays. In accordance with the circular-letter of the 7th January 1964 these disturbances were not checked and therefore the list is only based upon the monthly data. The times at the left-hand side of the table are mean times. The extreme values attributed by some observatories to the beginning of the phenomenon are added in brackets. On printing grounds only the minutes are given. These minutes generally

belong to the hour of the phenomenon, but if they are underlined they belong to the preceding hour. The observatories are mentioned in groups, according to the qualification (b, bs, bp, etc.) which they have attributed to the phenomenon in accordance with the definitions given by the Copenhagen- and Berkeley meetings. The classification symbols A, B, C, D, E, X, are the same as in Table 1a. The meaning of the symbols b, bs, etc. is:

- b....clear and isolated bay appearing during a calm period without pulsations or sharp beginning
- bs...bay with sharp beginning without pulsations
- bp...bay with pulsations without sharp beginning
- bps..bay with pulsations and sharp beginning
- pi2..train of pulsations of irregular shape and beginning mostly impulsive, with period 40 - 150 sec., consisting of several series of oscillations, each series lasting about 10 minutes (pi2 corresponds with the former pt).
- pg...giant pulsations, viz., exceptional pulsations of very great period and regularity, with sufficient relative amplitude

If pulsations precede or follow the beginning of the bay with a time lag of not more than about ten minutes, then symbols bp and bps are used. If the interval is greater, both phenomena are reported separately.

This list cannot be considered as complete, as it may be that a bay has been selected by the observatories out of a great many similar disturbances all occurring on the same day. Therefore it seems better not to use this table for statistical purposes without caution. This holds also for the Tables 2b, 2c, 2d, 3a, and 3b.

Table 2b gives a summary of pulsational disturbances of type pi-2 (the former pt) not associated with bays. These phenomena were not checked and the list is based only upon the monthly data.* (see Note)

Table 2c. After the circular letter of January 7, 1964, continuous pulsations of the types pc-4 (period 45 - 150 sec.) and pc-5 (period 150 - 600 sec.) can also be given in forms for Ordinary Magnetograms and Tellurigrams.* Table 2c gives a summary of these pulsational disturbances of type pc-4. No summary is given for pc-5 pulsations because only five cases were reported in the Ordinary Magnetogram forms during 1964. These cases are:

- April 11d 04h 27m (25-28) A: Tr (si: Hl - pg: B: IK)
- Sept. 20d 00h 02m (00-05) B: SM (pi2: C: MB)
- Nov. 01d 21h 12m (10-15) B: Si (ssc: A: Tr)
- Nov. 15d 12h 30m (30) B: Si (ssc: B: Tr)
- Nov. 21d 16h 00m (00) B: Co? Si (pc4: B: Am)

Table 2d is a list of giant pulsations checked by 57 observatories, the same as for the ssc's except Pr Ak Ss Ba; on the otherhand Bu has checked only pg's.

Table 3a gives a summary of sudden magnetic changes or impulses (si) which could not be classified as ssc, b, bp, etc.: they have been checked by 60 observatories, the same as for the ssc's.

*) Note: More detailed information on pulsations, as reported by stations with rapid-run magnetograms, is collected by Dr. A. Romaña, S. J., Observatorio del Ebro, Tortosa, Spain and published in the "Three-monthly Bulletin" of the "International Service of Geomagnetic Indices", De Bilt, Netherlands.

Table 3b gives a summary of si's that were not checked, for the same reason as for the ssc's of Table 1b.

Table 4 is a list of minor disturbances reported by one station only.

Table 5a gives a summary of solar-flare effects (sfe) reported by the observatories. The times tabulated in the column at the left are mean values of the times given for the beginning of a phenomenon. A check for the solar-flare effects was made by 57 observatories, the same as for the ssc's, except Mo Ak Ss. Stations in the daylight hemisphere have been written behind the indicated times and grouped in the same way as in Table 1a. Observatories near the subsolar point are underlined. Stations lying in the twilight-zone of the dark hemisphere, which reported a clear disturbance, are indicated by dotted brackets. Stations under the same circumstances in the full dark have been given in parentheses. Stations on the night-side of the earth, which give a negative or doubtful answer, have been omitted. In cases where one or more stations reported a simultaneous disturbance from a ionospheric or solar observatory or from a radio service which gave support to the geomagnetic solar-flare effect, the indicated time has been underlined.

Table 5b summarizes all doubtful solar-flare effects. In general, the following cases have been considered as doubtful: those where well-located stations (with respect to the subsolar point) did not report such an effect and those where some stations in full dark mentioned a disturbance which, considering the hour and their geographic position, would probably not be a night-side bay coexisting with a s.f.e. at the day-side of the earth. Nevertheless, it is very probable that several cases reported in this Table are real solar-flare effects.

Table 5c summarizes times of presumed solar-flare effects, which are probably not real solar-flare effects, as several stations in full dark reported a sudden commencement, a sudden impulse or a bay disturbance at the indicated time, whereas stations in full daylight found a doubtful effect or a disturbance that did not agree with an increase of the normal daily variation.

Committee on Characterization of Magnetic Disturbances

A. T. Price, Chairman

The University

Exeter, Great Britain

J. Veldkamp

Kon. Nederl. Meteorol. Instituut

De Bilt, Netherlands

Committee on Rapid Magnetic Variations and Earth Currents

A. Romaña, S. J., Chairman

Observatorio del Ebro

Tortosa, Spain

LIST OF OBSERVATORIES

Arranged according to geographic latitude

Observatory	Collaborator	Geographic		Geomagnetic	
		Lat.	Long.	Lat.	Long.
NP7	North Pole 7	USSR	+86° 0'	250° -1'	-° 0'
NP6	North Pole 6	USSR	+83 -	130 -	- -
NP8	North Pole 8	USSR	- -	- -	- -
BT	Bay Tikhaya(Cheisa)	Bykov	+80 20	52 48	+71, 5
CC	Cape Chelyuskin	A. I. Slonimskiaia	+77 43	104 17	+65, 9
Th	Thule	J. Olsen	+77 29	290 50	+89, 0
RB	Resolute Bay	R. G. Madill	+74 41	265 10	+83, 0
B4	Bear Island		+74 31	19 01	+71, 1
Di	Dickson	Panov	+73 33	80 34	+63, 0
MS	Matoshkin Shar	N. D. Medvedev	+73 16	56 24	+64, 8
Ti	Tiksy	Melgunov	+71 35	129 00	+60, 4
PB	Point Barrow	R. Z. Barela	+71 18	203 14	+68, 5
Tr	Tromsø	E. Tønsberg	+69 40	18 57	+67, 2
Go	Godhavn	J. Olsen	+69 14	306 29	+79, 9
Mm	Murmansk		+68 15	33 05	+63, 5
Ki	Kiruna	N. Ambolt	+67 50	20 25	+65, 3
So	Sodankylä	E. Kataja	+67 22	26 38	+63, 8
We	Wellen	Andriunina	+66 10	190 10	+61, 8
Co	College	C. J. Beers	+64 52	212 10	+64, 6
BL	Baker Lake	R. G. Madill	+64 20	263 58	+73, 8
Li	Leirvogur		+64 11	338. 18	+70, 2
Sr	Srednikan	D. S. Slonimsky	+62 26	152 19	+53, 2
YK	Yellowknife		+62 24	245 36	+69, 0
Do	Dombås	G. Gjellestad	+62 04	9 07	+62, 3
Ya	Yakutsk	V. I. Tchirkov	+62 01	129 40	+51, 0
Nu	Nurmijärvi	M. Kivinen	+60 30	24 39	+57, 8
Le	Lerwick	L. Jacobs	+60 08	358 49	+62, 5
Ln	Leningrad	E. P. Gluschkova	+59 57	30 42	+56, 2
Lo	Lovö	F. Eleman	+59 21	17 50	+58, 1
Si	Sitka	M. L. Gleven	+57 04	224 40	+60, 0
Sv	Sverdlovsk	S. P. Reschetnikov	+56 44	61 04	+48, 5
Tm	Tomsk		+56 28	84 56	+45, 9
RS	Rude Skov	A. Lundbak	+55 51	12 27	+55, 8
Kn	Kasan	N. F. Pushkin	+55 50	48 51	+49, 3
Mo	Moskwa	M. S. Mansurov	+55 28	37 19	+50, 8
Es	Eskdalmuir	L. Jacobs	+55 19	356 48	+58, 5
Me	Meanook	Anne B. Cook	+54 37	246 34	+61, 8
Hl	Helu	W. Czyszek	+54 36	18 48	+53, 5
Mn	Minsk		+54 04	27 08	+50, 6
St	Stonyhurst	J. E. Worthy S. J.	+53 51	357 32	+56, 9
Wn	Wingst	O. Meyer	+53 44	9 04	+54, 5
Wi	Witteveen	D. van Sabben	+52 49	6 40	+54, 2
Ir	Irkutsk	V. M. Mishin	+52 10	104 27	+41, 0
Sw	Swider	Z. Kalinowska	+52 07	21 15	+50, 6
Ni	Niemegk	G. Fanselau	+52 04	12 40	+52, 2
Vl	Valentia	S. Mc Williams	+51 56	349 15	+56, 6
Be	Belsk		+51 50	20 48	+50, 4
Gt	Göttingen	M. Siebert	+51 33	9 58	+52, 3
Cm	Collmberg	C. Junge	+51 19	13 00	+51, 5
Ha	Hartland	B. R. Leaton	+51 00	355 31	+54, 6
Kv	Kiev		+50 43	30 18	+47, 3
Ma	Manhay	L. Koenigsfeld	+50 18	5 41	+52, 0
Db	Dourbes	A. de Vuyst	+50 06	4 36	+51, 7

LIST OF OBSERVATORIES - continued

Arranged according to geographic latitude

Observatory	Collaborator	Geographic		Geomagnetic	
		Lat.	Long.	Lat.	Long.
Ra	Racibórz		+50° 05'	18° 11'	-°
Pr	Pruhonice	J. Bouska	+49 59	14 33	+49.9
Lw	Lwow	M. S. Babuschnikov	+49 54	23 45	+48.0
Bu	Budkov	J. Subrt	+49 04	14 01	+49.1
Vi	Victoria	B. Canner	+48 31	236 35	+54.3
Fü	Fürstenfeldbruck	K. Wienert	+48 10	11 17	+48.9
CF	Chambon-la-Forêt	A. Blum	+48 01	2 16	+50.4
Hb	Hurbanovo	Anton Tlcik	+47 54	18 12	+47.1
Na	Nantes	O. Noblanc	+47 15	358 27	+50.5
Sa	Sakhalinsk	N. I. Petrov	+46 57	142 43	+36.9
Ty	Tihany		+46 54	17 53	+46.4
Od	Odessa	A. I. Staroginsky	+46 47	30 53	+43.8
Su	Surlari		+44 41	26 15	+42.5
Gc	Grocka		+44 38	20 46	+43.6
Mb	Memambetsu	Y. Tamura	+43 55	144 12	+34.0
Ag	Aigcourt	A. A. Onhauser	+43 47	280 44	+55.0
Wl	Wladiwostok	M. S. Lasarev	+43 41	132 10	+33.0
At	Alma Ata		+43 16	77 23	+33.4
Lg	Logroño	T. Miguel Lafuente	+42 27	357 30	+46.1
Aq	Aquila	F. Molina	+42 23	13 19	+42.9
Tf	Tiflis	M. L. Tchelischvili	+42 05	44 42	+36.7
Tk	Tashkent	M. G. Antzilevitch	+41 25	69 12	+32.4
Md	Maddalena	M. Giorgi	+41 13	9 24	+42.7
IK	Istanbul-Kandilli	O. N. Sipahioglu	+41 04	29 04	+38.5
Eb	Ebro	J. O. Cardus S. J.	+40 49	0 30	+43.9
Ci	Coimbra	V. Seiça e Santos	+40 13	351 35	+44.8
Tl	Toledo	R. Gómez Menor	+39 53	355 57	+43.6
On	Onagawa		+38 36	141 28	+28.4
Fr	Fredericksburg	R. E. Gebhardt	+38 12	282 38	+49.6
Pe	Pendeli	A. Stavrou	+38 03	23 52	+36.2
Gi	Gibilmannia	M. Georgi	+37 59	14 01	+38.5
Ak	Ashkabad		+37 57	58 06	+30.5
SM	San Miguel	H. Amorim Ferreira	+37 46	334 21	+45.6
Ae	Almeria		+36 51	357 32	+40.4
SF	San Fernando	F. F. de la Puente	+36 28	353 48	+41.0
Ka	Kakioka	T. Yoshimatsu	+36 14	140 11	+26.0
TI	Teheran Iran	H. K. Afshar	+35 44	51 23	+29.3
Ks	Ksara	J. Delpeut S. J.	+33 50	35 54	+30.4
Ss	Simosato		+33 35	135 56	+23.0
As	Aso		+32 53	131 01	+22.1
Tu	Tuscon	R. F. White	+32 15	249 10	+40.4
Ky	Kanoya		+31 25	130 53	+20.5
Qu	Quetta	S. A. A. Kazmi	+30 11	66 57	+21.6
He	Helwan	M. Fahim	+29 52	31 20	+27.2
Ml	Misallat	M. Fahim	+29 45	30 54	+26.7
SC	Santa Cruz		+28 29	343 45	+35.0
Ta	Tamanrasset	B. Lepretre a. o.	+22 48	5 31	+25.4
Ho	Honolulu	G. E. Haraden	+21 19	202 00	+21.1
Te	Teoloyucan	C. Cañón Amaro	+19 45	260 49	+29.6
Al	Alibag	K. N. Rao	+18 38	72 52	+ 9.5
SJ	San Juan	M. Vazquez	+18 23	293 53	+29.9
MB	M'Bour	Hans G. Barsczus	+14 24	343 03	+21.3

LIST OF OBSERVATORIES - continued

Arranged according to geographic latitude

Observatory	Collaborator	Geographic		Geomagnetic		
		Lat.	Long.	Lat.	Long.	
Mu	Muntinlupa	Cayetano Palma	+14° 22'	121° 01'	+ 3.0°	189.7°
Gu	Guam	D. D. Newman	+13 55	144 52	+ 4.0	212.9
AA	Adis Ababa	P. Gouin S.J.	+09 02	38 46	+ 5.3	109.2
Kr	Koror	K. Gravens	+07 20	134 30	- 3.2	203.4
Pa	Paramaribo	D. van Sabben	+05 49	304 47	+17.0	14.5
Fq	Fuquene	C. Garavito	+05 28	286 16	+16.9	355.1
Ba	Bangui	Leroy	+04 26	18 34	+ 4.6	88.5
Mc	Moca	A. G. Cogollor	+03 21	8 40	+ 5.7	78.6
Bn	Bunia	P. Herrinck	+01 32	30 11	- 0.4	99.3
Tt	Tatuoca	L. I. Gama	-01 12	311 29	+ 9.6	20.8
Lr	Lwiro	G. Bonnet	-02 15	28 48	- 4.0	98.2
Hn	Hollandia	D. van Sabben	-02 34	140 31	-12.6	210.3
Bi	Binza	(P. Herrinck G. Lesambo)	-04 23	15 16	- 3.4	83.2
Ku	Kuyper	A. Fatah	-06 02	106 44	-17.5	175.5
Lu	Luanda	V. S. Moreira	-08 55	13 10	- 7.2	80.5
PM	Port Moresbey	David Denham	-09 24	147 09	-18.6	218.0
E1	Elisabethville	(P. Herrinck G. Lesambo)	-11 39	27 28	-12.7	94.1
Hu	Huancayo	A. A. Giesecke Jr	-12 02	284 41	- 0.6	353.8
Da	Darwin	L. S. Prior	-12 20	131 00	-22.0	201.3
Ap	Apia	A. L. Cullington	-13 48	188 14	-16.0	260.2
Tn	Tananarive	M. Burgaud S.J.	-18 55	47 33	-23.1	112.1
Mr	Mauritius	E. G. Davy	-20 06	57 33	-26.6	122.4
LQ	La Quiaca	R. P. J. Hernández	-22 06	294 24	-10.6	3.2
Va	Vassouras	L. I. Gama	-22 24	316 21	-11.9	23.9
Br	Brisbane	R. F. Thyer	-27 32	152 55	-35.8	226.9
Wa	Watheroo	P. M. Mc Gregor	-30 19	115 53	-41.8	185.6
Pi	Pilar	R. P. J. Hernández	-31 40	296 07	-20.2	4.0
Gn	Gnangara	P. M. Mc Gregor	-31 47	115 57	-43.2	185.8
Hr	Hermanus	A. M. van Wijk	-34 25	19 14	-33.7	81.7
Ac	Las Acacias		-35 00	302 19		
To	Toolangi	R. F. Thyer	-37 32	145 28	-46.7	220.8
Am	Amberley	A. L. Cullington	-43 09	172 43	-47.7	252.5
Tw	Trelew	(O. A. Pellicioli R. González)	-43 15	294 41	-31.7	3.2
Kg	Kerguelen	R. Schlich	-49 21	70 12	-56.5	127.8
MI	Maquarie Island	R. F. Thyer	-54 30	158 57	-60.7	243.0
Ar	Argentine Island	C. N. Horton	-65 15	295 44	-53.8	3.3
Oa	Oasis		-66 06	92 09	-77.4	160.8
Wk	Wilkes	L. S. Prior	-66 15	110 35	-77.2	179.2
Mi	Mirny		-66 33	93 00	-77.0	145.6
DU	Dumont d'Urville	R. Schlich	-66 40	140 01	-75.6	230.9
Mw	Mawson	R. F. Thyer	-67 36	62 53	-73.2	103.1
Ct	Charcot		-69 23	139 01	-78.3	234.5
Po	Pionerskaya		-69 44	95 30	-80.3	146.5
La	Lazarevskaya		-70 46	11 49		
BB	Base Baudouin		-70 26	24 19	-68	63
Ht	Hallett		-72 19	170 13	-74.7	278.2
HB	Halley Bay	J. C. Farman	-75 31	333 24	-65.8	24.3
SB	Scott Base	A. L. Cullington	-77 51	166 47	-79.0	294.4
LA	Little America	J. J. Gniewek	-78 11	197 50	-74.0	312.0
Vo	Vostok		-78 27	106 52	-89.2	92.6
By	Byrd Island	L. E. Davis	-80 01	240 29	-70.6	336.3
SP	South Pole	W. Jacobs	-90		-78.5	0.0

LIST OF OBSERVATORIES - continued

	Scale Values			Lower Limit K = 9 Y	Ranges for C = 1
	D Y/mm	H Y/mm	Z Y/mm		
NP7					
NP6					
NP8					
BT				2000	
CC				2500	
Th	4.5	7.9	12.3	1000	
RB				1500	
B4	5.6	6.0	21.2	2000	
Di				1500	
MS				2500	
Ti				1000	
PB	16.0	32.2	29.9	2500	
Tr	4.7	5.3	7.2	2000	400 - 1200 Y
Go	2.3	9.5	14.1	1800	
Mm	7.6	11.9	8.2	2500	
Ki	11.5	11.4	11.9		
So	3.0	8.7	9.7	1500	45 - 200 Y
We				1250	
Co	3.7	7.8	7.1	2500	No fixed range
BL	2.5	5.7	8.1	2500	
Li					
Sr	4.8	3.8	4.9	550	
YK					
Do	9.6	9.2	6.5	750	
Ya	4.3	7.3	5.2	550	
Nu	3.8	7.8	7.4	750	D: 4' - 20'; H: 30 - 140 Y; Z: 20 - 100 Y
Le	4.0	4.0	6.6	1000	
Ln	3.3	4.6	2.7	600	
Lo	4.3	3.8	4.0	600	
Si	4.7	7.0	8.0	1000	No fixed range
Sv	4.6	5.3	6.7	550	
Tm				550	
RS	4.9	10.0	10.0	600	D: 4' - 12'; H: 14 - 42 Y; Z: 9 - 27 Y
Kn	4.7	5.7	5.0	550	
Mo	1.8	1.9	3.9	550	
Es	4.0	4.0	6.0	750	
Me	3.6	7.8	10.8	1500	
H1	4.7	4.5	5.7	650	
Mn				550	
St	4.6	6.3	6.9	600	Sum K: 20
Wn	4.4	6.2	5.5	500	Sum K: 20 - 30; CK: 0, 7 - 1, 3; Cs: 0, 8 - 1, 4
Wi	9.7	9.5	5.5	500	D: 4' - 12'; H: 15 - 45 Y; Z: 7 - 21 Y
Ir	5.5	4.6	3.2	350	
Sw	3.7	3.7	3.9	500	
Ni	2.0	2.0	2.0	500	
V1	4.7	3.7	5.9	500	
Be	2.8	3.4	3.6	500	
Gt	3.2	3.2	1.6	500	
Cm	1.6	1.6	2.6	500	based on K - indices
Ha	5.5	4.1	4.0	500	
Kv				350	
Ma	5.2	1.5	3.9	500	D: 4' - 12'; H: 15 - 45 Y; Z: 7 - 21 Y
Db	5.3	3.9	3.8	500	D: 4' - 12'; H: 14 - 45 Y; Z: 7 - 21 Y

LIST OF OBSERVATORIES - continued

	Scale Values			Lower Limit K = 9 γ	Ranges for C = 1
	D γ/mm	H γ/mm	Z γ/mm		
Ra					
Pr	3.0	4.5	5.0	500	
Lw	4.0	1.7	2.8	550	
Bu		1.3			
Vi	2.7	2.4	3.3	500	
Fü	2.9	2.8	2.7	500	$17 \leq \Sigma K \leq 29$
CF	5.7	5.9	2.8	500	No fixed range
Hb	7.5	4.3	4.8	350	
Na	9.5	6.0	6.0	500	
Sa	4.2	3.1	5.1	350	
Ty	5.8	3.6	2.7		
Od	6.4	3.5	2.4	350	
Su	2.5	1.7	2.4	350	
Gc				350	
Mb	3.4	2.3	4.0	350	
Ag	4.0	5.1	6.1	600	$12 - 150 \gamma$
Wl	2.9	1.9	4.1	300	
At					
Lg	6.0	3.7	5.0	350	$15 \leq \Sigma K \leq 30$
Aq	7.2	4.9	3.3	350	
Tf	1.7	3.2	2.5	350	
Tk	7.8	2.8	4.6	300	
Md	3.6	3.3	3.0	350	
IK	3.7	3.1	4.0	300	Sum K; 16 - 31 or 16 and $4 \leq K \leq 6$
Eb	6.9	3.4	6.6	350	$14 - 55 \gamma$
Ci	7.7	4.0	5.0	350	C from Cs
Tl	2.7	2.8	2.8	350	D: 2' - 8'; H: 10 - 60 γ ; Z: 10 - 50 γ
On					
Fr	2.7	2.5	2.9	500	Sum K: 25 - 44
Pe	7.5	7.2	11.3	300	
Gi	7.4	1.6	1.2	350	
Ak				300	
SM	7.9	4.0	4.5	350	No fixed range
Ae					
SF	5.3	2.7	---	350	$10 - 30 \gamma$
Ka	6.2	2.8	3.5	500	No fixed range
TI	2.6	2.3	2.8	300	
Ks	8.8	6.0	5.0	300	$15 - 45 \gamma$
Ss	6.4	2.4	6.4	300	
As				300	
Tu	3.8	3.1	---	350	No fixed range
Ky	4.0	2.6	2.6	300	
Qu	4.9	3.0	4.3	300	No fixed range
He	3.7	2.6	3.0	300	$10 - 30 \gamma$
Ml	3.9	2.4	2.2	300	
SC					
Ta	9.0	4.4	2.8	300	$20 \leq 60 \gamma$
Ho	8.4	2.6	3.7	300	Sum K: 22 - 38
Te	8.7	3.3	5.7	300	Lower limit: Sum K = 17 or 18
A1	2.3	4.4	3.3	300	$65 - 150 \gamma$ or sum K: 15 - 22
SJ	8.1	2.5	5.0	300	Sum K: 14 or 18 - 35
MB	8.1	6.6	6.3	350	

LIST OF OBSERVATORIES - continued

	Scale Values			Lower Limit K = 0 γ	Ranges for C = 1
	D γ/mm	H γ/mm	Z γ/mm		
Mu	---	---	---	300	
Gu	5.2	2.7	3.7	300	
AA				300	
Kr					
Pa	6.1	6.1	4.0	500	
Fq	8.8	4.0	4.1	300	
Ba	8.1	10.0	13.3	300	
Mc	7.8	3.9	1.6	300	19 - 43 γ
Bn	7.7	2.0	2.6		
Tt	8.4	2.6	3.7		
Lr	7.6	4.9	1.1	350	20 - 75 γ
Hn	5.2	5.0	4.0	300	
Bi	7.8	4.2	2.6		
Ku	0.9	4.3	3.9	300	
Lu	3.7	3.2	6.6	350	
PM	9.7	5.6	7.2	300	
El	3.9	4.9	2.0		H: 20 - 100 γ
Hu	8.3	3.5	3.6	600	Sum K: 25 - 41
Da					
Ap	9.3	3.9	3.8	300	Sum K: 25
Tn	2.9	0.9	2.2	300	No fixed range
Mr	7.6	3.2	5.0	500	
LQ	3.8	3.3	3.0	350	
Va	6.9	4.0	3.0	600	No fixed range
Br				500	
Wa	7.5	2.7	4.6	350	20 - 35 γ
Pi	3.3	3.0	2.9	300	
Gn	7.4	2.6	5.5	350	
Hr	2.1	2.3	4.2	300	No fixed range
Ac					
To	7.7	4.6	4.4	500	Sum K: 18 - 34
Am	7.2	4.6	3.7	500	No fixed range
Tw	6.7	4.9	6.4	350	
Kg	7.8	6.0	2.4	750	
MI	3.5	12.5	14.1	1500	
Ar					
Oa	10.6	8.3	18.3	2000	
Wk	28.6	24.3	24.6	2500	
Mi	4.6	6.3	10.1	2000	
DU	7.5	8.3	8.1	1800	
Mw	4.5	9.9	10.1	1500	
Ct	---	---	14.3	1500	
Po	10.6	12.1	14.9	2000	
La				1500	
BB					
Ht	19.1	27.5	25.9	2500	
HB	5.4	7.2	6.8	2000	
SB	26.0(y)	22.0(x)	28.5	2000	No fixed range
LA	---	---	---	2500	
Vo				2000	
By	26	24	25	2500	
SP	16.8	27.7	26	2000	

LIST OF OBSERVATORIES - continued

	Instruments	Ionospheric Stations or Radio Services
NP7		
NP6		
NP8		
BT		
CC		
Th	Normal, low sens. + quick run	
RB		
B4		
Di		
MS		
Ti		
PB	Low sens. + quick run	
Tr	Normal sens.	
Go	Normal, low sens. + quick run	
Mm		
Ki		
So	Normal sens.	
We		
Co	Normal, low sens. + quick run	
BL	Normal sens.	
Li		
Sr		
YK		
Do	Normal sens.	
Ya		
Nu	Normal sens. + quick run	Nurmijärvi Ionospheric Station
Le	Normal, low sens. + quick run	Cable and wireless Ltd; Sol. Obs. Greenwich, Edinburgh
Ln		
Lo	Normal, low sens. + quick run	Transradio Española, Alcobendas (Madrid)
Si	Normal, low sens. + quick run	
Sv		
Tm		
RS	Normal, low sens. + quick run	
Kn		
Mo		
Es	Normal, low sens. + quick run	Cable and wireless Ltd; Sol. Obs. Greenwich, Edinburgh
Me	Normal and low sens.	
H1		
Mn		
St	Normal sens.	
Wn	Normal, dX/dt , dY/dt , dZ/dt , quick run.	Inst. für Ion.-forschung, Lindau, Sol. Obs.: Fraunhofer Inst., Freiburg Nederhorst Den Berg Radio (Nera)
Wi	Normal sens. + quick run	
Ir		
Sw	Normal sens.	
Ni	Normal sens.	Zentralobs. Potsdam; Sol. Obs. Astrophysical. Obs., Potsdam
V1	Normal sens. + quick run	Dunsink Astronomical Observatory, Dublin
Be		
Gt	Normal sens., str. var. + puls. recorder	
Cm	Normal sens.	
Ha	Normal, low sens. + quick run	
Kv	Normal sens. + quick run	
Ma	Normal sens. + quick run + fluxm. for H	
Db	Normal sens. + quick run	
		Ion Station Dourbes

LIST OF OBSERVATORIES - continued

	Instruments	Ionospheric Stations or Radio Services
Ra		
Pr	Normal sens.	
Lw		
Bu	Quick run for H	
Vi	Normal sens.	
Fü	Normal sens. + high sens.	Inst. für Ion.-forschung, Lindau
CF	Normal sens. + quick run	C.N.E.T. Sol. Obs. : Obs. d'Astrophysique
Hb	Normal sens.	(Meudon)
Na	Normal sens.	
Sa		
Ty		
Od		
Su	Normal sens.	
Gc		
Mb	Normal sens. + high sens.	Astrophys. Obs. Arcetri (Firenze)
Ag	Normal sens. and low sens.	No
Wl		
At		
Lg		
Aq		
Tf		
Tk		
Md		
IK	Normal sens.	
Eb	Normal sens. + quick run	Ion. Sta. Ebro; earth-currents; Transradio Española, Alcobendas (Madrid)
Ci	Normal sens.	
Tl	Normal sens. + quick run	
On		
Fr	Normal, low sens. + quick run	
Pe	Normal sens.	
Gi	Normal sens.	
Ak	Normal sens. + quick run	
SM	Normal sens. + quick run	
Ae		
SF	Normal sens.	
Ka	Normal sens. + high sens. for D	
Tl		Tokyo Wireless Adjusting Station
Ks	Normal sens.	
Ss		
As		
Tu	Normal sens. + quick run	
Ky	Normal sens. + high sens.	
Qu	Normal sens. + quick run	
He	Normal sens.	
Ml	Normal sens.	
SC		
Ta	Normal sens. + dH/dt , dD/dt , quick run	
Ho	Normal sens. + quick run	
Te	Normal sens.	
A1	Normal sens. + quick run	
SJ	Normal sens.	
MB	Normal sens. + quick run	Boulder Observatory, Colorado All India Radio, New Delhi; Radio Ceylon Colombo; Sol. Obs+Sol. Phys. Obs., Kodaikanal
		Station Ionosphérique Dakar-Cambarene

LIST OF OBSERVATORIES - continued

Instruments		Ionospheric Stations or Radio Services
Mu		Manilla Observatory, Baquio City
Gu	Normal sens. + quick run	
AA	Normal sens. + quick run+ fluxm, for D, H	
Kr	Normal sens. + quick run	
Pa		
Fq	Normal sens.	
Ba	Normal sens. + quick run	No
Mc		
Bn	Normal sens.	
Tt	Normal sens.	
Lr	Normal sens.	Ion. Station Lwiro, Radio astron. St. Lwiro
Hn		
Bi	Normal sens.	No
Ku		
Lu	Normal sens.	
PM	Normal sens. + quick run	Port Moresby Ionospheric Sounding Equipment
El	Normal sens.	
Hu	Normal sens. + quick run	Inst. Geofisico de Huancayo Sol Obs., Inst. Geofisico de Huancayo
Da		
Ap	Normal sens.	Apia Radio
Tn	Normal sens.	
Mr		
LQ		
Va	Normal sens.	
Br		
Wa	Normal sens.	
Pi	Normal sens.	
Gn		
Hr	Normal sens. + quick run	Ionospheric Station Mundaring Geoph. Obs. NTRL Johannesburg, Pan, Receiv, St. SABC Royal Observatory Cape Town
Ac		
To	Normal sens.	I. P. S. Canberra
Am	Normal sens.	Godley Head Ion. Stat. New Zealand Broadc. Service, Wellington; Sol. Obs.; Carter Obs. Wellington
Tw	Normal sens.	
Kg		
MI	Normal sens.	No
Ar		
Oa		
Wk	Low sens. + quick run	
Mi	Normal, low sens. + quick run	
DU		
Mw		
Ct		
Po		
La		
BB		
Ht		
HB	Low sens. + quick run	
SB	Low sens. + quick run	Ion. Station Scott Base
LA		
Vo		
By	Low sens. + quick run	
SP	Low sens. + quick run	

TABLE 1a STORM SUDDEN COMMENCEMENTS (S.S.C.'S) 1964

Sudden commencements followed by a magnetic storm or period of storminess. (checked by 60 observatories)

JANUARY

- 01d 11h 48m A: Ki Ak Te - B: So Kn Wn Ir Vl Ma Db Fü Od Ag Lg Tk Tu MB Mu Gu Ba Mc Bi Ap Tn Gn Hr To Am Kg DU SB - C: Co Do Nu Le Si Es Wi Gt Ha Pr CF Hb Mb Aq Eb Tl Fr Ka Ky Ho SJ Pa - X: Ds - (b: C: SM - sfe; Kv) - D: 4.
- 01d 20h 43m A: Ak Te - B: Ir Kv Vi Ag Ds Ho Ba Ap Hr Am - C: Ki So Nu Le Si Kn Mo Es Wi Vl Gt Db Tk SJ Mu Gu Pa To Kg - (si: A: Co Od - B: Wn Hb Lg Fr Tu Mc - C: Ha Ma Fü Aq Tl MB DU - b: C: CF SM - bp: B: Gn) - D: 11.
- 23d 22h 28m A: Ak - B: Kn Es Wn Ir Db Od Ag Lg SM Ds Bi Ap Tn - C: Ki So Co Nu Le Si Wi Vl Gt Ha Kv Ma Pr Fü CF Hb Aq Tk Tl Fr Tu Ho Te SJ MB Gu Pa Ba Mc Hr To Am Kg - X: Mu SB - (si: C: Eb Gn) - D: 9.
- 28d 19h 22m A: Wn Ir Vi Od Lg Tk Ss Ho Te MB Mu Gu Ba Mc Bi Ap Tn Gn Hr - B: Co Si Mo Wi Vl Gt Ha Kv Ma Db Pr Fü CF Hb Mb Ag Aq Fr Fr Ak Ka Ds Tu Ky SJ Pa Am Kg DU - C: Nu Kn Es Ni Tl SM - E: Ki - (si: B: To) - D: 4.

FEBRUARY

- 12d 06h 04m A: Ki Nu Db Tk Tl Ss Ds Te MB Mu Mc - B: Do Le Es Wn Wi Ir Ni Vl Gt Ha Ma Pr Fü Od Lg Aq Eb Fr Ak SM Tu Ho SJ Gu Pa Ba Bi Ap Tn Gn Hr To Am Kg DU - C: Co Si Mo Kv Hb Mb Ag Ka Ky - E: So Kn - (si: C: CF) - D: 2.
- 20d 11h 37m A: Ki Nu Kn Db Fr Ss Ds Te MB Mc Bi - B: So Le Mo Es Wn Wi Ir Vl Ma Pr Vi Fü CF Od Ag Lg Aq Tk Tl SM Tu SJ Mu Pa Ap Tn Hr To Kg - C: Co Si Ni Gt Ha Kv Hb Mb Eb Ka Ky Ho Gu SB - X: Ba - (si: B: Do Gn) - D: 3.

MARCH

- 21d 19h 50m B: Kn Wn Ir Ma Pr Fü Hb Lg Ak Ba - C: Ki Nu Si Mo Wi Gt Db CF Ag Tk Ds Tu Mu Gu Pa Bi Ap Gn Am - E: Ha - (si: A: Te - B: Es Vl Od Tl Mc Tn Hr DU - C: Aq SM MB - sfe; Kv) - D: 17.
- 29d 14h 08m A: Nu Ss - B: Ki So Co Le Si Kn Mo Es Wn Wi Ir Ni Vl Ha Ma Db Pr Vi Fü Hb Ag Lg Aq Tk Fr Ak Ba Bi Kg DU - C: Do Gt CF Mb Tk Eb Ka Ds Tu Ky Te SJ MB Gu Pa Ap Tn Hr To Am - X: SM Mu - (si: B: Gn - C: Mc - sfe; Kv Od) - D: 2.

APRIL

- 08d 08h 08m B: Ki So Co Si Kn Mo Ma Od Ak SM Ba - C: Nu Le Wn Wi Gt Ha Kv Hb Ag Tk Pa Hr - E: Fü - X: Lg - (si: B: Vl - C: Es CF Tl) - D: 31.
- 13d 16h 25m B: Ki Nu Le Es Wn Wi Ir Ni Gt Ha Ma Db Fü CF Od Lg Tk Ak SM Mu Ba Mc Tn Kg - C: Co Do Si Kn Kv Pr Hb Aq Eb Fr Ds Tu Ho Te SJ MB Gu Pa Hr Am - (si: B: Vl - C: Mb Ka Ky Gn) - D: 9.
- 17d 00h 20m A: So Fü Ss - B: Nu Le Kn Mo Es Wn Wi Ir Vl Kv Ma Db Pr Vi CF Hb Od Ag Aq Fr Ak Ds Ho MB Mu Mc? Ap Am Kg - C: Ki Co Do Si Gt Ha Mb Lg Tk Eb Ka Tu Ky SJ Pa To - X: Gu SB - (si: A: Te - B: Bi Gn-C: Hr DU - bp: C: SM - cr: Ba Tn) - D: 2.

MAY

- 10d 00h 35m A: Ki Nu Si Kn Mo Es Wn Wi Ma Db Pr Vi Fü Hb Od Lg Fr SM Ss Ds Tu Ho SJ Mu Gu Ba Mc Ap Gn DU - B: So Co Do Le Ir Ni Vl Gt Ha Kv CF Ag Aq Tk Eb Ak Ky MB Pa Bi Tn Hr To Kg SB - E: Mb Tl Ka - X: Am - (si: Te).
- 13d 13h 01m B: So Nu Le Kn Mo Wn Ma Db Tk Fr Ak SM - C: Ki Co Do Si Wi Ir Pr CF Ag Lg Eb Tl Ds Tu SJ MB Gu Pa Bi Hr To - E: Ha - X: Kv - (si: A: Fü Od - B: Vl Gt Hb Aq Mu Ba Mc - C: Es Mb Ka Ky) - D: 12.
- 23d 22h 29m A: Le Kn Mo Es Wn Wi Ir Ma Db Pr Fü Hb Od Lg Aq Tk Eb Tl Fr Ss Ds Tu Ho Te SJ Mu Gu Ba Mc Bi Ap - B: Ki So Co Do Nu Si Ni Vl Gt

TABLE 1a STORM SUDDEN COMMENCEMENTS (S.S.C.'S) 1964 - continued
(MAY)

Ha Kv Vi CF Ag Ak SM Ky MB Pa Tn Gn Hr To Am Kg DU SB - C:
Mb Ka.

JUNE

- 01d 11h 58m B: Ki So Nu Le Mo Wn Ir Vl Ma Db Fü CF Lg Tk Mu - C: Si Kn Fs Wi
Ni Gt Kv Pr Vi Hb Ag Aq Fr Ak SM Ds Tu Ho SJ MB Gu Pa Ba Bi Ap
Tn Hr To Am - E: Ha - (si: B: Od Gn - C: Mb Eb Ka Ky) - D: 6.
07d 18h 52m A: Kn Fü Ss - B: Ki Le Si Es Wn Ir Vl Gt Kv Ma Db Pr CF Hb Od Ag
Lg Aq Tk Eb Tl Fr SM Ds Tu SJ MB Mu Ba Mc Bi Ap Tn Hr - C: So
Co Nu Mo Wi Ha Mb Ak Ka Ky Ho Gu Pa To Am - (si: A: Te) - D: 7.

JULY

- 02d 16h 25m A: Od - B: Ki Kn Ir Fü Lg Ak SM Mu - C: So Co Nu Le Si Mo Es Wn Wi
Vl Gt Kv Ma Db Pr Vi Hb Ag Aq Tk Tl Fr Ds Tu SJ MB Gu Pa Ba Mc
Bi Ap Tn Hr To Am - E: Ha - (si: C: Mb Ka Ky) - D: 11.
02d 23h 24m A: Kn Fü Od Lg Fr Ak - B: So Me Es Wn Wi Ir Vl Gt Ma Db Pr Vi CF
Hb Aq Tk Eb SM Ds Tu Ho SJ MB Mu Ba Mc Bi Ap Tn To DU - C: Ki
Co Nu Le Si Ni Ha Kv Ag Tl Gu Pa Hr - X: Am - (si: A: Te - B: Gn -
C: Mb Ka Ky) - D: 4.

AUGUST

- 04d 01h 30m A: Ki So Co Nu Si Kn Mo Es Wn Wi Ni Ma Db Pr Vi Fü Hb Od Tk Tl
Fr SM Ss Ds Tu Ho Te SJ MB Mu Gu Mc Tn Gn Am - B: Do Le Ir Vl
Gt Ha Kv CF Ag Lg Aq Eb Ky Pa Bi Ap Hr To Kg DU SB - C: Mb Ak
Ka - X: Ba.
11d 00h 55m A: Fü Od - B: Co Nu Le Wn Wi Gt Ha Ma Db Hb Lg Aq Tl MB Ba Mc
SB - C: Ki So Do Si Kn Mo Ir Vl Kv CF Ag Tk Eb Fr SM Ds Ho SJ Mu
Gu Pa Bi Ap Tn Hr Am Kg - X: Gn - (si: B: To) - D: 11.
11d 01h 12m A: Kn Mo Fü Fr Te - B: So Nu Le Es Wn Wi Ir Vl Gt Ha Pr Vi CF Hb
Lg Aq Tk Eb Tl SM Ds Tu Ho SJ MB Mu Gu Ba Bi Ap Tn Am Kg DU
SB - C: Ki Co Do Si Kv Db Mb Ag Ka Ky Pa - E: Hr - X: Gn - (si: A: Ma
Od - B: Mc To) - D: 4.

SEPTEMBER

- 06d 19h 55m A: Kn Mo Ir Ma Db Fü Hb Od Lg Tk Eb Fr Ss Ho Te SJ MB Mu Gu Ba
Bi - B: Co Nu Si Es Wn Wi Ni Vl Gt Ha Kv Pr Vi CF Ag Aq Tl Ak SM
Ds Tu Ky Pa Ap Tn Gn Hr To Am DU - C: Ki So Do Mb Ka - X: Mc -
(si: B: Le) - D: 2.
15d 23h 36m A: Ss - B: Ki Nu Kn Es Ir Ma Db Fü Hb Ag Lg Eb Ak Ds SJ MB
Mu Ba Mc Ap Tn Am DU - C: So Do Le Si Mo Wn Vl Gt Kv Pr CF Mb Aq
Tk Tl Fr Ka Tu Ky Ho Gu Pa Bi Hr To - X: SB - (si: A: Te - B: Wi Od
- C: Ha) - D: 6.
21d 11h 47m A: Ss - B: Ki So Nu Le Kn Es Wn Ir Gt Ma Db Pr Fü CF Hb Lg Aq Tk
Eb Tl Ds Tu Ho MB Mu Gu Ba Mc Bi Ap Tn Hr Am SB - C: Do Si Mo
Wi Ni Ha Kv Vi Mb Ag Fr Ak SM Ka Ky Te SJ Pa Kg - (si: B: Vl Od
Gn) - D: 3.
21d 23h 54m A: Te - B: Nu Mo Es Ir Vl Ma Fü Od Lg Aq Fr Ds Tu Ho SJ Mu Gu
Ba Bi Tn Hr - C: Ki So Do Le Si Kn Wn Gt Kv Db Vi Mb Ag Tk Tl
Ka Ky MB Pa Gn DU - E: CF - X: SM Ap To Am - (si: B: Pr Hb Mc? -
C: Ha) - D: 7.

OCTOBER

- 03d 12h 43m A: So Kn Ma Lg Ss Te Mu Ba Mc - B: Ki Do Nu Le Es Wn Wi Ir Vl Gt
Ha Db Pr Vi Fü CF Hb Od Ag Aq Tk Eb Tl Fr Ak SM Ds Tu SJ MB
Gu Bi Ap Tn Gn Hr To Am Kg - C: So Mo Kv Mb Ka Ky Ho Pa DU -
(si: B: Co) - D: 2.
06d 11h 56m B: Ma Fü CF Tl Mu Mc - C: Ki So Nu Le Kn Mo Es Wn Wi Vl Gt Kv

TABLE 1a STORM SUDDEN COMMENCEMENTS (S. S. C. 'S) 1964 - continued

(OCTOBER)

Kv Hb Od Ag Lg Tk Eb Ak MB Kg - E: Ha Db SM Hr - X: Pr - D: 28.
 26d 00h 09m A: Ss Mu - B: So Co Kn Ir Tk Ak Ds Ho Gu Ba Mc Ap Tn Gn Hr - C:
 Ki Si Wn Gt Kv Pr Hb MB Ag Tl Fr Ka Tu Ky SJ Pa To Kg - X: Fü
 Am SB - (si: A: Te - B: Od - b: B: MB - C: CF - bps: B: Lg) - D: 17.

NOVEMBER

01d 03h 20m B: Lg Ak SM Mu Ba Mc Bi Tn - C: Ki So Co Nu Si Kn Mo Wn Gt Db Pr
 Fü Hb Mb Ag Tk Fr Ka Ds Tu Ky Ho Te SJ MB Gu Pa To Am SB - (si:
 B: Od Gn - C: Hr DU) - D: 17.
 08d 03h 54m B: Ki So Ir Fü Tk Mu Ba Mc Ap Tn Am Kg - C: Co Nu Si Kn Mo Es Wn
 Wi Gt Kv Ma CF Hb Ag Lg Aq Fr Ak SM Ho Te Pa - (si: Gu - B: Pr
 Od Tl Tu Gn To - C: Mb Eb Ka Ky Bi Hr) - D: 13.
 08d 22h 24m B: Ki Co Mo Fü Ak Mu Ba Mc Bi Ap Tn Am - C: So Nu Si Kn Es Wn
 Vl Gt Kv Ma Db Hb Ag Tk Fr Ds Ho SJ MB Gu Pa Hr To - (si: B: Od
 Gn - C: Do Ir Ha Mb Ka Ky DU - b: C: CF SM - bp: B: Aq - bps: B: Lg)
 - D: 12.
 15d 10h 09m A: Kn Te Mu - B: Ki So Ir Ma Fü Od Ag Lg Tk Ak SM Ds SJ MB Ba Bi
 Ap Tn Hr To Am DU - C: Le Mo Wi Gt Kv Db Pr Hb Mb Aq Eb Fr Ka
 Tu Ky Ho Gu Pa Kg - X: Mc - (si: B: Gn) - D: 14.

DECEMBER

07d 09h 40m A: Kn Lg - B: So Nu Mo Wn Vl Ma Fü Hb Od Ag Tk MB Mu Bi Hr - C:
 Ki Co Le Si Wi Ha Kv Db CF Fr Ak SM Tu Ho SJ Gu Pa Ap Am Kg -
 X: Pr Ba - (si: B: Aq Eb Tl Ds Ky Te Mc Gn To - C: Es Gt Mb Ka) -
 D: 8.

TABLE 1b NOT CHECKED STORM SUDDEN COMMENCEMENTS (S. S. C. 'S) 1964JANUARY

07d 11h 59m B: LM - C: Tf - (si: B: Tn - bp: C: TI).
 16d 01h 32m B: Qu - C: TI - (si: B: LM).
 31d 07h 30m C: Eb TI.

FEBRUARY

05d 16h 54m A: SF - C: Lg TC MB - (si: Hl - pc5: A: MJ).
 05d 18h 23m B: Sw - C: Tf TI.
 20d 06h 17m B: Tf - C: Lg Bi Lu - (si: B: Hl LM - C: Mc DU).

MARCH

none

APRIL

01d 05h 38m B: Qu LM.
 01d 15h 25m A: Lg TC - B: Ci LM - C: Pa Bi Lu.
 15d 10h 30m A: LM - C: TC Pa - (si: B: Mo).

MAY

13d 08h 45m C: Lg Tn.
 15d 14h 12m A: Kn Mo.

JUNE

09d 19h 16m B: Lg T1 MB - C: Ag TC - (si: Hl).
 10d 04h 59m A: So - C: Ir.

JULY

06d 22h 21m C: Lg Ae TC - (pi2: B: Ac).
 17d 13h 57m A: SF - B: TC - (si: C: Bi).
 17d 15h 03m B: Ci - C: Ag Pe.

AUGUST

none

SEPTEMBER

21d 13h 06m C: Tf Pe.
 27d 19h 06m B: Ak - C: TC.

OCTOBER

08d 13h 57m B: Sw? TC.
 12d 10h 49m B: Sw? - C: TC.
 24d 16h 06m C: Ir TC.

NOVEMBER

none

DECEMBER

13d 10h 39m C: TC MB.

TABLE 2a BAYS AND PULSATIONS 1964

Commencements of bays or pulsational disturbances associated with bays. Stations where other kinds of disturbances appeared are included in parentheses.

Note. It is not quite certain that the list of bays and pulsational disturbances is complete, as it may be that a bay or train of pulsations has been selected by the observatories out of a great many similar disturbances which all occurred on the same day. Caution should therefore be observed if the list is used for statistical purposes.

JANUARY

- 02d 03h 12m (02-23) bp: B; SM; C: Eb - pi2: A: Te; B: Hu - (ssc: A: TC).
 03d 01h 45m (45) b: B: MB - bp: B: SM.
 03d 10h 31m (26-34) b: B: Ir - bp: C: Ss - bps: A: Sr; B: PM To.
 03d 12h 08m (06-10) bp: B: Ir - pi2: C: Ss.
 03d 16h 23m (19-28) b: B: Sw - bp: B: Db.
 03d 19h 16m (12-20) bp: B: Ae - bps: A: Mw.
 03d 19h 44m (40-45) b: A: Pe; C: MB - bp: A: TC; B: Bi.
 03d 22h 48m (45-53) bs: B: Pe - bp: B: Db CF Eb Ae Bi; C: Kv? - bps: A: Lg; B: Vl - pi2: C: Cm.
 04d 01h 23m (18-26) bps: C: MB Hu - pi2: B: Cm - (ssc: C: Ag - si: B: SM).
 04d 02h 26m (24-30) b: C: Hu - bp: A: Ma Ac; B: Wn Pr CF Hb Eb Bi - bps: A: Tl Ci MB; B: Vl Db - pi2: A: Cm Aq.
 04d 12h 42m (36-50) b: B: Tk - bp: B: Ir PM; C: Ss - bps: B: Sr.
 04d 14h 38m (20-50) b: A: Nu; B: Sw - bp: A: Mo; B: Ir Db Pr Tf Tk Ti; C: Wk - pi2: B: LM; C: Ss.
 04d 15h 10m (10) bp: C: Kv? - bps: B: Wk.
 04d 18h 04m (03-06) bp: B: TI Wk; C: Tf.
 05d 06h 58m (57-60) bps: C: LQ Pi - pi2: C: Hu.
 05d 13h 39m (31-48) bs: B: TC - bp: B: PM DU; C: Ss.
 05d 18h 27m (17-35) b: A: Pe; B: Hl - bp: A: Nu Fü Hb; B: Wn Wi Vl Ma Db Pr CF Od Lg Tf IK Eb Tl Mc LM; C: Ha Kv? - bps: B: Ae - pi2: B: Ni Cm Ti Qu; C: Ss - (ssc: B: Tr So).
 05d 19h 40m (39-42) bp: C: Kv? Tf Tl.
 06d 02h 29m (27-30) bp: B: IK SM - pi2: C: MB.
 06d 20h 32m (30-38) bp: B: So Vl CF; C: St Kv? - pi2: A: Ma Lg; B: Ni Cm Od Aq Tk Eb Pe Ti Mc Lu LM; C: Pi Hu - (si: A: Tr).
 07d 13h 02m (54-05) bp: B: Ss PM To; C: Kv? Mb Ka Ky - pi2: C: TI.
 07d 13h 36m (35-39) bp: B: DU; C: Ap - (si: A: PB).
 07d 21h 59m (56-62) bp: B: Tf; C: Kv? Ti TC.
 08d 19h 05m (00-11) bp: A: Kn IK; B: Mo Es Ni Cm Kv? Ma Db Od Tk Eb Qu Hr; C: Kg - bps: A: Nu; B: Tf - pi2: A: Lg Ti Bi; B: Ha Mb Ka Ky LM; C: Ss - (ssc: A: So; B: Sw?).
 08d 19h 33m (32-36) b: A: Pe - bs: B: Hl - bp: A: IK; B: Pr Lg Eb - bps: A: Hb Ti Ks; B: Wn Vl Fü Aq Tl Bi; C: Ha - pi2: A: Ni - ssc: A: So; C: Mc).
 08d 23h 35m (28-44) bp: B: Mo Db CF - pi2: A: Lg; B: Ni Cm Ha Pe MB; C: TI.
 09d 11h 14m (12-16) bp: B: Sr - pi2: C: TI.
 09d 15h 04m (04-06) bp: C: Mb Ka Ss Ky.
 09d 18h 51m (46-55) bp: B: Ma; C: Db Tk? - bps: A: Mw - pi2: C: TI.
 09d 19h 14m (09-16) b: A: Pe - bp: B: CF; C: Kv? - (ssc: A: TC - si: B: Le).
 09d 21h 36m (35-41) b: B: MB - bp: C: Kv? Mb Ka Ky - bps: A: Mw.
 10d 00h 20m (10-23) b: A: Es Pe - bp: A: Tl; B: Db CF - pi2: C: Hu.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(JANUARY)

10d 00h 53m	(48-60) b: A: SF SJ MB; B: Lu - bp: B: Kv? - bps: A: Mw.
10d 05h 09m	(06-15) bs; C: MB - pi2: B: Tw; C: Hu.
10d 05h 30m	(27-34) bp: C: Vi - bps: A: Mw - (si: B: Te).
10d 22h 19m	(13-23) bp: B: Vl CF Eb; C: Kv? Hr - pi2: A: Ma; B: Ni Cm Ha Aq Pe TI MB Lu; C: Hu LM.
11d 10h 14m	(14) bp: B: Tl; C: Kc?
12d 00h 11m	(06-15) b: A: Hb Su Lg Mc; B: Hl Wn Sw Be Ma Pr - bp: A: IK; B: Es Ni Vl Eb Ci; C: St Kv? - bps: A: Mw - pi2: C: TI.
13d 02h 44m	(40-51) b: A: Ag; B: Sw Lg; C: MB - bp: A: Ci Mc; B: Es St Vl Eb Tl SM Ae; C: Kv?
13d 20h 57m	(57) bp: C: Kv? - bps: A: Mw.
13d 22h 29m	(27-32) bp: B: Vl Ma CF IK Eb; C: Tl Mc - pi2: A: TI Bi; B: Ni Cm Ha Od Aq Ci MB Lu LM; C: Pi.
13d 22h 45m	(43-48) bps: A: Mw - pi2: B: Ni.
16d 17h 38m	(27-46) b: A: Pr - bp: B: Kv? CF - bps: A: Mw - pi2: C: Cm.
16d 18h 09m	(09) bp: B: Kv? - pi2: B: Tk.
17d 07h 04m	(00-08) bp: B: Te - pi2: C: Hu.
17d 13h 32m	(32) bp: C: Mb Ka Ky - pi2: C: Ss.
17d 19h 06m	(05-07) bp: B: Kg - pi2: C: Cm TI - (ssc: B: So - si: A: Tr).
18d 01h 29m	(27-32) bp: B: CF Eb Tl; C: Kv? - pi2: B: MB Lu LM; C: Cm.
18d 17h 19m	(16-21) bp: B: Kv?; C: Tk - pi2: B: TI LM.
18d 18h 16m	(12-27) b: A: Kn Mo; B: Sw Ak - bs: A: So - bp: A: Od; B: Le Es Wi Vl Kv? Ma Da Fd CF Tk Eb Tl Ae TI Qu Kg Wk; C: St Cm - bps: A: Nu Hb Tf Ks; B: Do Hl Wn Be Pr LM.
19d 14h 02m	(57-06) bp: A: PM; B: Sr Kv? Gn To - pi2: A: Am.
19d 20h 01m	(58-06) b: A: Pe SF; B: Sw Ak MB - bs: A: So - bp: A: Kn Mo St Ha Tk IK Ci; B: Le Es Wi Ni Cm Kv? Ma Db CF Aq Eb Tl Qu Gn Kg; C: Wk - bps: A: Nu Pr Od Tf; B: Hl Wn Be Fd Ae Ks - pi2: A: LM; B: Mb Ka Ss Ky LQ Pi.
19d 23h 49m	(45-56) b: A: SF; B: Sw - bp: A: Hb IK Eb Mc; B: Es St Wn Ni Vl Ha Kv? Ma Db Pr CF Od Aq Ci Tl Pe Ae TC MB LM - bps: A: Be Fd - pi2: C: Cm.
20d 10h 08m	(06-09) bp: A: Me; B: Tu; C: Ap - bps: B: Ho Am - pi2: B: LQ Pi To; C: Hu.
20d 20h 18m	(16-20) bp: B: Ma - (si: A: Tr).
20d 21h 15m	(13-17) bp: B: CF; C: Kv? Eb - pi2: A: Lg; B: Ni Cm Aq Tf Tk Pe TI; C: Hu - (si: A: Tr).
22d 01h 22m	(15-30) bp: B: Ma Mc; C: Eb - pi2: A: MB; B: LQ Va Pi; C: Hu - pc4: A: Ci; B: LM; C: Cm.
22d 01h 45m	(43-45) bp: B: CF SM; C: eb - pi2: A: MB; B: Lg Aq; C: Cm.
22d 16h 48m	(48) bp: B: Kv? - pi2: C: Tf.
23d 02h 38m	(35-42) bp: A: Mw - pi2: B: Bi.
23d 16h 09m	(03-11) b: A: Tr - bp: B: Od - pi2: A: LQ Pi; B: Mb Tk Ka TI Ky LM; C: Cm.
23d 17h 33m	(33) bp: C: Kv? - pi2: B: LM.
24d 03h 15m	(15) bp: B: Kv? - pi2: A: MB.
24d 13h 55m	(48-70) b: B: Sw - bs: C: Ir - bp: B: Kn Mo Kv? Od.
24d 22h 47m	(45-50) bp: C: TI - pi2: B: Od Bi; C: Cm - (si: A: Tr).
24d 23h 06m	(03-08) b: B: Sw - bp: B: St Ma Bi - bps: C: Eb - pi2: B: Ni TI; C: MB.
24d 23h 50m	(46-54) b: A: Nu Lg Pe SF; B: Mc - bs: B: Hl - bp: A: Eb TC; B: Wi Db

TABLE 3a BAYS AND PULSATIONS 1964 - continued

(JANUARY)

CF Od Aq IK Tl Ae TI Mb Bi; C: Kv? - bps: A: Hb; B: Wn Vl Cm Ha Pr Fü Ks - pi2: B: Ni.

25d 05h 51m (47-59) bs: A: Me - bp; C: LQ Pi - bps: B: Ag; C: Hu.

25d 17h 12m (12) bp; C: Kv? - pi2: C: Tk.

25d 20h 09m (00-24) b: A: Pe SF MB Tn; B: Hl Sw - bp; A: Nu Le Kn Mo St Vl Ha Pr Aq Tf Eb Tl LM; B: Es Wn Wi Kv? Db CF Hb Lg Tk SM Ae Bi Lu Kg; C: Mb Ka Ky - bps: A: Od TI Mw; B: Ni Be Fü Qu - (ssc: A: TC; B: So).

25d 21h 28m (27-30) bp; B: Pr; C: Db Lg - bps: B: Wn Hb.

25d 22h 02m (02) bp; B: Ma; C: Kv?

26d 02h 40m (00-10) b: C: Tu Hu - bp; A: Ac; B: Wn Ma Db Pr Fü CF Eb SM Ae Mc; C: St Hb - bps: B: Vl Tk MB Va - pi2: A: Lm; B: Cm - (ssc: A: TC).

26d 18h 23m (20-26) b: A: Tn; B: Sw Ak - bp; A: So Nu Hb Od TI; B: St Wn Vl Be Ma Db Pr Fü CF Aq Tf Tk Qu LM Kg; C: eb - bps: A: Ks.

27d 06h 22m (21-24) bps: B: Ag - pi2; B: LQ Pi.

27d 19h 04m (00-05) bp: B: St Wn Wi Vl Ma Db Pr CF Hb Od Eb Tn; C: Ha Kv? Tl - bps: A: So Nu; B: Le - pi2; B: Ni Cm Aq Qu Bi - (ssc: A: Tr - si: Hl).

27d 20h 09m (08-11) b: B: Tn - bp; A: Nu Hb; B: Wn Vl Ha Kv? Pr CF Od Eb Tl TI Bi; C: Db Tf - bps: B: So Fü - pi2; B: Ni Cm Aq Lu LM; C: Hu.

27d 20h 53m (50-61) bp: A: Nu; B: Wn Kv? Pr Hb Od Eb Tl TI Bi Tn; C: Ha Db Tf - bps: B: So - pi2; B: Ni Cm Lu.

27d 22h 03m (03-04) b: B: Tn - bp; C: Kv? Eb - pi2; C: Cm.

29d 05h 24m (20-29) bp: B: Te - pi2; C: Hu.

29d 11h 59m (55-63) bp: A: Sr - pi2; C: Ss.

29d 21h 18m (17-20) bp: B: CF C: Kv? - pi2; C: Cm.

30d 01h 46m (43-58) b: A: Pe SF Tn; B: Sw MB - bs; A: Tr; B: Es - bp; A: So Hb Od Lg Mc; B: Vl Ma Pr CF Eb SM Ae TI TC Bi Lu; C: Kv? Tl - bps: A: Mw - pi2; C: Cm.

30d 16h 05m (00-11) b: A: Pe - bp; A: Nu; C: Kv? Kg.

30d 21h 40m (37-42) b: A: Pe SF Tn; B: Sw - bs; A: Tr; B: Hl - bp; A: IK Tl Ae Mc; B: Kn Mo Wi Be Cm CF Lg Tk Ci SM Qu Lu; C: Kg - bps; A: So Nu Ma Db Hb Tf Ks Mw; B: Do Le Es St Wn Ni Vl Ha Pr Fü Aq Od Eb Tl.

30d 21h 58m (58) bp: A: Su; C: Kv?

31d 09h 28m (23-30) bp: B: Vi - bps: A: Am - (ssc: B: Co).

31d 11h 56m (52-60) b: A: Ir - bps: B: Sr.

31d 17h 28m (15-41) b: A: Pe SF MB; B: Sw - bs; A: Nu; B: Hl Wn - bp; A: Kn St Ma Pr Tf; B: Lg Hr; C: Ae - bps: A: Mo Ni Hb; B: Vl Db TI Ac Kg - (ssc: A: So).

31d 21h 58m (55-59) b: A: Lg - bp; B: CF Tl; C: Kv? - bps: B: Ma - pi2; C: Cm.

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01d 19h 59m (55-61) bp: B: Vl CF - bps: A: Mw - pi2; B: Cm.

01d 20h 15m (15-16) bp: B: Eb - pi2; B: Aq.

01d 21h 04m (00-09) b: B: Ak - bp; B: Tf Bi - bps: B: Ks; C: Kv?

01d 23h 33m (28-38) b: A: SF B: Sw - bs; B: Hl - bp; A: Hb Od IK B: Nu St Wn Vl Be Pr Fü CF Aq Eb Tl Ae Mc Bi Ac; C: Cm - bps: A: Ks Mw; B: Le Es Ma Db MB Lu - pi2: B: Ni.

02d 13h 44m (42-50) b: B: Sw - bp; B: Kn Mo Ir; C: Kv?

02d 15h 37m (36-37) bp: B: Kn PM; C: Mb Ka Ss Ky - bps: B: Gn.

03d 20h 13m (11-13) bp: B: So - pi2; B: Od Aq Tf Eb Qi Bi Hu Ac; C: Cm Tk Tl.

03d 21h 01m (00-05) bp: B: So Ma; C: Kv? - pi2; B: Aq Tf TI Bi; C: Cm Ha Tk - (si: A: Tr).

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(FEBRUARY)

04d 08h 14m	(10-18) bp: C: Vi - pi2; A: Te; C: Hu.
04d 20h 51m	(49-53) bp: A: Nu; B: Ma Db Cf - bps: B: So - pi2; A: Ti; B: Ni Es Cm Ha Od Aq Eb Bi Ac: C: Mc - (si: A: Tr).
04d 21h 37m	(35-40) bp: B: Es Vl Pr Fü CF Eb Bi - bps: A: Mw - pi2; B: Ti.
05d 21h 00m	(45-20) bp: A: Nu; B: Vl CF Lg Eb Tl; C: Kv? Hr - bps: A: Ks Mw; B: Ma - pi2; B: Ti Bi; C: Ac - (ssc: A: Tr So).
06d 01h 11m	(09-14) bp: B: St CF Eb SM Hr - pi2; C: Cm.
06d 05h 10m	(07-14) bps: A: Te - pi2; C: Hu.
06d 05h 46m	(42-50) bp: B: Ir - bps: A: Ks.
06d 09h 39m	(38-40) bp: A: Ir - pi2; B: Ti.
06d 11h 55m	(54-58) bp: B: Ma Ss DU; C: Mb Ka Ky.
06d 12h 12m	(00-16) bs: B: Hl - bp: A: Kn - bps: A: Sr Mo Ir - (si: A: Od).
06d 15h 05m	(00-13) bs: B: Hl - bp: A: Pr; B: Db - bps: A: Kn Mo.
06d 18h 46m	(40-50) bp: B: Db Ti; C: Tl - bps: A: Mw; B: Hl.
06d 19h 19m	(18-20) bp: B: Kn Pr Ti; C: Kv?
06d 21h 57m	(51-70) b: A: SF; B: Ae MB Lu - bs: B: Hl - bp: A: Hb Tf TC; B: St Wn Vl Cm Ma Db CF Lg Eb Tl Bi Hr Ac; C: Kv? - bps: A: Mw; C: Ti - (si: A: Tr).
07d 02h 46m	(42-48) b: C: Db - bp: A: TC; B: St Vl Ma Lg Eb Ci Tl SM - pi2; B: CF Bi.
07d 11h 29m	(29) bp: C: Mb Ka Ss Ky.
07d 16h 12m	(00-30) b: B: Sw Be - bp: A: Gn; B: Hl Db Od Mb Ka Ss Ky PM To Ac - pi2; B: Tk.
07d 16h 51m	(44-54) bp: B: Kn Mo Tf TC.
07d 22h 13m	(00-34) b: A: Mc Tn - bp: B: Ma Db CF Od Eb Tl Pe SM Ae Ti TC Lu Hr; C: Kv? Tf MB - bps: A: Ks - pi2; B: Ni Ha Aq Tk; C: Cm Qu.
08d 00h 48m	(46-50) bp: B: CF Bi; C: Eb - bps: C: Ag - pi2: A: Ac; B: lu; C: Cm MB Hu - (ssc: C: TC).
08d 01h 12m	(02-15) b: A: Mc - bs: A: Me; B: Va - bp: B: Vl Eb Tl SM Lu Hr Ac; C: Pe - bps: C: Hu - (ssc: A: TC).
08d 15h 59m	(50-69) b: A: Nu - pi2; A: Ti - (ssc: B: Sw?; C: TC - si: Hl).
08d 20h 32m	(32-33) bp: B: Ma; C: Kv? - pi2; B: Ti.
08d 21h 06m	(00-10) bp: B: Db CF Tf Tl Ti; C: Kv? - (si: A: Tr).
08d 22h 13m	(00-20) b: A: SF Tl Pe; B: MB; C: Pa - bp: A: Kn TF Ti; B: Ma CF SM Ae; C: Kv? - bps: A: Mo Ni Pr; B: Vl - (ssc: A: TC - si: A: Lg; B: Ir DU).
09d 17h 11m	(10-12) bp: B: Vl; C: Db - bps: B: Ks; C: Ti.
09d 23h 17m	(10-21) bp: B: Vl Ma CF Lg Eb TC Mc Bi Lu; C: Db MB.
10d 00h 00m	(56-01) b: B: SM - bp: B: Ma CF Lg Eb Mc Bi Lu; C: Kv? MB - pi2: A: Ac.
10d 14h 16m	(16) bp: C: Kv? - pi2: C: Cm.
10d 20h 47m	(42-51) b: A: Pe; B: Sw Tn - bp: B: Nu St Wn Wi Vl Ma Db Pr Fü CF Hb Od Aq Eb Qu Bi Ac; C: Ha Kv? Tf Mc - bps: A: Mw; B: Le Kg Ks - pi2: B: Ni - (si: A: Tr).
11d 21h 53m	(50-60) bp: B: CF - bps: A: Mw - pi2: B: Ma Aq Tf Tk - (ssc: C: Kg).
12d 02h 49m	(49) bp: C: Eb - pi2: B: CF.
12d 13h 42m	(40-48) bp: A: Kn Mo; B: Ss; C: Mb Ka Ky.
12d 14h 00m	(00) bp: C: Kv? - bps: B: Ir.
12d 17h 24m	(22-30) b: A: Pe - bp: B: Kn Db Tf Ti.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(FEBRUARY)

13d 03h 00m (59-60) bp: B: Tl Hu - bps: B: Vl.
 13d 06h 19m (18-20) bps: B: Hu - (si: A: Te).
 13d 11h 23m (21-26) bp: A: Ss; C: Kv? - bps: A: Sr; B: Mb Ka Ky PM To DU - (ssc:B: TC).
 13d 15h 50m (48-56) bp: A: PE; B: Kv? - bps: A: Mo - pi2: B: Mb Ka TI Ky; C: Ss.
 13d 20h 56m (55-58) bp: C: Tf - pi2: C: TI.
 13d 22h 03m (58-06) bp: B: CF TI - pi2: B: Cm.
 14d 03h 44m (41-45) b: C: Tu MB - bp: B: CF SM; C: St TI - pi2: C: Hu - (ssc:C: TC).
 14d 17h 54m (50-66) b: A: Pe; B: Hl Sw; C: Ak - bp: A: Nu Kn Mo Hb Od Tk; B: Le Wn Ni Vl Be Ma Db Pr Fü CF Aq Tf Eb Tl Ti Qu Bi Kg; C: Ha Kv? Ac - pi2: B: LM; C: Cm.
 14d 23h 02m (55-09) b: A: Nu Pe Mc; B: Od Tn - bp: B: Ma Db CF Lg Eb Tl SMAe TI TC Bi Lu; C: Kv? - pi2: C: Cm.
 15d 13h 01m (58-04) bp: B: PM Gn; C: Vi Mb Ka Ky - bps: B: To MI - pi2:A: TI Ac.
 15d 18h 32m (29-40) b: A: Sr Kn Mo Ci SF; B: Sw Ak - bs: B: Hl - bp: A: St Tf Tk IK Tl Qu; B: Le Wi Vl Ha Ma Db CF Ir Lg Eb Pe SM Ae Ky Ac Kg Wk; C: Mb Ka Ss TC - bps: A: So Do Nu Gn; B: Es Wn Ni Be Pr Fü Hb Aq TI - pi2: A: LM; B: Cm - (si: A: Tr).
 15d 19h 00m (00) b: A: Su - bp: B: Kv?
 16d 10h 45m (40-50) bp: B: DU; C: Ap - pi2: B: To; C: Hu.
 16d 11h 12m (10-15) bp: B: Sr To.
 16d 19h 34m (29-48) b: B: Ak - bp: B: Be Hb Od Tk Kg; C: Tf TI Wk - pi2: B: Aq LM Ac; C: Cm - (ssc: A: Tr).
 17d 17h 30m (27-35) b: B: Sw Ak - bp: A: Kn Od IK; B: Mo Ir Tk TI; C: Tf Kg-bps:A: Gn.
 17d 18h 19m (19-20) b: B: Ak - bp: B: TI; C: Kv? - bps: A: Mw.
 20d 17h 52m (46-60) bps: A: Mw - pi2: B: TI Ac - (ssc: A: So).
 20d 18h 18m (15-21) b: B: Tl - bs: A: Es; B: Kv? - bp: B: Lg Eb Ae; C: Ha - bps: B: Vl - (si: A: St; B: Le).
 20d 21h 51m (50-60) bp: A: Tf Tl; B: Kv? CF - bps: A: Ni - pi2: A: TI - pc4: B: LM - (ssc: A: So).
 20d 22h 16m (13-22) b: A: Ae MB - bs: B: Hl - bp: A: Lg; B: Ha Ma Db Eb; C: Mb Ka Ky - bps: A: Pr Hb; B: Wn Vl; C: Ac - (si: A: Ir Od).
 21d 03h 58m (57-59) bps: B: Va - (ssc: A: TC).
 21d 11h 22m (22) bp: C: Mb Ka Ky - pi2: C: Ss.
 21d 11h 43m (41-45) bp: B: DU - pi2: B: To.
 21d 11h 59m (58-61) bp: C: Ap To.
 21d 16h 33m (30-36) bps: B: Hl - pi2: B: Tk.
 21d 17h 18m (10-27) b: A: Pe - bp: B: Mo; C: Tf TC - pi2: C: Cm.
 21d 17h 46m (44-50) bp: C: TC - bps: C: TI - pi2: B: Bi.
 21d 18h 10m (09-11) bp: C: Kv? Bi - pi2: A: TI.
 21d 20h 24m (24) bp: C: TI - pi2: C: Cm.
 22d 13h 20m (18-30) bp: A: Gn; B: Sr PM To MI DU; C: Mb Ka Ss Ky.
 22d 18h 02m (54-12) b: B: Sw Ak - bp: A: Nu Hb Od Tk IK Tl; B: Le Kn Mo Wn Wi Ni Vl Be Cm Ha Kv? Ma Db Pr Fü CF Lg Aq Eb Qu Bi LM Kg; C: Wk - bps: B: Hl TI - pi2: B: Ac; C: Ss.
 22d 18h 31m (27-35) b: A: Su Pe.
 22d 22h 19m (18-20) b: A: Tf - bps: A: Mw.
 23d 16h 38m (25-49) bp: B: To - bps: A: Wk - pi2: B: Mb Ka TI Ky; C: Ss.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(FEBRUARY)

23d 17h 31m (19-50) b: A: Sr Mo B: Sw Ak - bp: A: So St Nu Le Db Pr Hb Tf Tk IK Ci Tl Ky Qu TC Gn; B: Kn Es Hl Wn Wi Ir Ni Vl Ha Kv? Ma Fü CF Mb Lg Aq Eb Pe Ka PM LM Hr Ac Kg DU; C: Ss - bps: A: Od; B: Be - pi2: B: Cm Bi.
24d 04h 01m (55-03) bp: B: Lg Eb - pi2: A: Ac; B: MB Lu Hu LM.
24d 22h 02m (49-07) b: A: Pe: B: Sw - bs: B: Be - bp: A: Nu; B: Wn Vl Ma Db Pr Fü CF Hb Od Aq Eb Ci Tl SM Ae; C: Ha Kv? Tf TI - bps: B: Le Ks - pi2: B: Es Ni Cm Bi; C: MB Ac.
25d 09h 58m (49-63) b: B: Tu - bp: B: Vi Ap; C: To - bps: A: Me - pi2: C: Hu.
25d 17h 38m (35-40) bp: B: Kg; C: Kv? - bps: C: Ir - pi2: A: TI.
25d 18h 47m (42-66) b: A: CF IK Tl SF MB Mc - bs: A: Nu Pe - bp: A: Kn Aq Eb Ae; B: Wi Kv? Ir SM TI Bi - bps: A: Mo Ni Ha Db Pr Hb Qu Mw; B: Sr Wn Vl Cm Ma Fü - (ssc: A: So 'TC').
26d 03h 00m (00-01) bp: A: SJ?; B: Le Es CF Fr Va; C: Eb - bps: B: Ag - pi2: A: Ac; B: Hu.
26d 10h 26m (20-36) bp: A: Ap; B: Mb Ka Ss Ky PM DU - bps: B: To - (si: Be).
26d 23h 22m (15-28) b: B: Sw - bp: B: Tl Ae - bps: B: Lg - pi2: A: TI TC; B: Bi; C: Cm - pc4: B: LM.
27d 00h 07m (00-17) bp: B: CF Ci; C: Kv? - pi2: A: TC MB Bi; B: Ni Ha Ma Eb Pa Hu Ac.
27d 00h 58m (50-61) bs: B: Es - bp: C: Eb Mc - pi2: C: TI.
27d 11h 31m (30-31) bp: B: To - pi2: B: Mb Ka Ky - (sfe: PB).
27d 16h 58m (50-69) b: B: Sw - bp: A: Od; B: Be - pi2: B: TI; C: Ss.
27d 17h 27m (20-30) b: A: Pr Hb; B: Wn - bp: A: St IK Tl; B: Le Hl Vl Aq Ci Ae; C: Db - pi2: C: Cm.
28d 18h 10m (10) b: A: Su - bp: C: Kv?
27d 20h 06m (05-08) bp: B: Bi; C: Eb - pi2: B: TI.
27d 20h 35m (34-36) bp: B: Ma CF Tl; C: Kv? - bps: C: TI - pi2: B: Cm.
28d 17h 28m (24-40) b: A: Pe: B: Sw - bp: A: Nu; B: Wn Vl Ma Pr Hb Eb Ae TC; C: Db Kg - bps: B: Hl Lg - pi2: B: Cm.
29d 20h 56m (53-59) bp: B: Lg - bps: A: Mw - pi2: A: TI; B: Eb; C: Es Hu.
29d 21h 17m (16-18) bp: B: Eb; C: Kv? - bps: B: Lg; C: TI - pi2: B: Bi.
29d 22h 47m (44-60) bp: B: So Es Wn Vl Ma Pr Fü Lg Eb Bi; C: Kv? Hb-bps; A: Mw; C: TI - pi2: B: Sr Aq Lu; C: Cm MB - pc4: C: Ac.

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01d 02h 15m (10-18) bp: B: SM TC - pi2: B: Bi Ac; C: Hu.
01d 12h 10m (07-13) bp: B: Vi To Am DU; C: Ss Ho Ap - bps: B: PM - pi2: B: Bi.
01d 19h 14m (12-16) bp: C: Kg - pi2: B: Tk Eb Mc Bi - pc4: Lg.
01d 19h 59m (54-60) b: B: Ak - bp: A: Nu; B: So Vl Lg Tl Bi; C: Kv? Eb - bps: A: Tn; B: Ks - pi2: B: Ni Tk.
01d 21h 03m (00-05) bp: B: Lg - pi2: B: St Ni Aq Tf Tk MB Bi Lu Hu LM Ac - pc4: A: Tn.
01d 21h 24m (21-25) bp: B: Lg Bi; C: Eb - pi2: B: Ni Lu.
02d 08h 04m (03-05) bps: B: Co - pi2: B: Hu.
02d 22h 55m (35-61) bp: B: CF Od Lg - bps: A: Tr - pi2: A: St Ni Mc; B: Ha Ma Aq Eb Ae TC Qu MB Bi Lu LM Ac; C: Hu - pc4: A: Tn - (si: Vl Be).
02d 23h 39m (36-46) bps: B: Lg - pi2: B: Ni - pc4: A: Tn.
03d 00h 23m (21-25) bp: B: CF IK SM Bi; C: Kv? Eb - bps: B: Lg.
03d 21h 23m (16-33) b: A: SF; B: Sw Ak MB - bp: A: Kn Mo St Ha Aq Tk IK Eb Mc; B:

TABLE 2a BAYS AND PULSATIONS 1964 - continued
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Es Wi Ma Db Fü CF Ci Pe SM Bi Hr Ac - bps; A: Nu Ni Pr Hb Tl Ae
Ks Qu; B: Le Hl Wn Vl Be Tf Tn Mw; C: Kg Wk - pi2; B: Lu Hu - pc4;
A: LM - (ssc; A: So TC - si; B: Od).

04d 00h 16m (15-18) b: B: MB - (ssc: Sw?).

04d 01h 40m (33-45) b: A: Pe - bp; B: CF Eb Mc Bi - bps; A: Mw.

04d 12h 38m (37-43) bp; C: Mb Ka Ky - bps; A: Sr.

04d 17h 13m (00-23) b: A: Tl Pe - bs; B: Vl - bp; A: Ae Hr - bps; A: Kn Mo; C:Tf - (ssc;
A: TC - si; A: Ir Od; B: Le LM).

04d 18h 18m (18) bp; B: Kv? - bps; B: Wk.

04d 21h 21m (20-27) bs; B: MB - bp; A: Mc; B: Kv? Eb Tl Pe Ae Hr - bps; A: Bi; B:
CF Lu; C: Tf.

04d 23h 54m (50-58) bp; B: CF - pi2; B: Ac.

05d 00h 50m (47-54) bs; B: MB - bp; A: Tl; B: Db CF Eb Pe Ae Mc Hr.

05d 01h 07m (07) bs; A: Te - bp; C: Kv?

05d 11h 57m (54-58) bp; A: Sr; B: Mb Ka Ky.

05d 20h 08m (59-27) b: A: Pe Te Mc; B: Lg MB - bp; B: Sr Ma CF Tf Qu Hr; C: Kv?
- bps; A: Ks; B: Mw - (ssc; A: TC - si; A: LM).

06d 02h 26m (24-28) b: B: Te - bps; B: Hu.

06d 07h 50m (47-53) bp; C: Ap - pc4; B: Lg.

06d 09h 11m (10-12) b: C: Ir - bp; C: Ap.

06d 15h 32m (25-43) b: A: Pe SF; B: Sw Ak - bs; A: Nu Pr Hb; B: Wn Vl Ha - bp; B: Ma
TC Kg; C: Ss - bps; A: Kn Mo; B: Tf - (si; B: Od Lg; C: LM).

06d 17h 41m (30-54) b: A: Pe; C: Ak - bp; A: Tf; B: Ma Db Pr LM Wk; C: Kv?

06d 20h 35m (34-36) b: B: Db - bp; C: Kv? - pi2; B: Lg.

06d 23h 49m (44-54) bs; B: Be - bp; C: Kv? - pi2; C: LM.

07d 00h 17m (10-23) b: A: Ag Ci - bp; B: Kg - pi2; C: Eb.

07d 00h 41m (36-48) b: A: Pe SF SJ Mc; B: Sw Db MB Hu; C: Pa - bs; B: Va - bp; A:
IK; B: Kn Mo Wn Vl Ha Pr CF Hb Od Eb Tl SM Ae Bi Lu LM-bps; A:
Es Ac; B: Lg Hr.

07d 18h 49m (42-57) b: A: Nu Pe LM; B: Mc - bp; B: Ma Bi; C: Tf Hr - (ssc; B: TC).

07d 19h 17m (16-18) bp; B: Wn Db Pr Hb Ae Ac.

07d 19h 33m (30-37) b: B: Tl - bp; B: Ae; C: Kv?

07d 23h 30m (27-31) b: A: Pe Mc; B: Be Od Lg - bp; A: Ma - bps; B: Mw.

08d 01h 56m (54-59) b: A: Mc; B: Sw - bs; B: Db MB - bp; B: Wn Ma Pr CF Hb Lg Aq
IK Tl Bi; C: Eb - bps; A: Ci Ae TC; B: Es St Vl Ag Va Hr Ac; C: Ha -
pi2; B: LM; C: Hu.

08d 08h 16m (14-25) bs; B: Tu - bp; A: Am; B: To; C: Vi Mb Ka Ky Ap - bps; A: Ag Hu
- (si; A: Me Te).

08d 13h 49m (48-54) bp; A: Kn; C: Kv? Mb Ka Ky.

08d 19h 40m (33-48) b: B: Hl Sw - bp; A: Nu; B: Es St Wi Vl Db CF Aq Tf Eb Ae; C:
Tl Pe Hr - bps; A: Pr Hb; B: Do Wn Fü; C: Ac - pi2; B: LM - (ssc; A: Tr).

08d 20h 20m (18-21) bp; B: CF IK; C: Kv? - pi2; B: Ni.

08d 21h 49m (47-51) b: B: Sw - bs; B: MB - bp; B: Wi Lg IK Tl Pe SM Lu Ac; C: Kv?
- bps; A: Mc Bi; B: Es St Wn Vl Ha Db Pr Fü CF Od Aq Eb Ae Hr -
pc4; C: LM.

09d 03h 23m (20-30) b: B: Hu; C: MB Hr - bp; B: Ac.

10d 14h 16m (14-19) bp; B: To; C: Mb Ka Ky Wk - bps; A: Gn - pi2; A: Tk; B: Tf Ac; C:
Eb - pc4; B: LM - (si; B: Lg).

10d 19h 02m (00-06) b: B: Hl Sw - bp; B: Kn Mo Wi Vl Be Ma Od Tk; C: Tf Ae TC - pi2;

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	Mb Ka Ky.
10d 19h 34m	(31-36) b: A: Pe SF - bp: B: Db CF Aq Eb Tl Mc - bps: Lg.
11d 06h 03m	(00-05) b: A: PB - bp: B: Tu - bps: B: Ag - pi2: A: Ac; B: Te Hu- (ssc: A: Me).
11d 07h 29m	(25-34) bp: A: TC - pi2: C: Hu.
12d 01h 36m	(33-42) bp: B: SM - pi2: B: Bi; C: Hu.
12d 02h 43m	(32-52) b: A: Pe; B: Sw Ae MB - bp: B: Es Vl Od Lg Eb; C: Kv? Tl - pi2: A: Ac - (ssc: B: Ag - si: A: TC).
12d 16h 04m	(04) bp: B: Ma; C: Kv?
13d 11h 01m	(00-03) bp: B: Sr To; C: Mb Ka Ky Ap - bps: A: Me; B: Am - pi2: B: TC - (ssc: A: PB).
13d 11h 20m	(15-25) bp: B: DU - pi2: B: Mc.
13d 23h 27m	(21-37) bp: B: CF - pi2: B: Es Od Ci Bi LM Ac.
14d 05h 39m	(38-40) bps: A: Me - pi2: A: Ac.
14d 18h 04m	(58-16) b: A: Nu Pe; B: Sw - bp: A: Kn; B: Mo Vl Ma Tf Gn Kg; C: Kv? - (ssc: B: Tk - si: B: Od).
14d 18h 41m	(37-45) b: C: MB - bp: B: TC.
15d 00h 48m	(40-52) bs: B: Vl - bp: B: Ma - pi2: B: Lg - pc4: C: Ac.
15d 01h 53m	(46-57) b: C: TC - bp: B: Ma CF Ci SM; C: Eb Tl - bps: B: Ag Lg-pi2:A: Ac; B: Pe; C: MB.
15d 14h 47m	(42-60) bp: A: Co; B: Sr Kn Mo Ir Od Tk PM To MI DU; C: Kv? Mb Ka Ss Ky Wk - bps: A: Gn.
15d 17h 36m	(32-39) bp: B: Wi Db Od - pi2: B: LM.
16d 02h 34m	(33-36) bs: B: MB - bp: B: CF - bps: B: Va; C: Hu - (si: Hl Be).
17d 02h 44m	(39-47) bp: B: CF Lg Eb SM MB - bps: A: Ci; B: Vl Va - pi2: A:Bi Ac;B: Ha Od Aq Pe Pa Hu Tw; C: Te - (ssc: C: Ag).
17d 06h 26m	(22-30) bps: A: Me - pc4: B: Gn.
17d 10h 42m	(32-52) b: A: MI - bp: B: Mb Ka Ky PM To DU; C: Vi Ss Ho Ap - bps: A: Am - (ssc: A: PB).
17d 14h 40m	(36-45) bp: A: Gn; B: MI.
18d 19h 07m	(05-10) bp: C: Eb - bps: A: Tr So; C: Kg - pi2: A: Bi LM Ac; B: Ni Ma CF Od Tf Tk Qu; C: Ss Hu - (si: Be).
19d 12h 09m	(08-13) bp: B: PM To; C: MI DU - pi2: C: Ss.
19d 19h 12m	(10-14) bp: B: Hr - pi2: B: Bi.
20d 19h 00m	(37-19) b: A: Pe; B: Sw - bs: A: Nu - bp: A: Hb Tn Gn; B: Le Kn Mo Es St Wn Wi Ni Vl Ha Ma Db Pr Eb Tl Ae Hr Ac Kg Wk - bps: A: Od LM;B: Be - pi2: A: Lg - (ssc: B: So - ci: C: TC).
21d 00h 27m	(18-40) b: A: SF; B: Sw - bs: B: Hl - bp: A: Es Ha IK Bi; B: St Wi Ni CF Lg Aq Tf Tl Pe SM Ae Hr Ac Mw; C: Kg - bps: A: Pr Od Ci; B: Le Wn Vl Be Ma Db Fü Eb MB Lu - pi2: C: Hu - (ssc: A: TC; B: So - si:B:LM).
21d 22h 53m	(50-55) bp: B: CF - pi2: B: Es Ma Eb Bi Ac; C: MB.
22d 19h 18m	(15-20) b: A: Pe - bp: A: Kn; B: Kv? Tl; C: Ae - bps: A: Mo - (si: A: Od; B: Te).
22d 21h 50m	(49-50) b: A: Pe; B: Hu - bp: B: Tl.
22d 22h 03m	(03) bp: B: Kn; C: Kv?
22d 22h 25m	(19-30) b: C: MB - bp: B: CF - bps: A: Lg.
23d 03h 53m	(49-60) b: C: MB - bp: A: Te - bps: A: Lg; B: Hu.
23d 09h 48m	(34-52) bp: A: Te; B: Ap DU; C: Mb Ka Ky Ho - (ssc: A: TC).
23d 10h 07m	(06-10) bps: A: Sr - (ssc: A: Ir).

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23d 12h 28m (28-29) bp: B; Ss; C: Mb Ka Ky.
 23d 18h 31m (25-35) b: A: Pe; B: MB - bp: B: Db Tl Ae - (ssc: B: TC).
 23d 18h 47m (46-47) bp: B: CF Bi - bps: B: Lg.
 23d 19h 27m (21-33) bp: B: Lg; C: Kv? - bps: B: Wk.
 24d 04h 16m (12-17) bp: A: TC - pi2: A: Ac; C: Hu - (si: A: Me).
 24d 09h 44m (39-47) bp: A: Sr; B: To; C: Ap - (ssc: A: PB - sfe: Od).
 24d 15h 04m (57-09) b: A: Pr Pe; B: Wn Sw Hb; C: Ak - bp: A: So Nu Kn; B: Mo Vl; C: Db - bps: B: Od Tf Wk.
 24d 16h 15m (10) b: A: LM; B: MB.
 24d 16h 52m (47-60) bp: C: Kv? Tf - bps: B: Lg - (ssc: B: TC).
 25d 01h 43m (40-51) bs: B: Va - bp: A: Tl; B: Le Vl CF Ci Pe SM Ae Bi - bps: A: TC Ac; B: Es Ag Lg Eb MB Hr - pi2: C: Hu - pc4: B: LM.
 25d 19h 11m (57-25) b: A: Nu Pe - bp: B: Wi Ma CF Tf Eb Tl Ae Bi - bps: A: Od Lg Ks Mc; B: Wn Vl Pr Fü TC - (si: B: LM).
 25d 21h 51m (43-56) b: C: MB - bp: B: CF Lg Mc; C: Eb Pe - bps: B: Es - pi2: B: Ma.
 26d 01h 02m (02-03) bps: B: Hu - pi2: B: Ac.
 26d 03h 04m (00-09) bp: A: Te; B: Hu.
 26d 12h 46m (45-48) bp: B: Sr DU.
 27d 01h 42m (40-45) bp: B: SM; C: Ci - pi2: B: CF Bi; C: MB.
 27d 07h 22m (18-24) bp: A: Tu; B: Co Lg - bps: A: Ag; B: Si Vi - pi2: A: Am; B: Te Ac; C: Nu.
 30d 16h 38m (25-44) b: A: CF SF MB Gn; B: Hr - bs: A: LM - bp: A: Mb IK Ka Ky Qu Te: B: Ni Vl Ma Eb Ci Tl Kg Wk; C: Pa - bps: A: Kn Mo Ir; B: Sr Es Db Lg TC - (si: A: Od - sfe: Bi).
 30d 16h 56m (54-60) b: C: Ak - bp: A: Kv? - bps: A: Tf - (si: A: Tr).
 30d 17h 16m (12-20) b: A: Su - bp: B: DU.
 30d 21h 00m (48-08) b: B: Hl - bp: B: Lg Tf Tl Ae.
 31d 10h 50m (49-50) bp: B: To MI - pi2: C: Ss.
 31d 17h 43m (40-47) b: B: Tn - bp: B: Wn Be Pr Od Kg; C: Hb Tf.
 31d 18h 10m (10) b: A: Su - bp: C: Kv?

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01d 16h 57m (46-60) bs: A: Ir - bp: B: Mw; C: Kv? - bps: A: Kn Mo; B: Db - (ssc: Hl - si: A: Od).
 01d 19h 00m (00) b: B: MB - bp: C: Kv?
 01d 23h 04m (03-09) bp: A: Wn Ma Pr IK Tl; B: Ha Fü CF; C: Kv? - bps: A: Kn Mo Db; B: Lg Eb Bi - pi2: C: Cm - (si: B: Vl).
 02d 16h 43m (38-48) bp: B: Bi - bps: B: Wk.
 02d 20h 01m (00-05) bp: B: Vl Db CF; C: Kv? Eb - bps: B: Wn Pr Hb - pi2: B: Ni Cm.
 02d 20h 33m (29-45) b: A: SF TC 1 bs; A: Ac; B: MB - bp: A: Tl Mo; B: Ma Db CF Lg Aq Eb SM Lu Hr Mw; C: Kv? - bps: A: Nu Wn Pr IK; B: Vl Ha Db Bi - pi2: A: Cm; B: Ni - (ssc: C: Pa - si: A: Od).
 02d 23h 11m (11) b: B: Lg - bp: C: Kv? - bps: B: Bi.
 03d 01h 24m (22-28) bp: B: Te - bps: A: Ac; B: Hu.
 03d 03h 19m (10-28) bp: A: Te; C: Vi Hu.
 03d 11h 26m (24-30) bp: B: Ss Ky; C: Mb Ka - bps: B: DU - pi2: B: Bi Hu.
 03d 14h 12m (06-20) b: B: Ir - bp: B: Kn Mo Tf Tk Kg Wk; C: Kv?

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- 03d 17h 00m (53-03) bp: A: Tf; B: Vl Pr Od Tk Eb Qu Bi; C: Kv? LM Kg - pi2; C: Cm.
 03d 23h 00m (58-01) bp: A: Hb; B: Vl Pr CF IK Bi; C: Wn Ha Eb - bps: B: Do Ma; C: Kv? - pi2; B: Es; C: Cm - (ssc: B: Tr).
 03d 23h 21m (18-24) b: A: Pe - bp: A: Tf; B: Eb Mc - bps: B: Mw.
 04d 00h 00m (59-01) bs: B: Va - bp: B: CF - bps: A: Ac; C: Pa.
 04d 20h 31m (29-33) bs: C: Lg - ssc: A: Tr).
 04d 21h 11m (03-16) b: A: Pe SF Ks Tn; B: Sw - bs; B: Hl Be - bp: A: Od IK; B: Le Wi Vl Ma Db CF Lg Aq Tf Eb Tl Qu Bi Kg; C: Ha Kv? Mc Ac - bps: A: Pr; B: Wn Hb Mw - pi2; B: Fd; C: Cm - (si: A: Tr).
 05d 04h 17m (12-19) b: A: Te SJ - bp: B: Tu - bps: A: Ac Tw; B: Hu.
 05d 09h 57m (56-60) b: B: Te - bp: B: Tu Am; C: Ap To - bps: B: Ag.
 05d 19h 56m (55-57) bp: B: Wi - pi2; B: Eb Bi; C: Cm.
 05d 20h 15m (08-22) b: B: Sw - bp: A: Nu; B: Kn Vl Ma Pr CF Bi LM Hr; C: Kv? - bps: B: Wn Hb Mw - pi2; B: Ni; C: Mb Ka Ky.
 05d 21h 11m (07-14) bp: B: Ma CF Eb SM; C: Kv? Pe - bps: B: Le Hb Lg IK Bi - pi2; A: Cm; B: Wi Ni Aq Lu - (si: B: Ha Mc).
 05d 21h 39m (37-42) bp: B: Lg Eb Bi; C: Tl Mc.
 06d 03h 43m (41-44) bp: A: Ac; C: Hu - bps: A: Ag - pc4; B: LM.
 06d 13h 14m (14-15) bp: B: DU; C: MI.
 06d 22h 40m (33-52) bp: A: Ci; B: Le St Vl Ma CF Lg SM Mc Bi Hr Ac; C: Kv? Eb Tl - pi2; A: IK; B: Es Cm Ha Od Aq Pe Lu; C: MB - pc4; B: Ni.
 06d 23h 30m (27-34) bps: B: Mw - pi2; B: Lg LM; C: MB.
 07d 06h 58m (55-60) bp: C: Vi - pc4; B: Lg - (si: B: Me).
 07d 15h 49m (48-50) bp: C: Ss PM To - bps: A: Gn - pi2; B: Tk.
 07d 18h 52m (51-54) bp: B: Kg - pi2; B: LM.
 07d 19h 40m (31-45) b: B: Sw Od - bp: A: LM; B: Le Kn Mo Es Wn Vl Be Ma Pr CF Tl; C: Ha Tf - (si: B: Lg).
 08d 00h 15m (12-19) bps: B: Vl - pi2; B: CF.
 08d 11h 28m (26-33) bp: B: PM; C: Ss DU - pi2; C: Mb Ka Ky.
 08d 12h 05m (00-10) bp: C: Ir - (si: C: Bi).
 08d 20h 12m (12) bp: B: Le Ma.
 08d 20h 28m (24-32) bp: B: Vl; C: Kv? - bps: B: Lg - (ssc: B: Tr).
 09d 03h 57m (51-65) bp: B: Me; C: Vi - pi2; B: Te Tw; C: Hu - pc4; B: LM.
 10d 10h 03m (00-11) bs: B: MI - bp: A: Me; B: Ap To Am DU; C: Mb Ka Ss Ky - bps: A: Co.
 11d 09h 59m (54-66) bp: B: Ap - pi2; A: Te; B: To - (si: A: Me).
 11d 16h 21m (16-30) b: A: Pe SF; C: Ak - bp: A: IK TC; B: Vl Kv? Ma Tf Eb Tl; C: Ss; Kg - bps: A: Kn Mo; B: Ir Qu - pi2; B: Ky; C: Mb Ka.
 11d 18h 46m (44-50) bp: B: Vl Qu - pi2; B: Cm.
 11d 19h 20m (18-21) bp: B: CF Tf Eb; C: Wn Kv? Tl - pi2; B: Wi Cm Lg Bi.
 12d 01h 13m (11-15) bp: B: SM - pi2; B: Bi.
 12d 11h 07m (06-08) bp: C: MI - pi2; B: Hu To.
 13d 01h 30m (20-40) bp: B: Vl SM - pi2; B: St Eb Ci Pe MB; C: Ha Hu - pc4; A: Bi LM; B: Lg Aq Gn; C: Cm.
 13d 02h 15m (10-20) bp: B: SM - pi2; A: Ci; B: CF IK MB; C: Pa Mc.
 14d 12h 23m (21-25) bp: B: PM Ap To Am DU; C: Mb Ka Ss Ky - (sfe: Ni).
 15d 22h 47m (29-60) b: A: SF; B: Sw Tn - bs: A: Ks - bp: A: Nu Ha Pr Hb Od Aq Tf IK

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		Eb Ci TC Mc LM Ac; B: Kn Mo Hl St Wn Wi Ni Vl Be Kv? Db CF Tl
		Pe SM Qu MB Lu Hr Kg - bps: A: Lg; B: Le Es Ma Fü Mw; C: Cm.
16d	02h 10m	(09-10) b: A: SJ - bs: A: Va - bp: A: Te; C: Tu - bps: A: Hu Ac - (ssc: B: Ag - si: C: Pa).
16d	07h 09m	(06-12) bp: B: Te; C: Vi MI.
16d	12h 38m	(34-45) bp: B: Gn To DU; C: Ap - (ssc: A: PB).
16d	17h 03m	(02-06) bp: B: Kg; C: Wk - pi2: B: Tk; C: Cm Mb Ka Ss Ky.
16d	17h 30m	(22-36) bp: B: Ma; C: Kv? - bps: B: LM Wk - pi2: A: Cm; B: Pe - pc4: B: Bi.
17d	01h 19m	(15-27) bp: B: MB Mc Hu Hr; C: Eb - bps: A: Ac; B: Lg - pi2: B: Aq Pe; C: Fs Cm - pc4: Bi LM.
17d	07h 34m	(34-35) bps: B: TC - (si: C: MB).
17d	19h 49m	(45-60) bp: B: Ma CF Eb; C: Kv? - bps: C: Wn - pi2: A: Cm Lg; B: Es Ni Ha Od Aq Bi Lu LM.
17d	20h 57m	(56-59) bp: B: CF Eb - pi2: A: Lg; B: Aq - pc4: B: Tn.
17d	21h 17m	(16-18) b: A: Pe - bp: A: IK.
18d	07h 45m	(45-46) bp: B: Vi - pi2: B: Hu.
18d	11h 26m	(25-28) bp: A: Am - pi2: B: Ss.
18d	15h 04m	(04) bp: C: Ss - pi2: B: Mb Ka Ky.
18d	16h 15m	(15) bp: C: Kv? - bps: A: Wk.
18d	22h 27m	(26-28) bp: B: Ma CF Eb - bps: B: Lg - pi2: C: Cm.
18d	23h 19m	(09-25) bp: B: Ma CF; C: Kv? Eb - pi2: B: Lg MB - pc4: A: Am - (si: B: Ac).
19d	00h 23m	(20-30) bp: B: CF - bps: C: Pa - pi2: B: MB).
19d	09h 11m	(10-15) bp: A: Am; B: Ap To; C: Mb Ka Ky.
19d	12h 25m	(25-26) bp: C: Ap - (si: A: PB).
19d	20h 43m	(39-45) b: A: Pe - bs: A: Ks - bp: A: Qu; B: Wi Ha Ma CF Tf Tk Eb Hr Kg; C: Kv? TC - bps: A: Hb IK LM; B: Wn Vl Pr Lg Ac - pi2: C: Cm.
20d	01h 19m	(19-20) bp: B: CF - pi2: C: Hu - pc4: B: Lg.
20d	07h 36m	(34-42) bs: B: MI - bp: B: Ap; C: Vi Tu - bps: A: Me?; B: Ag - (ssc: A: PB).
20d	15h 54m	(52-60) bp: A: Tf; C: Ss Mc Wk.
20d	16h 15m	(13-16) b: A: Pe; B: Ak - bs: B: Od - bp: B: Ma Db Pr Kg; C: Kv? - bps: B: Wk - (si: B: Tk).
20d	18h 11m	(54-23) b: A: Mc - bp: B: Wn Vl Ma Db Pr Hb Od Fü Tf IK Eb Tl Pe; C: Kv? Kg - bps: A: Lg.
20d	21h 58m	(55-60) bp: B: Ma Lg; C: Eb Kg - pi2: B: CF MB.
20d	22h 23m	(21-30) b: A: Pe; C: MB - bp: B: Db Od; C: Kv? - bps: B: Lg.
21d	20h 22m	(15-42) b: A: Pe SF; B: Sw Ak; C: TC - bp: A: Nu Hb IK Ci; B: Do St Wi Ni Vl Be Ha Ma Db Pr CF Od Lg Aq Eb Tl SM Qu Mc Bi Lu Tn Hr Ac Kg Wk; C: Wn Kv? Tf Tk LM - bps: B: Le Es Hl Fü - pi2: C: Cm Hu.
22d	09h 43m	(42-44) bp: C: MI - pi2: B: Am; C: Hu.
23d	01h 41m	(40-44) bp: B: CF Lg - pi2: B: Tr Es St Od Aq Eb Ci MB Bi Lu; C: Cm Ha Hu.
23d	20h 34m	(24-36) bp: B: CF - pi2: B: St Cm Ha Ma Od Lg Aq Eb Qu Mb Bi Lu Hu; C: Tk - pc4: B: Ni Tn LM.
24d	09h 10m	(09-11) bp: B: Am; C: Ap - bps: B: Si Vi; C: MI - pi2: C: Hu.
24d	17h 35m	(32-38) bps: B: Gn - pi2: A: Tk Hu; B: Cm Ma Lg IK; C: Ha - pc4: B: Tn.
25d	20h 52m	(49-53) bp: B: Ma CF Bi; C: Eb Pe - bps: A: Lg - pi2: A: Ni Cm; B: Aq IK Lu - (si: A: Vl; B: St; C: Db).

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(APRIL)

25d 23h 03m (49-13) b: B: Sw; C: Kv? - bp: A: Pr IK; B: St Wn Wi Ha Ma Db CF Hb
 Lg Eb Tl Pe SM Bi; C: Hr - bps: A: Es; B: Vl Fü - pi2: C: Cm.
 26d 04h 30m (17-36) bs: A: Va; C: Ag - bp: B: Lg Te Hu Ac; C: Pa Hr.
 26d 07h 26m (24-30) bp: B: Te - bps: B: Ag - pi2: C: Hu.
 26d 18h 20m (19-21) b: B: Ak - bp: B: Tf; C: Tk.
 26d 18h 40m (39-43) b: B: Sw - bp: B: Qu; C: Kg
 26d 23h 15m (15) bp: B: Vl CF Bi Hr Ac - pi2: B: IK.
 27d 11h 04m (02-15) bp: B: Ss PM Ap; C: Mb Ka Ky - pi2: B: Hu - (ssc: A: PB).
 27d 15h 12m (04-23) b: B: Kv? - bp: B: Wk - bps: A: Kn Mo; B: Ss; C: Mb Ka Ky - (ssc:
 Tf - si: A: Od Tk; B: Ir).
 27d 19h 23m (22-25) b: B: MB - bps: B: Db.
 28d 00h 31m (25-42) b: A: Va - bs: B: MB - bp: A: Hr; B: CF SM - bps: B: Lg.
 28d 04h 38m (37-39) bps: A: Te Ac.
 28d 07h 40m (40-41) bs: A: Ir - bp: C: Ap.
 28d 11h 32m (30-33) bp: B: Ss; B: Mb Ka Ky Ap.
 28d 19h 04m (00-07) b: B: Sw - bp: B: Kn Wi Vl Ma Db Fü CF Tl Pe Bi; C: Ha Kv? Tf
 Eb - bps: A: Nu Wn Pr; B: Do Ma Hb Lg - pi2: B: Ni Tk - (si: B: Tr Od).
 29d 01h 19m (05-36) b: A: Su SF SJ; B: Hl Kv? Hu - bs: A: Nu IK; B: Pe MB - bp: A:
 Kn Pr Hb Lg Mc Bi Ac; B: Es Wn Ha Db Fü CF Eb Tl SM Hr Kg -
 bps: A: Te; B: Mo Mw - (si: A: Od).
 29d 18h 18m (14-24) b: A: Su SF; B: Sw Ak - bs: A: Nu - bp: A: Tl; B: Wi Cm Kv? CF
 Aq Tf Eb TC Bi; C: Hr - bps: A: Kn Mo Wn Ha Db Pr Hb Od Tk IK Tl
 Ks Qu; B: Do Le Hl Ni Vl Be Ma Fü Lg Pe Kg - (si: A: Tr).
 30d 21h 58m (54-60) b: C: Kv? - bs: B: Vl - bp: B: Wn CF Eb - bps: B: Mw - pi2: B: Cm
 - (si: A: TC).
 30d 23h 49m (49) bp: B: CF - pi2: C: Cm.

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01d 00h 19m (18-20) bp: B: Lg SM Bi.
 01d 02h 08m (08) bp: B: SM - (si: B: Pe).
 01d 11h 08m (00-24) b: B: MB - bp: A: Am; B: Mb Ka Ss Ky PM To DU - bps: B: Vi -
 pc4: C: Gu.
 01d 16h 08m (07-10) b: B: Od - bp: B: Kg.
 01d 23h 29m (28-30) b: A: Pe - pc4: B: Co.
 02d 10h 47m (47-48) bp: C: Ss - pi2: C: Mb Ka.
 02d 14h 12m (05-15) bp: B: Od Kg; C: Wk.
 02d 20h 47m (45-53) bp: C: Eb - pi2: B: St Ha Ma MB Bi; C: Es - pc4: B: Lg; C: LM.
 02d 21h 03m (00-05) bp: B: CF - pi2: B: Ni Cm Aq Qu; C: Tf - (si: A: So).
 02d 23h 12m (03-16) b: A: Mc - bs: A: Nu - bp: B: CF Lg MB Bi; C: Eb - bps: B: Es -
 pi2: B: Ma Hu; C: Cm Ha - pc4: A: Am.
 03d 10h 06m (00-10) bp: C: MI - pi2: C: Si Ho Hu.
 03d 11h 38m (37-40) bp: C: To - (ssc: A: PB).
 03d 22h 00m (55-03) b: B: Tn - bp: B: So Nu Le Vl Ma Db CF Hb IK Eb Bi; C: Mc; - bps:
 A: Tr; B: Lg - pi2: B: Cm Od Aq Tf MB Lu; C: Ha Hu
 04d 01h 40m (39-40) bp: B: CF Ac - bps: C: Hu - pi2: B: MB Bi.
 04d 23h 57m (55-60) bp: B: Vl CF Bi; C: Lg Eb Mc - pi2: B: St Ha Ma Aq IK MB Lu;
 C: Cm - pc4: A: Lg; B: LM.
 05d 11h 35m (30-50) bp: B: PM; C: Mb Ka Ss Ky TC - pi2: A: Am; B: Gu - pc4: A: Si.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(MAY)

05d 19h 11m (10-11) bp: B: So - pi2: B: Ni Cm Mw; C: Tk.
 06d 17h 50m (48-52) bp: B: So Bi PM Gn Kg Wk - pi2: A: Cm Tf Tk Qu; B: Ni Od Lg
 Aq IK Lu; C: Ss - pc4: A: LM; B: Tr.
 06d 18h 55m (55) bp: Kg - pi2: B: Bi - (si: B: Tr).
 11d 03h 16m (15-18) bp: B: CF; C: Bi - pi2: B: Cm Eb.
 11d 22h 50m (48-52) bs: A: Tr - bp: B: CF - pi2: B: Bi.
 13d 14h 43m (40-45) bp: B: DU - bps: A: Gn Wk; B: To - pi2: A: Mb Tf Ka Ky Qu; B:
 Cm Lg IK Ss - pc4: A: Gu - (ssc: B: Ir Sw).
 13d 19h 51m (42-60) b: B: LM - pi2: B: Tf Bi.
 14d 07h 51m (50-55) bp: A: Am - pi2: B: Tf Hu - (ssc: A: Si).
 14d 13h 43m (43) bp: B: Ss; C: Mb Ka Ky.
 14d 14h 27m (24-30) b: B: Hr - bp: B: Wi Kg; C: Ir.
 14d 22h 17m (15-20) bp: B: CF - pi2: C: MB.
 15d 02h 42m (40-45) b: A: Hu - bps: B: Lg.
 15d 03h 27m (11-30) b: A: SF; B: Wi - bs; A: Va - bp: A: St Pr Hr Ac; B: Wn Fü CF Hb
 SM TC Bi Kg?; C: Ha - bps: A: MB; C: Ae Tl.
 15d 23h 23m (21-25) bp: A: St; B: Es Bi Ac - pi2: B: Lg Tf Pe; C: Cm.
 16d 09h 54m (51-60) bps: A: Am - pi2: C: Ss Ky.
 16d 12h 31m (29-35) b: B: Ir - bp: C: Mb Ka Ss Ky.
 16d 18h 57m (50-63) b: B: Wi Sw Od MB - bp: B: Ha Ma Bi Hr - bps: B: Kg.
 16d 19h 22m (13-33) b: A: SF; B: Db Eb - bp: A: Tf; B: Le Vl Tl Ae - bps: A: Pr Wk; B:
 Hl Wn Hb IK - pi2: A: Cm; B: Ni Qu.
 17d 08h 36m (35-37) bp: B: Ci; C: Vi Mb Ka Ky.
 17d 11h 37m (37) bp: C: Mb Ka Ky.
 17d 12h 10m (05-15) b: B: Ir - bp: B: PM; C: Ss.
 17d 21h 20m (15-24) b: B: LM - bp: B: Vl; C: Kv.
 18d 05h 22m (14-30) bp: C: Vi - pi2: B: Fr; C: Te Hu - pc4: B: LM.
 19d 03h 17m (10-21) bps: C: Ag Hu - pi2: B: SM SB; C: Fr Te - pc4: B: Tf.
 19d 17h 29m (26-36) bp: B: Tn Kg; C: Eb - pi2: A: Tf; B: Ma Od Lg Aq Tk IK Bi; C: Ss
 - pc4: A: Qu LM.
 21d 02h 40m (38-45) bp: B: SM - pi2: B: MB Bi Lu; C: Hu.
 21d 20h 09m (00-17) bp: B: Kg - pi2: B: Cm Lg IK MB.
 23d 02h 39m (28-45) b: A: Pe - bp: B: SM Ae Bi; C: Mc - bps: A: IK; B: Hu; C: Va - pi2:
 B: Es LM - pc4: B: SJ - (ssc: C: Ak).
 24d 13h 27m (27) bp: C: Mb Ka Ss Ky.
 24d 18h 57m (55-58) bp: A: Tf; B: Eb Bi.
 24d 19h 10m (10) b: A: Pe SF Mc.
 24d 21h 15m (14-17) bp: B: Tf; C: Bi - (ssc: B: So).
 24d 21h 49m (48-51) bp: B: Bi - pi2: B: Ma.
 24d 22h 12m (02-20) b: A: Pe SF Mc; B: Lg; C: Ae MB - bp: B: CF Tf Eb Tl - bps: B:
 Mw.
 25d 08h 26m (06-45) b: B: Sw Hr - bp: A: Fr Te Am; B: Vi Bi DU - pi2: B: Ho; C: Tu
 Hu - (ssc: B: Ir - si: A: Od; C: Mc - sfe: Bi).
 25d 14h 57m (55-60) b: B: Ir - bps: A: Wk.
 25d 17h 36m (30-39) bp: B: TC - pi2: A: Ni Cm Lg; B: Bi.
 25d 19h 28m (20-40) b: A: Ci Pe SF Mc - bs: A: So - bp: B: Ma Db CF Lg Eb Tl Bi Hr;
 C: Ae.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(MAY)

25d 23h 35m	(25-42) b; A: Pe SF Mc; B: Sw - bp; A: Lg; B: St Ma CF Eb Tl Bi Hr Ac - bps; B: Es Mw.
27d 05h 45m	(40-48) bp; A: Te Hu; C: Vi.
27d 22h 20m	(16-24) b; B: Tn - bp; B: CF Mc; C: Bi.
28d 02h 42m	(42-43) bp; A: Ac - pc4; B: SJ.
28d 19h 10m	(04-22) b; B: Sw - bp; B: Ma LM Kg; C: TC - pi2; B: Cm Tf Tk PeQu; C: Ss - (si: A: Tr).
28d 22h 04m	(02-10) b; B: Tn - bp; B: Vl Ma - pi2; A: Es; B: St Ni Cm Ha CF Lg Aq Tf IK Eb Fr Pe MB Bi.
28d 22h 26m	(25-29) bp; B: Wi CF - pi2; B: Ni Lg MB Bi.
29d 03h 02m	(00-05) bps; B: Ag - pi2; B: MB Bi Hu; C: Fr Te - pc4; A: SJ.
29d 22h 18m	(06-21) b; A: Tn - bp; A: Nu IK; B: Le Es Wi Ha Ma Db CF Od Lg Aq Eb Tl Mc Bi Lu LM Ac Kg; C: St Pe Ae - bps; A: Hb; B: Do Wn Vl Be Pr Fü - pi2; A: Tf; B: Ni Tk Fr Qu MB; C: Hu - (si: A: Tr).
30d 12h 57m	(56-59) bs; A: Am - bps; B: To.
30d 19h 16m	(16-18) bp; B: So Kg - pi2; A: Tf; C: Tk.
30d 22h 00m	(58-07) bps; B: Lg - pi2; A: Tk; B: Es Ni CF Aq IK Eb Bi LM; C: Cm.
30d 22h 40m	(28-45) b; A: SF Tn; B: Sw; C: Ak - bp; A: Do Mo Od Aq Tf Eb Ci Qu Mc Bi Va Ac; B: So Es St Wi Ni Vl Ma CF Tl Pe Ae MB Lu Kg - bps; A: Nu Wn Hb Lg IK LM; B: Le Be Ha Db Pr Fü TC - pi2; B: Cm Fr; C: Hu.

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01d 08h 12m	(06-20) bp; B: Si - pi2; B: Te Hu MI; C: Ho.
01d 12h 39m	(30-55) bp; B: DU - pi2; B: Ho MB To Bi; C: Mb Ka Ss Ky - pc4; B: Lg.
02d 20h 03m	(00-06) bp; B: CF; C: Bi Kg - pi2; A: Ks; B: Es St Ma Aq Tf IK Eb MB; C: Tk.
02d 20h 46m	(45-48) bp; B: IK; C: Bi - pi2; B: CF MB Hu.
04d 00h 40m	(38-48) b; A: Pe SJ; B: Hu LM; C: Ak - bs; B: Ks - bp; B: Bi; C: Mc - pi2; B: IK - (si: B: Be Lg; C: MB).
04d 02h 04m	(00-06) bp; C: Bi - pi2; B: SM MB Hu Tw - pc4; B: SJ.
04d 07h 33m	(25-40) bp; C: DU - pi2; C: Ho Te.
06d 09h 07m	(00-10) bps; A: Me; B: Vi; C: Ap - pi2; B: To; C: Tu Ho Te Hu - (ssc: C: Ag - si: C: Fr).
06d 12h 33m	(30-35) bp; B: To DU; C: Ss.
06d 12h 49m	(48-50) bp; B: PM; C: Ap.
07d 21h 13m	(58-19) bp; B: Lg; C: Kg - pi2; A: IK Tn; B: Ni Cm Ma Tf Hu - (si: A: Tr).
07d 21h 37m	(35-39) bp; B: Ma CF l bps; B: Lg - pi2; A: Ni; B: Eb MB.
08d 03h 51m	(41-54) bp; C: Bi - bps; B: Lg - (si: A: Te; B: MB).
08d 15h 49m	(47-50) bp; C: To - bps; B: Gn - pi2; C: Mb Ka Ss Ky.
08d 19h 33m	(30-35) bs; B: Fü - bp; B: So Le St Wn Wi Vl Ma Pr CF Hb; C: Es Ha Kg - pi2; A: Ni Cm Lg Tn; B: Od Aq Eb MB Bi Hu - (si: A: Tr Nu).
09d 15h 39m	(36-43) bp; B: DU Wk.
10d 03h 02m	(01-04) bps; A: Te - (ssc: B: LM).
10d 06h 54m	(50-57) bp; A: Ir; B: Mo - (si: A: Te).
10d 13h 17m	(17) b; B: Kv? - bs; B: Vl.
10d 18h 46m	(40-53) b; A: LM; B: Kv? - bp; A: Pr; B: Wn Vl Ma Db Hb Kg - bps; A: Nu - (si: A: Lg).
10d 21h 59m	(45-80) b; A: SF TC Mc LM; B: Kv? MB - bp; A: Pr Hr; B: Wn Vl Ha Ma Db CF Hb Tl Kg - bps; B: Bi.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(JUNE)

11d 02h 19m	(14-26) b: A: Mc LM; B: MB - bp: A: Pr Tl Bi Hr; B: Es Wn Vl Ha Db CF Ss Kg; C: Mb Ka Ky - pi2; C: Cm.
11d 21h 15m	(12-20) bp: A: Pr Tf IK Bi; B: Nu Vl Ma Db Fü CF Hb Tl Kg; C: Wn Ha - pi2; B: Es Ni Eb.
11d 21h 36m	(29-45) b: A: Pe Mc Tn LM - bs: A: Ks - bp: B: Eb Lu - bps: A:Lg; B:Va Wk - pi2; B: Cm - (si: B: TC MB).
11d 22h 15m	(15) bp: B: Kv? Hr.
12d 02h 00m	(00) bp: B: Hr - pi2; B: MB.
12d 02h 19m	(18-20) bps: B: Hu Wk.
12d 17h 42m	(42) bp: C: Kv? - bps: A: Wk.
13d 10h 13m	(10-16) bp: A: Am DU; B: Vi PM; C: Mb Ka Ss Ky - bps: A: Ap - (ssc:A: PB).
13d 21h 58m	(57-60) bp: B: CF; B: Bi - pi2; B: Lg IK.
14d 07h 28m	(22-30) bps: C: Ap - pi2; B: To - pc4: B: Lg - pc5: A: Am.
14d 23h 03m	(00-05) bp: B: Le; C:St TC Bi - pi2: A: IK; B: Es Aq Eb Fr MB; C: Cm.
14d 23h 34m	(26-36) b: C: LM - bs: B: Fü - bp: B: So Ma CF Eb Mc Bi Hr; C: Wn Tl TC MB - bps: A: Ci; B: Vl Va - pi2: A: Lg; B: Ni Hu.
15d 21h 20m	(18-25) bp: C: Bi - pi2: A: Lg Tn; B: Es St Ni Cm Ma Od Aq IK Eb MB Hu; C: Tu - pc4: B: Ci Lu.
16d 00h 28m	(25-30) bp: B: Es CF Eb Ci SM; C: Ma Bi - pi2: B: Lg Aq MB Hu.
16d 19h 27m	(24-30) bp: B: So - bps: B: Vl - pi2: A: Tk; B: Ni Cm Od Aq IK Eb Bi Gn To; C: Ss.
18d 12h 16m	(10-20) bp: B: DU - pi2: B: Fr Ho To; C: Ss.
18d 18h 56m	(50-69) b: B: Sw; C: Ak - bp: A: Tn; B: Wn Wi Be Kv? Ma Pr Fü Hb Od Aq Tk IK Eb Kg - bps: A: Nu; B: Gn - pi2: A: Lg Bi; B: Es Ni Cm CF Mb Pe Ka Ss Ky - (ssc: A: So - si: B: Tr).
18d 21h 01m	(00-03) bp: C: Kg - pi2: A: Tf.
18d 21h 31m	(28-40) b: A: SF; B: LM - bp: B: Wn Vl Pr Fü CF Hb Lg Aq Eb Ci Tl SM Bi Tn; C: Ma - pi2: B: Cm IK Fr Pe MB.
20d 12h 14m	(13-15) bp: B: To DU - pi2: B: Mb Ka Ss Ky; C: Gu.
20d 12h 42m	(35-44) bp: B: Mb Ka Ky - (si: A: Me).
20d 13h 21m	(15-27) b: A: Nu; B: Wn MB; C: Tl - bp: A: Pr; B: Kn Kv? - bps: A: Mo; B: H1.
20d 15h 53m	(53) bps: B: DU - (si: A: PB).
20d 19h 06m	(45-15) b: A: Pe; B: LM - bp: A: Db IK; B: Nu Vl Kv? Ma Lg Eb Tl Ac; C: Ha Bi Kg - bps: B: Do H1 Wn Pr Fü Od - pi2: B: Cm IK -(si: B Tr).
21d 00h 34m	(26-46) b: A: SF Tn; B: LM - bs: A: Ks - bp: A: St Od Aq IK Eb TlCi Pe Mc Lu Hr; B: Le Es Wn Wi Ni Vl Be Ha Ma CF SM TC MB Bi To Kg; C: Mb Ka Ky - bps: A: Db Pr; B: Wn Fü Lg - pi2: B: Cm Hu.
21d 16h 18m	(16-20) bp: C: To - pi2: B: Es Ni Lg Eb; C: Cm Mb Ka Ss Ky.
21d 18h 23m	(20-30) b: B: Sw; C: LM - bp: B: So St Wi Vl Ma Db Pr Hb Od TfIK Kg; C: Wn Ha Eb TC - bps: B: Lg - pi2: B: Ni; C: Cm.
21d 19h 23m	(20-29) b: A: Pe - bp: A: So Tf; B: Nu Wn Wi Vl Ha Ma Pr CF IKEb Ci Tl Mc Lu Hr - bps: B: Fü Lg Bi - pi2: B: Ni Cm TC MB.
22d 14h 07m	(06-08) bp: B: MI - pi2: B: To; C: Mb Ka Ss Ky.
22d 14h 51m	(45-53) b: B: Kv? - bp: B: PM Ap To - bps: B: DU - pi2: B: MB.
22d 22h 18m	(15-27) bp: B: So Vl CF; C: Bi - pi2: A: Lg; B: Cm Aq MB; C: Ha - (si: B: Tr).
23d 20h 31m	(19-38) bs: B: Fü - bp: B: Vl Eb Tn; C: Bi - pi2: B: Es Ma CF Aq MB;C: Cm Hu.
23d 21h 15m	(15) bp: C: Kv? - pi2: B: MB.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(JUNE)

24d 00h 17m (12-20) b: B: Es Lg - bp: B: Vl - (si: A: Tr).
 24d 20h 07m (50-13) bp: B: Wn Wi Vl Ma Db Pr CF Hb Od Tf Eb Tl; C: Ha Kv? Bi Kg
 - bps: B: Le - pi2; C: Cm - pc4; C: Fr.
 25d 03h 26m (25-28) b: B: LM - bp: A: Ac; B: Hr - bps: B: MB - pi2; B: Eb Bi; C: Hu -
 pc4; B: Fr.
 25d 14h 16m (14-17) bp: B: To MI; C: Ss PM DU.
 26d 13h 38m (38-39) bp: C: Ss To.
 27d 11h 30m (30-31) bp: B: Am - pi2; C: Mb Ka Ky.
 27d 12h 02m (01-03) bp: A: Am; B: DU - (si: Hl).
 27d 20h 17m (15-20) bp: C: Bi Kg.
 28d 22h 59m (57-60) bp: B: Bi - pi2; B: Eb MB.
 28d 23h 13m (12-14) bp: B: Vl CF Ci Lu; C: Es - bps: B: Lg - pi2; B: Cm Aq IK-(ssc:
 B: So).
 29d 08h 42m (36-50) bp: A: Ap Am; B: Od; C: Vi - pi2; A: Te; C: Tu.
 30d 02h 16m (15-19) bp: B: CF - bps: B: Vl - pi2; A: Fr SJ; B: St Ha Aq IK Eb SM MB
 Bi; C: Es Cm.
 30d 03h 01m (00-02) bp: C: Bi - pi2; B: SM MB; C: Cm.
 30d 03h 32m (30-34) b: B: TC - bp: C: Kv? - (si: B: Be; C: MB - sfe: Od).

JULY

01d 01h 35m (30-40) bp: B: Le Vl CF Ci SM Lu; C: Bi - bps: B: TC - pi2; B: Lg.
 03d 20h 40m (35-52) bp: A: Mc; B: Es Ma Db CF IK Eb Ci Ae MB Bi Lu Hr Kg; C: Tl
 - bps: B: Lg Ks Mw - pi2; A: Ni; B: Cm Tf Tk; C: Fr - (ssc: A: Tr So).
 05d 20h 42m (30-63) bp: A: Hb; B: So Wi Ha Kv? Ma Pr CF Od IK Ks; C: St Wn Eb Kg
 - bps: B: Mw - pi2; A: Ni Cm Lg Tf; B: Aq Tk Bi.
 06d 00h 47m (44-50) bp: A: Ac; B: Le Es Vl CF Ci SM; C: Kv? Eb - pi2; B: Cm Ha Ma
 Lg MB Bi Lu.
 06d 10h 47m (47-48) bp: C: MI - bps: B: Co.
 07d 02h 54m (48-67) bp: B: Tw - pi2; A: Fr Te Ac; B: Lg Tu Bi; C: Cm Ho - (ssc: B:
 Me).
 07d 03h 51m (51-52) b: A: Pe - pi2; B: Hu - (ssc: C: Bi).
 07d 07h 59m (55-61) bp: A: Te - pi2; C: Ho - pc4; A: Ac Tw; B: Tu.
 07d 12h 51m (45-57) b: A: Sr - bp: B: To DU.
 07d 13h 14m (14-15) bp: C: Ir - (ssc: A: TC).
 07d 18h 57m (50-60) bp: A: Pr Hb; B: Wn Be Ha; C: Kv? - bps: B: Es Vl - pi2; A: SJ;
 C: Pa - (ssc: A: SF; C: Vi - si: A: Lg; B: Od MB; C: Mb Ka Ky Hu).
 07d 20h 56m (38-70) b: B: MB - bp: A: Pt Tl Ae; B: Wn Vl Ha CF Eb SM Bi Lu Hr Kg;
 C: Kv? Pe - bps: A: Lg IK Ks; B: Hb Mw - (ssc: A: Tr So - si: A: TC).
 08d 10h 56m (50-63) b: A: Sr - bp: A: To; C: Mb Ka Ss Ky DU.
 08d 14h 22m (20-24) bs: B: Wn Pr - bps: A: Od; B: Vl - (si: C: Lg).
 08d 18h 25m (21-29) bp: B: Bi - bps: B: Lg - pi2; A: IK; B: Pe; C: Cm.
 08d 18h 54m (51-57) b: A: LM - bp: C: Kv? Ae.
 08d 19h 34m (32-36) bp: A: Ac - bps: A: Wk - pi2; B: Tf - pi2+pc4; B: Lg.
 08d 21h 59m (59-60) bp: B: CF; C: Kv? - (si: A: TC).
 09d 20h 15m (13-16) bp: B: Vl Pr Kg; C: Wn Kv? - (ssc: B: So).
 09d 22h 52m (45-58) b: A: LM; B: Hu - bp: A: Mc Hr Ac; B: Es CF Eb Tl SM Bi; C:
 Kv? Ae Pa Kg - bps: B: Vl Ag MB Tw - pi2; B: Cm Pe - (ssc: B: TC).
 10d 05h 24m (24) bs: B: Hu - bps: A: Ac.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(JULY)

10d 08h 21m	(19-30) bp: B; To; C: Mb Ka Ky - bps: A: Am - pi2: B: Me - (si: A: PB).
11d 00h 48m	(42-58) b: A: Pe Ac; B: Mc - bp: B: CF Lg Eb MB Bi - bps: B: Mw.
11d 18h 32m	(26-33) bp: B: Kg - pi2: A: Cm; B: Ni Aq IK Eb Mb Bi.
12d 15h 14m	(13-15) bp: C: To - pc4: B: Tu.
12d 22h 45m	(44-45) bp: B: Mc - pi2: B: MB Bi.
13d 01h 33m	(29-35) bp: A: Ac; B: Mc - bps: B: Ag - pi2: B: MB.
13d 19h 12m	(07-18) b: A: Ag Te - bp: B: Ap; C: DU.
14d 05h 35m	(30-38) bps: A: Me; C: Vi - pi2: A: Ac; B: Fr Te MB Hu - pc4: B: Tw - (ssc: C: Ag).
16d 16h 21m	(19-25) bp: B: Mc Bi - bps: A: IK.
17d 00h 24m	(17-27) bp: B: Sw CF - pi2: A: Lg Ci Fr Mc Tn Ac; B: Es Aq Pe MB Bi Lu Hu - pc4: A: SJ - pc5: B: SM.
17d 00h 45m	(35-51) bs: B: Va - bp: B: Be Ci; C: Ae - bps: B: Vl; C: Hu - pi2: A: Lg; B: Ni Cm.
17d 15h 35m	(30-40) bps: B: Mo - (si: B: IK).
17d 17h 19m	(12-30) bp: B: Hr Kg - bps: A: Kn Mo Gn - pi2: B: Mb Ka Ss Ky.
18d 00h 40m	(33-45) bp: A: Ci Ac; B: Sw CF Tl Bi Lu Hr; C: Pa - bps: B: Vl Lg MB - pi2: B: Aq Pe - pc4: Tw.
18d 11h 01m	(10 58-11 09) bs: C: MB - bp: B: To Hr Wk; C: Mb Ka Ss Ky -(si:A:PB).
18d 22h 00m	(59-02) bp: B: CF - pi2: B: Cm IK Pe Bi.
19d 05h 21m	(18-24) bp: A: Am - pi2: A: Ac.
19d 06h 58m	(55-63) bp: A: Am - bps: B: MI - pi2: A: Ac.
19d 09h 59m	(50-71) b: A: Gn - bs: A: Co - bp: A: Te; B: Od To; C: Mb Ka Ky - bps:A: Am; B: MI - (si: A: PB Me).
19d 10h 30m	(30) bp: C: Kv? - bps: C: Ir.
19d 20h 46m	(36-54) bp: B: Aq IK Tl Bi - pi2: A: Lg; B: Ma Tf Eb Pe - (ssc: B: Tr).
19d 21h 07m	(06-09) bp: A: Pe; B: CF Eb; C: Kv? - bps: B: Es Vl.
19d 23h 53m	(47-60) b: A: Nu - bp: C: Kv? - pi2: A: Fr; B: Aq Eb Bi Hu Ac.
20d 00h 39m	(39) bp: B: Es CF.
20d 08h 33m	(33-34) bp: C: Mb Ka Ky.
20d 08h 52m	(45-57) bp: B: To Am - bps: A: Ap - pi2: A: Ac; C: Ho - (si: A: PB).
20d 18h 53m	(44-62) b: A: Mo Pe SF; B: Sw; C: TC - bp: A: Hb Od Ac; B: NuKn Wn Wi Be Kv? Ma Db Pr Tk IK Gn Kg; C: Tl Ae - (si: A: Tr).
21d 01h 08m	(05-11) bp: B: Vl CF Ci; C: Eb Mc - bps: B: Le - pi2: B: Ni Aq Pe MB.
21d 21h 31m	(24-36) bp: B: Ma Db CF IK; C: Kv? Eb - bps: B: Lg - pi2: B: Es Ha Od Aq Tf Tk Pe MB.
21d 21h 57m	(50-72) b: A: SM LM; C: Ae - bp: B: Wi Vl Hb Ci MB Lu Hr; C:Kv? Mc - bps: B: Es - pi2: B: Tk - (si: B: TC).
22d 02h 37m	(35-42) bp: A: Ac - bps: B: Va; C: Hu - pi2: B: MB Tw; C: Fr - (si:B:DU).
22d 17h 38m	(33-45) b: A: Pe; B: Nu Sw; C: TC - bs: B: Eb - bp: A: IK; B: Kn Mo Wi Be Ma Hb Od Tk Gn To Kg; C: Kv? - bps: B: Hl.
22d 18h 10m	(10) b: A: Su - bp: C: Ir.
22d 21h 08m	(06-09) bp: B: CF - pi2: B: Cm Od Tf IK - (si: B: Tr).
23d 06h 00m	(51-05) bp: C: Vi - bps: A: Ag; C: Hu - pi2: B: Tu Te MB; C: Fr- pc4+pc5: C: Tw.
23d 19h 31m	(27-43) b: A: Tn; B: Sw - bs: A: Nu - bp: B: Le St Wn Wi Vl Ma Pr Od Lg Tf Tk IK Tl Ak; C: Ha Db Eb Pe Mc - bps: B: Do Hl Be Fü Hb Gn - pi2: B: Cm.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(JULY)

24d 21h 54m (52-55) bp: B: So - pi2: A: Cm; B: Es St Ni Ma CF Od Aq Eb MB Bi Ac.
 24d 22h 27m (25-28) bp: B: So Vl CF - bps: B: Lg - pi2: B: Ni Cm Ma Aq MB Bi.
 24d 22h 54m (53-55) bps: B: Lg - pi2: B: MB Bi.
 24d 23h 25m (22-27) bp: B: IK; C: Eb Mc - bps: B: Lg - pi2: B: Cm MB Bi.
 25d 23h 40m (39-41) bp: B: CF - pi2: B: Cm Od IK.
 27d 23h 39m (37-40) b: B: Sw - bp: B: Lg; C: Eb Mc - pi2: B: Cm Ha IK Fr MB Bi.
 29d 10h 51m (47-63) b: A: Pe; C: TC - bs: A: Nu - bp: B: Kn Mo; C: Kv? Vi Ae-pi2:A:
Am; B: Te; C: Mb Ka Ss Ky - pc5: B: Ho - (ssc: Hl Wn Sw Pr? - si: Be).
 29d 13h 41m (41-43) bp: B: DU; C: Mb Ka Ky.
 29d 19h 38m (30-52) b: A: SF LM; B: Sw - bp: A: Mo Wn Pr IK; B: Kn Wi Vl Ha Ma Db
Mb Eb Tl Ae Ka Ky Hr To Kg DU; C: Tf - bps: A: Hb Ks Gn; B: Do Be
- pi2: B: Bi; C: Ss.
 29d 20h 14m (11-16) b: A: Su Pe - bp: C: Kv? - bps: B: Ir? Lg.
 30d 18h 41m (36-44) bp: A: IK; B: Kn Wk; C: Eb Kg - bps: B: Gn - pi2: A: Tf Ac; B: Ni
Cm Mb Lg Tk Pe Ka Ky Bi; C: Ss.
 30d 18h 55m (55) bp: C: Kv? - bps: B: Ir.
 30d 20h 34m (31-35) bp: B: CF - bps: B: Mw - pi2: A: Cm; B: Es Ni Eb Pe Bi-pc4: C: Ky.
 31d 00h 08m (00-12) bp: B: Bi - bps: A: Ac; B: TC MB - pi2: B: CF - pc4: A: Am.
 31d 01h 13m (05-18) bp: B: Bi - pi2: B: Es Ha Pe.
 31d 21h 59m (59-60) bps: B: Lg - pc4: A: Co? Si.
 31d 22h 59m (58-60) bp: B: Vl CF; C: Aq - bps: A: IK; B: Ks Bi - (si: A: Tr; B: Ma; C:
Wn Hr).

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01d 03h 40m (40-41) bps: A: Ac; B: Hu.
 01d 19h 41m (36-45) b: A: Tn - bp: A: IK; B: So Ma Pr Hb Od Kg; C: Wn Eb - pi2: B:
St Cm; C: Tk.
 01d 21h 00m (58-01) bp: B: So Ma Db Pr CF Aq IK Mc; C: Eb Tc - bps: A: Tr - pi2:
B: Ni Cm Ha MB Bi.
 02d 17h 46m (42-50) bp: B: So - pi2: A: Ma Tf; B: Ni Tk Bi - pc4: A: Ac; B: Lg - pc5:
A: Qu.
 02d 23h 00m (58-02) bp: B: St Ma IK Bi; C: Ha - bps: B: Lg - pi2: B: Es Ni Cm Eb Fr
Mc Lu Hu.
 02d 23h 18m (14-32) b: A: Pe; C: TC - bp: B: Wn Sw Vl Be Ma CF Od Aq Eb Ci SM
Mc Lu; C: Tl Ae - bps: B: Fü Hb - pi2: A: Lg; B: Tf.
 03d 03h 27m (19-34) bp: A: Ac; B: Eb - bps: B: Ag Hu Tw; C: Pa - pi2: A: Fr; B: Cm -
pc4: B: Es Bi.
 04d 07h 27m (24-30) bp: A: Te - (ssc: A: PB).
 04d 13h 57m (57) bp: C: Mb Ka Ky - pi2: C: Ss.
 04d 14h 55m (55) bp: B: Ir; C: Kv?
 04d 22h 21m (16-28) b: B: MB - bp: B: Mc; C: Es Kv?
 05d 02h 00m (55-08) bp: C: Hu - pi2: A: Ac Tw; B: MB Bi; C: Fr.
 05d 04h 38m (36-40) bps: B: Hu - pi2: A: Ac.
 05d 12h 18m (11-36) b: A: TC Gn; B: Ir MB - bp: A: Mo Ap Ac; B: Kn Tk Ky Qu PM
DU; C: Kv? Mb Ka Ss - (si: A: Od).
 05d 15h 06m (05-06) bp: B: PM; C: Mb Ka Ky - bps: A: Gn - pi2: C: Ss.
 05d 17h 31m (31) bp: B: Wn Pr - pi2: B: Wi.
 05d 18h 04m (50-10) b: A: Pe - bp: B: Vl Ae; C: Kv? - bps: A: Wk; B: Mc - pc4: B: Bi.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(AUGUST)

05d	22h	33m	(15-41) b; A: Pe Mc; B: Db MB - bp; A: IK TC; B: Es Hl Ma Lg Tl Ae; C: Wn Kv? - pi2; A: Ac; C: Fr.
06d	01h	00m	(00) bp; C: Kv? - pc4; A: Tf.
06d	02h	05m	(05-06) b; B: Hu - pi2; B: Bi; C: Fr.
06d	04h	51m	(50-52) bp; A: Te - bps; A: Ac - pi2; C: Fr - pc4; B: Es.
06d	22h	52m	(49-55) bp; A: IK; B: Vl Be Ma Db Fü CF Aq Ci SM Mc Lu; C: Es Eb Pe - bps; B: Le - pi2; A: Ac; B: Ni Cm Od - pc4; B: Lg? - (ssc: B: So Ae).
07d	01h	44m	(42-47) bp; A: Ac Tw; B: Tl Ae MB.
07d	02h	02m	(00-08) b; A: Nu Pr Hb Pe; B: Wn Sw Vl Be Fü IK Va - bp; A: TC; B: Mc Bi Hr; C: Vi.
07d	11h	13m	(10-14) bp; A: Ap; C: Mb Ka Ky.
07d	11h	37m	(30-45) bp; A: PM Am; B: Vi To DU - (si: A: PB).
07d	22h	33m	(31-35) bp; C: Ma Eb - pi2; B: Ni Cm Ha CF Od Bi; C: Es - pc4; B: Lg.
08d	21h	54m	(54-55) bp; B: CF; C: Kv? - pi2; B: Es Od Eb MB.
10d	07h	16m	(14-19) bp; A: Ac - bps; B: Hu.
10d	23h	21m	(19-22) bp; B: Vl - pi2; A: Lg; B: Es Ni Ha Aq Eb Bi Lu; C: Fr.
11d	14h	58m	(57-60) b; A: Pe - (si: A: Od).
11d	19h	17m	(15-19) bs; A: MB - bp; B: Hr; C: Kv? - bps; A: Pr; B: Wn Bi - (si: A: So; B: Lg).
11d	22h	27m	(27) bp; B: CF; C: Kv?.
12d	18h	59m	(50-73) b; A: Nu SF TC; B: Sw MB - bp; A: Pr; B: Kn Mo Hl Wn Vl Ha Ma Fü Hb Tk Ae Gn Kg; C: Kv? Tl - bps; B: Wk.
12d	23h	15m	(15) bp; C: Kv? - pi2; B: MB.
13d	18h	27m	(23-30) b; B: Sw - bs; A: Nu - bp; B: Le Be Pr Od Qu Kg; C: Wn Hb pi2; B: Tf; C: Tk - (ssc: B: So).
13d	22h	00m	(00) bps; B: Tr - pi2; B: Es.
14d	10h	32m	(31-34) bp; B: PM To Am.
16d	01h	16m	(13-19) bp; B: Le Hl Sw Be IK; C: Eb - pi2; B: Es Bi; C: MB-(pc4:B:Lg).
16d	03h	42m	(42-43) bp; B: TC - (ssc: C: Tk).
17d	02h	32m	(29-35) bp; C: Wn - bps; B: Le Es; C: Bi - pi2; A: Ac; B: MB Hu.
17d	16h	13m	(13-14) bp; C: PM - pi2; C: Mb Ka Ky.
18d	12h	35m	(35-36) bp; B: PM DU - bps; A: Mi; B: Sr Am - pi2; A: Ho; B: Ss; C: Mb Ka Ky.
18d	17h	55m	(52-57) b; A: Mo; B: Sw - bs; A: Nu; B: Hl - bp; A: So Tn Ac; B: Wn Be Kv? Ma Pr Fü Eb Wk - bps; A: Qu; B: Hb Tf Tk Gn Kg - pi2; A: Cm; B: Ni; C: Mb Ka Ky - (ssc: B: Tr - si; B: Kn; C: Tl - sfe: Od).
19d	10h	00m	(00-01) bp; C: Ap - pi2; C: Hu.
20d	20h	23m	(18-30) bp; C: Kg - pi2; B: Aq Tf Bi Gn - (si: A: Tr).
20d	20h	50m	(48-54) bp; A: Tf Tn; B: Nu Le Wn Wi Vl Be Pr Fü CF Hb Od Aq Qu Ac; C: Ha Eb Ae Mc - bps; B: Lg - pi2; B: Ni Cm.
20d	21h	45m	(43-48) bp; B: Vl Kv? IK; C: Mc - bps; B: Lg; C: Bi - (si: C: Es TC).
21d	16h	36m	(28-50) b; B: Sw - bp; A: IK; B: So Nu Be Ma Lg Aq; C: Wn Eb - bps; B: Hl Hb; C: Wk - pi2; A: Tf Tk Qu Tn Ac; B: Wi Ni Ha Od Ss Ho Gu; C: Mb Ka Ky - pc4; C: Fr.
22d	01h	53m	(47-56) bp; A: Ci Ac; B: Vl Eb SM Ae MB Mc; C: Tl.
22d	18h	43m	(40-51) bp; B: So - pi2; A: St Lg Tk Tn; B: Aq Eb Bi; C: Cm.
23d	00h	01m	(57-03) bp; B: Hl Eb IK Mc Lu; C: KV/ Bi - bps; B: Lg - pi2; A: St; B: Cm CF Od Aq MB; C: Fr - pc4; B: Ci.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

(AUGUST)

- 24d 06h 13m (05-20) bps: B: Ag - pi2: B: Tu; C: Ho Te Hu - pc4: A: Lg.
 24d 19h 31m (27-39) bp: B: Vl; C: Kv? - pi2: A: St; B: Cm Ma Aq Tk Eb Gn; C: Ss - pc5: A: Qu - (si: B: Tr).
 24d 21h 30m (30-31) bs: C: MB - bp: B: Mc.
 25d 17h 53m (50-57) bp: B: DU - pc4: A: MI.
 26d 00h 09m (07-11) bp: C: Kv? Eb - pi2: B: Aq MB Bi Lu Hu - pc4: A: Lg; B: Ci.
 26d 05h 43m (39-46) bp: C: MI - pi2: B: Ho Te Hu; C: Fr - pc4: B: Tu.
 26d 19h 04m (02-06) bp: A: So; B: Kv? - pi2: B: Tk.
 26d 21h 21m (20-22) bp: B: Lg Bi - (ssc: B: Tr).
 26d 22h 00m (53-04) b: A: Pe Tn; B: Sw Ak - bs: A: So Ks; B: Hl - bp: A: Mc; B: Vl Kv?
 Od Tf IK Eb Ae Lu; C: Tl - pi2: B: CF MB - pc5: A: Ac.
 28d 18h 11m (10-12) bp: B: So - pi2: B: Ma Tf.
 28d 19h 03m (54-15) b: A: Kn Mo Tn; B: Sw - bp: A: So Nu IK; B: St Wi Be Kv? Ma Pr
 Fü Od Aq Eb Bi Kg; C: Ir Pe Ae Mc Wk - bps: A: Hb Tf Ks; B: Wn Vl
 Tk; C: Tl - pi2: A: Ni Cm Ac; B: Ha Lg.
 29d 09h 25m (16-30) bps: C: MI - pi2: A: Ho; B: Te Bi Hu Gn - pc4: A: Ac; B: Lg.
 29d 21h 10m (08-12) bp: A: So; B: Le St Vl Ma CF; C: Kv? Eb - bps: B: Lg - pi2: B:
 Ni Cm Od Aq Bi.
 29d 21h 43m (42-43) bp: C: Eb - bps: B: Lg - pi2: B: Ni Aq.
 31d 00h 08m (00-13) b: B: Sw - pi2: B: St Ni Od Eb Fr MB Bi Lu Hu Tw; C: Ha - pc4:
 B: SM.
 31d 01h 28m (18-35) bp: B: Es CF Aq MB Lu Hu; C: Eb Bi - pi2: A: Ac; B: Ni Ha Pe
 Tw; C: Cm Te.
 31d 11h 13m (10-17) bp: B: Mb Ka Ky PM DU; C: Vi - bps: A: Ap Am - (ssc: A: PB; B:
 Sw; C: TC).
 31d 12h 00m (00) bp: B: Ir; C: Kv?
 31d 22h 51m (40-67) b: A: SF - bs: A: Ks - bp: A: Aq Eb Ci Tl Ae Mc Lu; B: Wi Vl
 Ha Kv? Ma CF Pe SM Hr - bps: A: Lg; B: Mw - pi2: B: Ni Cm MB - (si:
 A: So).
 31d 23h 46m (40-49) bp: A: Es St; B: Le.

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- 01d 02h 32m (27-39) b: A: SF TC - bp: B: Eb Tl SM Ae MB.
 01d 06h 56m (55-58) bps: A: TC - pc4: A: Lg.
 01d 11h 38m (36-40) bp: A: Mo - pc4: B: Ac.
 01d 16h 36m (23-53) b: A: SF; B: Sw - bp: A: Nu Wn Pr Hb; B: Wi Vl Be Ha Ma Db IK
 Eb Tl Pe Ae Bi Kg DU - bps: A: St Wk; B: Fü - pi2: A: Ac; B: Tk - pc4:
 A: Lg.
 01d 21h 03m (56-12) b: A: Pe - bs: A: Nu - bp: B: Wi Ha Kv? Ma Db CF Eb Ae - bps:
 A: Wn; B: Vl Pr Hb Lg Tl - pi2: B: Bi - (ssc: B: Tr).
 01d 21h 41m (27-50) bp: A: Wn; B: Wi Vl Ha Kv? Pr Hb Eb Pe Bi - bps: B: Lg Mw -
 pi2: A: Tf; B: Ni MB.
 01d 23h 16m (15-17) bp: A: Tw - pc4: B: Si.
 01d 23h 49m (35-60) bp: A: Ac; B: CF Eb TC MB Mc Bi Hr; C: Kv? - pi2: B: Hu; C:
 Fr.
 02d 00h 15m (11-20) bp: A: Ac; B: Hu.
 02d 19h 06m (00-10) bp: B: Vl Ma CF Eb; C: Wn Kv? - pi2: B: Ni Aq Tf Bi - (ssc: B: Tr).
 03d 00h 00m (00) bp: B: Vl; C: Kv?
 03d 00h 30m (25-35) b: C: MB - bp: B: SM.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(SEPTEMBER)

03d 11h 16m (14-18) bp: B: PM; C: To MI - bps: A: Co Am - pi2: A: Ac; B: Ho; C: Ss.
03d 19h 52m (50-54) b: A: SF; B: Sw - bs: B: Hl Pe - bp: A: Nu Wn; B: Le Es Wi Ni Be
Cm Ha Ma Db Pr CF Hb IK Ci MB Mc Bi Lu - bps: A: So Od Lg; B: Vl
Fd Aq Eb Tl Ae - (si: A: Tr).
03d 20h 25m (25) b: C: Ir - bp: B: Kv?
04d 03h 18m (17-20) bp: B: Te Tw - bps: B: Hu - pi2: B: MB.
04d 06h 26m (24-30) bp: B: Te - bps: C: Hu - pc4: A: Ac Tw; B: Bi.
04d 09h 14m (10-18) bp: B: Te - pi2: B: To; C: Ho.
04d 10h 53m (48-57) b: B: Sw - bp: A: Od Ap; B: Vl Gn To Wk DU; C: Mb Ka Ss Ky -
bps: A: Am; B: Sr Es PM - pi2: B: Si Ho; C: Hu - (si: C: MI).
04d 11h 15m (15) b: B: Ir - bp: C: Kv?
04d 19h 01m (01) bp: C: Kv? - pi2: C: Tf.
04d 20h 49m (40-62) bp: B: CF Eb Bi Lu; C: Kv? - bps: B: Lg - pi2: B: Ma Od Aq IK;
C: Cm Tf - (si: B: Tr).
04d 21h 22m (20-25) bp: A: TC; B: Mc; C: Kv? MB.
05d 03h 08m (03-15) bp: A: Tu Te SJ; B: Hu; C: Vi - bps: A: Me Tw; B: Ag - pi2: B:
MB Ac.
05d 10h 22m (22-23) bp: C: PM - pi2: B: To.
05d 23h 40m (40-42) bp: B: CF - pi2: B: MB; C: Fr Hu.
06d 05h 10m (09-10) bp: A: Te - bps: A: Ag; C: Hu.
06d 08h 18m (18-19) bp: B: Vi - pi2: B: MI.
06d 18h 10m (08-12) bp: A: Nu; B: Od; C: Kv? - pi2: B: Cm Tf Bi.
06d 21h 51m (48-55) bp: A: Eb Tl; B: Ae - bps: B: Bi.
06d 22h 10m (04-15) b: A: Nu; B: Ni - bp: A: Pr; B: Mo Wn Ha Kv? Hb Hr - bps: B:
Mw - pi2: B: Fr.
07d 05h 12m (07-17) b: A: LM - (ssc: Es).
07d 10h 54m (54-55) bp: B: Si; C: Ss.
07d 16h 55m (55) bp: C: Kv? - bps: A: Wk.
07d 18h 36m (30-44) bp: B: Wi Ma Eb; C: Kv? - bps: A: Pr; B: Wn CF Lg?; C: Ha - pi2:
A: Cm Ac; B: Bi - (ssc: A: So - si: B: Es).
07d 19h 01m (00-01) bp: B: Wn Kv? Pr; C: Ha.
07d 19h 27m (27-28) bp: A: Pr; B: Wn Hb; C: Ha.
07d 20h 18m (18) bp: C: Kv? - pi2: B: Ni.
07d 21h 23m (23-24) bps: B: Bi - pi2: A: Cm; B: Wi Ni.
07d 22h 13m (00-28) b: B: Ae MB - bp: A: Wn Pr Te Mc; B: Wi Ha Kv? Ma Hb Tf Tl
Lu Hr - bps: B: Db CF Lg - pi2: A: Me; B: Ni.
08d 07h 08m (08) bp: C: Mb Ka Ky.
08d 10h 04m (04) bp: C: Mb Ka Ky.
08d 02h 22m (20-25) bp: B: Hu - pi2: A: Ac; C: Fr MB.
09d 18h 00m (00) bp: C: Kv? - bps: B: Wk.
09d 20h 33m (30-37) bps: B: Bi - pi2: A: IK; B: Es Ma Eb MB.
09d 21h 14m (14-15) b: A: Pe - bp: B: Eb; C: Kv? - pi2: B: Wi.
09d 23h 49m (45-53) bp: B: Bi - pi2: C: Fr.
10d 02h 00m (57-03) b: A: Hu - bp: B: Hb; C: Kv? Vi.
10d 18h 15m (15) bp: C: Kv? - pi2: C: Tf.
10d 20h 38m (36-40) bp: B: Ma CF Eb - bps: B: Bi - pi2: B: Ni Cm Lg IK Eb MB.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

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- 10d 21h 01m (00-03) b; A: Pe Mc; B: Hl Db - bs; B: Es Ks - bp; B: Wn Vl Pr Od IK Eb Ae; C: Kv? Tf - bps; B: Lg - (ssc: B: So).
- 10d 23h 09m (05-11) bp; C: Bi - pi2; B: MB; C: Fr.
- 10d 23h 37m (36-38) bp; B: CF Eb; C: Mc - pi2; A: Ac.
- 11d 21h 56m (54-58) bp; A: Nu Tn; B: So Ma CF Lg IK Mz; C: Eb - bps; C: Bi-pi2; A: Cm; B: Ni Ha Aq Tf MB.
- 11d 22h 18m (12-21) bp; A: Tn; B: Lg; C: Eb Bi - pi2; B: Ni Aq MB.
- 12d 01h 45m (38-50) bp; A: Tw; B: Es Vl CF Lg IK Ci SM Hu; C: Eb Bi - bps; A: Ag; B: Va - pi2; A: Ac; B: Ni Od Fr MB; C: Cm.
- 13d 00h 25m (24-26) bp; B: Vl Lg IK; C: Eb Mc Bi - pi2; B: Aq MB; C: Cm - pc4; A: Ac; B: Ci Lu.
- 13d 20h 09m (00-13) bp; A: Nu IK; B: So Vl Be CF Lg Aq Pe Lu Tn; C: Kv? Tf Eb Bi - pi2; A: Ni Cm Mc; B: Tk MB; C: Ha.
- 13d 21h 54m (54) bp; C: Kv? - pi2; B: Bi.
- 14d 19h 05m (00-07) bp; B: So; C: Kv? - pi2; B: Ni Cm Od Aq Tf Tk Tn; C: Bi - pc4; A: Ac.
- 14d 23h 02m (00-10) bp; B: Ma CF Eb Mc; C: Kv? - pi2; B: IK Ci MB; C: Tf Hu.
- 14d 23h 21m (21-22) bp; B: Be Pe.
- 15d 00h 17m (15-19) bp; B: CF - pi2; B: Ni Cm Aq Ci Pe MB Bi Tn - pc4; B: SM Lu Tw.
- 16d 23h 30m (22-38) bs; C: Ae - bp; C: Kv? - pi2; A: Ac; B: CF Eb MB; C: Cm-pc4; B: Lg - (ssc: A: Tw; C: Hr).
- 17d 00h 36m (33-42) bp; A: Pr Hb Mc; B: Wn Wi Sw Vl Ha Db Fd CF Eb Pe SM Ae MB Bi Hr; C: Tl - bps; B: Es - pi2; A: Ac; B: Cm - pc4; B: Lg.
- 17d 02h 13m (11-16) bp; C: Eb - bps; A: Ac - pi2; B: Te MB Tw.
- 17d 21h 05m (00-08) b; A: Pe - bp; B: Kv? Ma CF IK Eb - pi2; B: Aq Tf MB Bi; C: Cm.
- 18d 20h 54m (45-57) bp; B: Ma Ae Tn; C: Wn Eb - pi2; B: Cm Aq Tk MB Bi.
- 18d 21h 46m (45-48) b; B: Sw - bp; A: Nu IK; B: Be Ma CF Od Pe TC Lu Tn; C: Kv? - bps; A: So Pr Lg; B: Do Le Es St Wn Vl Hb Fd Aq Eb Mc Bi Hr; C: Ha Db Tl - pi2; A: Cm Fr Ac; B: Tk MB; C: Tf - (si: A: Tr).
- 18d 23h 48m (48) bp; C: Kv? - bps; B: Ks.
- 19d 13h 35m (34-37) bp; B: TC; C: To - pi2; C: Mb Ka Ky.
- 20d 18h 20m (13-25) bp; B: So Tn; C: Kv? - pi2; B: Cm Tk Bi; C: To - (si: B: Es IK).
- 20d 21h 07m (00-12) bp; B: IK; C: Kv? - pi2; B: CF Tn; C: Tf - (si: B: Es).
- 20d 21h 30m (29-31) bp; B: Tn; C: Pe.
- 20d 22h 30m (28-32) bp; B: Lg IK Eb Tn; C: Pe - pi2; B: Ni Aq MB Bi; C: Cm.
- 21d 07h 54m (53-55) bps; B: Ag - pi2; A: Ho Ac; B: To.
- 22d 02h 43m (10-49) b; A: Co? Es? SF Tu - bs; B: Hl Vl MI - bp; A: Wi Ha Eb Fr SJ; B: Si Vi CF Kg - bps; A: Db Tl Ae MB; B: Be Pa - pi2; A: Ac - (si: A: Od TC Te Va Tw; B: SM).
- 22d 16h 40m (40) bp; B: PM To.
- 22d 18h 52m (45-55) bp; B: Ma CF; C: Wn Kv? - pi2; A: Tk; B: Bi; C: Fr.
- 22d 21h 32m (26-35) bp; B: CF Eb Bi - pi2; B: Ni Cm Ma Aq Pe MB.
- 22d 21h 53m (48-58) bp; B: Hb Pe.
- 23d 06h 13m (06-17) bp; C: Hu - pi2; A: Te Ac; B: Tw; C: Fr - pc4; C: Tf.
- 23d 21h 24m (15-27) bp; B: So CF IK - pi2; A: Ni Cm Lg; B: St Ma Aq Eb Pe Ks MB Bi Lu Tn; C: Tf.
- 24d 03h 47m (45-52) bp; A: Ac; B: Hu Tw - bps; B: Ag - pi2; B: MB.
- 24d 08h 51m (50-52) bs; B: MI - bps; B: Vi Ag Tu Am - pi2; A: Ac; B: Ho.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

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- 24d 14h 53m (50-54) bp: B: To; C: Mb Ka Ss Ky - bps: A: Gn.
 24d 18h 27m (22-32) bps: C: Bi - (si: A: Tr).
 24d 18h 55m (41-70) b: A: Su SF LM; B: Sw Tn? - bs: A: Nu Od Ks; B: Hl Db Pe - bp: A: Tf Tk; B: Do Le Kn Wi Ni Vl Ha Ir CF Bi Lu Gn Kg Mw; C:Cm Mc - bps: A: St Wn Pr Lg; B: Be Ma Vi Fü Eb Tl Ae.
 24d 19h 46m (42-54) bps: A: IK; B: Kv? - pi2: B: Tk Pe Bi Tn.
 25d 18h 55m (53-60) bs: B: Od - pi2: B: Bi; C: Tk - pc4: B: Ac.
 25d 20h 40m (40) bp: C: Kv? - pi2: B: Bi.
 26d 01h 25m (24-25) bp: B: SM - pi2: B: Eb; C: Cm.
 26d 07h 51m (50-52) bp: C: Vi MI - bps: A: Tu; B: Ag Am - pi2: A: Ac; B: Ho Te Hu; C: Bi.
 26d 11h 45m (40-50) bp: B: PM To - pi2: B: Hu.
 27d 21h 13m (10-18) bp: A: Pr; B: Wn Vl Ma CF Hb Eb Ae; C: Kv? Kg - bps: A: Nu; B: Mw; C: Tl - pi2: A: Tk - (ssc: B: Tr So Sw Tn - si: Be).
 27d 22h 49m (49) bp: C: Kv? - bps: B: Mw.
 28d 02h 01m (48-10) b: A: SF - bp: A: Pr SJ Hu; B: Wn Ha CF Eb SM Ae Bi Va-bps: A: Tl; B: Vl MB; C: Pa - pi2: B: Pe - (ssc: A: TC; B: Ag).
 28d 12h 04m (04-05) bp: A: Ss; B: Mb Ka Ky.
 28d 12h 31m (30-32) bp: B: Kn Mo.
 28d 15h 20m (14-25) b: A: Pe; B: Sw - bs: A: Nu - bp: B: Ma Eb; C: Ss - bps: A: Kn Pr Tf; B: Mo Wn Ha Hb Kg Mw; C: Mb Ka Ky - (ssc: A:So-si:A:Od; B: Le).
 28d 19h 32m (19-39) b: A: SF; B: Sw - bs: A: Nu; B: Pe - bp: A: Db Lg Eb; B:Kn Mo Es Wi Bi Lu Hr Kg - bps: A: Pr Tf Tl; B: Do Wn Ni Vl Be Cm Ha Ma Fü CF Ae Mw - (ssc: A: Tr So - si: A: IK).
 28d 20h 00m (00) bs: C: Ir - bp: B: Kv?
 28d 21h 27m (27-28) bp: C: Bi - pi2: C: Cm.
 29d 06h 35m (30-40) bps: B: Hu - pi2: B: Tu Ho.
 29d 23h 22m (12-34) b: B: Sw - bp: A: So Nu Wn Od Lg Mc; B: Do Es Le Es St Wi Ni Be Pr Fü CF Hb Aq IK Eb Pe Ks Bi Tn; C: Kv? - bps: A: Ma Db; B:Vl Ae Lu; C: Ha Tl - pi2: A: Ac; B: Cm Tf MB; C: Tk Fr Hu-(si: A: Tr TC).
 30d 01h 17m (15-19) bp: B: CF - pi2: B: Cm MB Ac.
 30d 05h 06m (06) bp: C: Kv? - pc5: B: Tr.
 30d 13h 14m (14) bp: C: Mb Ka Ss Ky.
 30d 16h 40m (30-48) bp: A: Nu Pe; B: Kn Wi Vl Ha Ma Db Eb Tl Ae - bps: A: Wn Pr; B: Cm Hb Gn - pi2: B: Ni Tk.
 30d 17h 05m (05) bp: B: Kv - bps: C: Ir.
 30d 22h 39m (23-50) b: A: Mc; B: Be - bp: A: Od Pe; B: Es Db CF Hb Lg IK Eb MB Lu.
 30d 23h 22m (22) bp: B: Hr; C: Kv?

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- 01d 00h 30m (16-36) b: A: Ag Pe SF SJ; B: Hu - bs: B: Va - bp: A: TC Tw; B:IK Eb Tl SM Ae? Bi; C: Hr - bps: A: Ac.
 01d 03h 59m (58-60) bp: B: Tw - pi2: A: Ac; B: Hu; C: Fr.
 01d 04h 12m (12-13) bp: C: Eb - bps: A: Ac; B: Hu Va - pi2: B: Bi.
 01d 16h 32m (21-40) b: B: Hl Wn Sw - bp: B: Mo Ma Db Od - pi2: C: Tf.
 02d 00h 23m (20-27) bp: B: Le St Wn Sw Vl Be Ma Db Pr CF Hb Aq IK Eb Tl SM TC Bi Ac; C: Wi Ha Kv? Pe - bps: B: Lg - pi2: B: Cm Od.
 02d 19h 47m (30-56) b: B: Sw - bs: A:Ks; B: Hl - bp: B: Le Wn Wi Vl Ma Db Pr CF Od Lg Eb Tl Mc Bi; C: Ha Tf Ae - bps: B: Fü - pi2: B: Cm - (si: B: Tn).

TABLE 2a BAYS AND PULSATIONS 1964 - continued
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02d 20h 10m (10) bp: A: Su; B: Kv ?
 03d 01h 24m (24-25) bp: B: SM - pi2: B: Bi.
 04d 01h 25m (23-26) bp: B: CF; C: Eb - pi2: A: Lg Ac.
 04d 16h 32m (30-37) b: A: LM; B: Sw - bp: B: Bi; C: Hr - bps: A: Mo - (si: A: Od).
 04d 17h 13m (10-15) bp: B: Ir Kv ?; C: Tf - (ssc: A: Tr).
 04d 19h 38m (35-40) bp: C: Kv ? - bps: A: Pr Mc; B: CF Bi Hr Mw; C: Mw.
 04d 22h 44m (40-54) b: A: LM - bp: A: Ae ? Te; B: Ma - bps: A: Vl Pr Hb IK Tl Mc Bi;
 B: Es CF Hr Mw; C: Wn - (si: A: TC; B: St).
 04d 23h 51m (51) b: B: Va - bp: C: Kv ?
 05d 11h 31m (30-32) bp: C: Mb Ka Ky - pc4: B: Si.
 05d 12h 49m (46-50) bp: B: Mb Ka Ky - pi2: B: Bi.
 05d 13h 50m (50) bp: B: Ir Kv ?
 05d 16h 03m (55-07) b: A: Wn Pr Od; B: Sw Ni Hb - bp: B: Mo Cm Kg; C: Kv ?
 05d 16h 21m (19-25) b: A: Su; B: Hl - bp: B: Ir.
 05d 19h 07m (56-25) b: A: Nu Wn Pr Su; B: Hl Sw Ni Hb - bp: A: Od TC; B: Mo Vl Kv ?
 Ma Ae Bi; C: Tf Tl - bps: B: Db.
 05d 22h 06m (05-08) bp: B: TC; C: Kg - bps: B: Mw.
 05d 22h 23m (20-26) b: A: Od Mc; B: Hl - bp: B: Vl Lg Ae Bi Lu Hr; C: Kv ? Tl.
 06d 12h 49m (40-51) bps: B: MI - pi2: B: Mb Ka Ky Gu Bi.
 06d 15h 24m (21-30) b: B: Sw - bp: B: Wk DU; C: Mb Ka Ky - pi2: B: Bi - pg: B: Fr -
 pc4: B: Si.
 06d 20h 19m (19) bp: B: Wn Pr CF; C: Kv ?
 07d 20h 16m (11-18) b: A: So; B: Sw - bp: B: Wi Vl Ma Pr CF Hb Pe; C: Wn Ha Kv ?
 Eb Bi - bps: B: Hl Fü Mw - pi2: B: Ni Cm Od Aq - pc4: B: Lg - (ssc: A:
 Tr).
 07d 20h 48m (43-54) bp: B: Pe Lu - pi2: B: Ni.
 07d 21h 14m (08-23) bp: A: TC; B: Eb Tl Pe; C: Kv ? Ae - pi2: A: Ac; B: Ni - pc4: B: Lg.
 08d 13h 23m (20-27) bp: A: Gn; C: Mb Ka Ky - bps: C: PM - (ssc: C: Ir).
 08d 16h 53m (42-55) bp: B: Ma Pr Hb; C: Wn Kv ? Eb Bi Wk - pi2: A: Ni Qu Ac; B: Wi
 Cm; C: Mb Ka Ky.
 08d 17h 42m (41-45) bp: A: Qu; B: Eb Tl Pe Ae Bi; C: Kv ? - bps: B: Tf.
 08d 18h 27m (25-27) bp: B: Kv ? CF - pi2: B: Ni Eb Pe Bi
 08d 21h 16m (14-19) bp: C: Kv ? - pi2: B: Cm CF.
 08d 22h 40m (40) bp: B: Ma CF; C: Kv ? - bps: B: Bi; C: Tl - (pi2: A: Fr).
 08d 23h 39m (39) bp: C: Kv ? Bi.
 09d 08h 03m (59-10) bp: C: Mb Ka Ky TC - bps: A: Ap; B: Am - pi2: B: Hu-(ssc:C:Ir).
 09d 19h 41m (34-45) bp: B: Hb; C: Eb - pi2: B: Bi; C: Hu.
 09d 20h 36m (35-38) bp: B: Eb - pi2: B: Bi.
 10d 23h 05m (01-09) bp: C: Lg - pi2: B: Bi.
 11d 16h 35m (35) bp: C: Mb Ka Ky.
 11d 20h 15m (06-20) bp: B: Hb Bi - pi2: A: Qu; B: Od Tf.
 11d 20h 52m (49-54) bp: A: IK; B: So Nu Wn Ma Pr CF Ci SM Mc; C: Ha Kv ? Tl Pe
 - bps: A: Lg; B: Vl Eb Ks Lu - pi2: A: Ni Cm; B: Aq - (si: B: Tr Tn).
 12d 06h 46m (45-48) bp: C: Vi - (ssc: B: Ag).
 12d 21h 33m (30-41) b: A: SF; B: Sw - bp: A: IK Mc; B: St Wn Vl Ma Pr CF Od Eb Ci
 Pe Ae Bi Lu; C: Ha Tl - bps: A: Hb Lg; B: Le Es Db Fü Ks - pi2: B: Cm
 Hu - (si: B: Tr).

TABLE 2a BAYS AND PULSATIONS 1964 - continued

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13d 01h 15m	(00-24) bs: C: Kv? Bi Hu - bp: B: Sw CF IK Eb SM Ae Mc; C: Pe - pi2: B: Tw; C: Fr.
13d 12h 45m	(44-46) bp: B: PM To MI; C: DU - pi2: B: Mb Ka Ky; C: Gu.
14d 00h 27m	(12-35) bp: A: Pr Mc; B: Es Sw Vl Be Ha Ma Db CF Eb Lg AqIKEbTl Pe SM Bi; C: St Wn Ae - bps: B: Fü - pi2: A: Ac; B: Cm Hu; C: Fr- pc4: B: Lu.
14d 03h 22m	(10-33) b: B: Te; C: Hu - pi2: A: Ac; B: Es Bi Tw; C: Fr.
14d 18h 48m	(47-49) bp: B: So - pi2: A: Qu Ac; B: Ni Cm Ha Od Tk Bi.
14d 23h 55m	(44-58) b: B: Sw - bp: A: Pr Hb; B: Le St Wn Wi Be Ha Db CF Lg Eb Lu - bps: A: So Nu Vl; B: Ma Fü - pi2: A: Ni Cm IK Ci Fr Ho Mc Ac; B: Aq Pe Tu Bi; C: Ky - pi2+pc4:A: Tw - (si: B: Tl).
15d 00h 13m	(10-16) bp: A: IK Ci; B: H1 Kv? Od Aq Pe - bps: B: Mw - pi2: A: Cm; B: SM Hu.
15d 14h 22m	(20-30) bp: C: Mb Ka Ky - bps: B: Sr.
15d 15h 00m	(48-10) b: A: Mo; B: Sw Be - bp: B: Ir Kv? Hb Tk Qu Wk; C: Kg.
15d 19h 44m	(44) bp: C: Kv? - bps: C: Tl.
15d 23h 41m	(35-44) bp: B: Vl Ci; C: Eb - pi2: B: Bi.
16d 04h 10m	(06-13) bp: A: SJ; B: Vl Lg SM; C: Vi Eb Ci Ae - bps: B: Hu; C: Tl - pi2: A: Ac Tw; B: Pe Bi; C: Fr.
17d 00h 42m	(40-45) bp: B: IK; C: Eb - pi2: A: Ac; B: Bi; C: Hu - pc4: B: SM.
17d 05h 15m	(10-20) bp: A: SJ; B: Eb Tu; C: Vi - bps: A: Me; B: Ag Hu Tw - pi2: A: Te Ac; B: Si Bi.
18d 18h 47m	(46-48) bp: B: Cm - pi2: B: Tk.
18d 22h 23m	(15-30) bp: A: CF Tf Eb Pe - pi2: B: Ma Aq; C: Cm - pc4: B: Lg.
18d 22h 49m	(40-57) bp: B: H1 Tl - bps: B: Lg Ks Mw - pi2: B: Es - (ssc: B: Tn).
18d 23h 20m	(16-23) bp: A: TC; B: Kv? - pi2: B: CF Pe Lu.
19d 05h 23m	(17-30) bp: B: Te; C: Vi - pi2: C: Hu.
19d 15h 40m	(35-43) b: A: Wn Pr Pe; B: Hb - bp: B: Ni Kv? - bps: B: Mo.
19d 19h 35m	(33-36) b: A: Pe; B: Hb - bp: B: Vl; C: Kv? - bps: A: Pr; B: Wn.
19d 20h 30m	(28-33) b: A: Pe - bp: B: Mw; C: Kv?
20d 00h 17m	(12-20) bp: B: Hu; C: Hr - (si: B: TC).
20d 03h 53m	(49-56) bp: A: SJ - bps: C: Hu - pi2: A: Ac Tw; B: Si Fr; C: Vi - (ssc: C: Ag).
20d 12h 21m	(17-23) bp: B: To; C: Mb Ka Ky - pi2: A: Ac; C: Hu.
20d 19h 45m	(45-46) bp: B: Ni; C: Kg.
20d 20h 09m	(06-12) bp: A: Tf; B: Wi Od Bi - bps: B: Lg.
20d 20h 40m	(38-45) b: A: SF; B: Sw - bs: A: Nu; B: H1 Be Eb Pe - bp: A:Pr Tl Ae; B: Le Wn Vl Ha Ma CF Eb Qu; C: Kv? - bps: B: Cm Db Fü Ks Mw; C: Es.
21d 00h 11m	(11-12) bp: B: Bi - (si: B: DU).
21d 02h 47m	(45-50) b: C: Hu - pi2: A: Ac.
21d 16h 08m	(00-15) b: B: Sw - bp: A: Pr; B: Wn Vl Eb Tf - pi2: B: Cm.
21d 18h 33m	(30-44) b: A: Pr Pe; B: Wn - bs: A: Ks - bp: A: Tf; B: Vl Eb Tl Bi; C: Ae.
24d 23h 21m	(15-31) bp: B: St Wi Vl Ma Pr CF Eb Ci Tl Pe Ae; C: Es Ha Kv? - bps: A: Lg - pi2: A: Ni Ac; B: Bi Va; C: Cm - pc4: B: Lu.
25d 23h 46m	(45-48) bp: C: Eb - bps: B: Bi - pi2: B: Tf Tk; C: Cm.
26d 08h 42m	(35-46) b: A: Sr Te - bp: B: Mb Ka Ky DU - bps: A: Am.
26d 09h 01m	(57-05) bs: B: Ir - bp: B: Mo - bps: B: Hu.
26d 23h 45m	(43-47) bp: B: Vl IK - pi2: B: Cm Bi - (si: B: TC).

TABLE 2a BAYS AND PULSATIONS 1964 - continued

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27d 19h 32m (27-35) b: B: Sw Be - bs; A: Do - bp; A: Nu Wn; B: Wi Vl Ma Pr Fü Hb Od Kg; C: Kv? Tl - bps; A: So - pi2; B: Tf; C: Cm - (si: B: Tr).
 27d 20h 10m (09-11) bp: B: Vl Eb - pi2; A: Cm; B: Tf; C: Bi - (si: B: Es).
 28d 00h 22m (21-24) bp: C: Eb - pi2; B: Bi; C: Cm.
 28d 01h 04m (00-06) bs; B: Ag - bp; A: Ac; B: Es Wn Pr CF Hb IK Eb SM Ae; C: Kv? Tl - bps; A: Ci - pi2; C: Cm - (si: B: TC).
 28d 19h 34m (34) bp: C: Bi - pi2; B: Cm Ma CF; C: Tf.
 29d 02h 10m (05-16) bp: B: Od Tw - pi2; B: Fr.
 29d 02h 51m (47-65) bp: A: Te SJ; B: Le Wn Vl Pr CF Hb Lg IK Ci SM Tu; C: St Vi Eb Tl Ae Bi - bps; A: Va Ac; B: Ag Tw - pi2+ B: Cm Ma Lu -(si:B: TC).
 29d 07h 25m (25) bp: A: Te; B: Hu.
 29d 22h 41m (37-52) bp: B: Od; C: Hb - pi2; B: Ma Eb Pe Bi; C: St Cm - pc4; B: Lg.

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01d 12h 02m (00-02) bp: B: To - pi2; B: Ho; C: Mb Ka Ky.
 01d 16h 00m (0) bp: C: Mb Ka Ky.
 01d 22h 08m (00-14) b: A: LM; B: Sw - bp; A: Nu Tl; B: Mo Ha Kv? CF Tf Eb Pe Ae; C: Hr - bps; A: Hb; B: Wn Vl Ma Ac - pi2; A: Lg Bi; B: MB Lu; C: Cm - (ssc: B: So - si: B: Sr Od Tk).
 01d 22h 43m (41-48) b: B: MB - bp; B: Pe - bps; B: Lg.
 02d 01h 14m (10-18) b: B: MB - bs; B: Ac.
 02d 21h 53m (39-61) bp: B: Ma CF Od Eb Bi; C: St Kv? Db Pe - bps; B:Lg-(si:B: Tr).
 02d 22h 26m (24-30) bs; B: Ks - bp; A: Nu Od; B: Ma CF Aq Eb Pe SM Ae Mc Lu; C: Tl - bps; A: Hb IK TC; B: Es Wn Vl Be Ha Db Fr Fü Lg MB Bi - pi2; B: Ni Cm Tf Hu Tw.
 03d 01h 28m (26-33) bp: B: Te Hu - bps; B: Ag - pi2; A: Ac - pc4; C: Bi - pc4+pc5: B: Tw.
 03d 16h 13m (00-18) b: B: Sw - bp; B: Nu Be Pr Hb Od IK Ak Tn Kg; C: Wn Kv? Tf - bps; B: Tk - pi2; A: Ac; B: Ni Cm Mb Lg Ka Ky Bi To.
 04d 12h 00m (57-06) bp: C: To - bps; A: MI - pi2; B: Si Bi Gn Am; C: Mb Ka Ky Ho.
 04d 17h 59m (58-61) bp: B: Tk; C: Kv? - pi2; B: Bi.
 04d 23h 02m (55-04) b: B: Sw - bp; A: IK; B: Wn Wi Be Ha Pr CF Hb Od Aq Eb Ci Pe Mc Bi; C: Kv? Tf - bps; A: Ks; B: So Do Le Es Vl Ma Db Fü Lg - pi2; B: Ni Cm.
 04d 23h 22m (18-27) bp: C: TC - pi2; B: Pe - pc4: B: Lg.
 05d 12h 19m (17-22) bp: B: To MI.
 05d 15h 31m (25-40) bp: B: To; C: Mb Ka Ky Bi PM.
 05d 16h 15m (15) bp: C: Kv? - bps; B: Ir.
 05d 18h 27m (17-42) b: A: Nu; B: Sw - bp; A: Tf; B: So Do Wi Ni Vl Be Ma Od Tk Tl Ks Kg; C: Ae - pi2; B: Eb Bi; C: Cm Mb Eb Ka Ky - (si: B: Tr).
 05d 19h 03m (01-08) bp: A: Pr Ac; B: Wn Kv? Hb Mw - bps: B: Hl.
 06d 06h 28m (28) bps: A: Me - pi2; C: Hu.
 06d 12h 45m (39-50) bp: B: To - pi2; B: Bi; C: Mb Ka Ky.
 06d 18h 42m (32-50) bp: A: Nu; B: So Od Tf Tk IK Kg; C: Eb - pi2; B: Aq Gn; C: Cm.
 06d 19h 45m (42-47) bp: B: So Wn Vl Ma Pr Hb Od Tf Pe Kg; C: Ha Kv? Eb- pi2: C: Cm Tk - (si: B: Tr).
 07d 23h 39m (39) bp: C: Kv? - pi2; B: Tf.
 08d 12h 42m (41-45) bp: B: To; C: Mb Ka Ky - bps: B: Sr.

TABLE 2a BAYS AND PULSATIONS 1964 - continued

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- 08d 19h 01m (45-22) b: A: Pe SF; B: Sw - bp; B: Vl Kv? Ma Od Tl; C: Ha Eb Ae - pi2;
B: Tk Ks Bi - pc4; B: Lg - (ssc: A: Tr).
- 09d 01h 23m (20-26) bp: B: Ae; C: Eb Tl - pi2; A: Ac.
- 09d 02h 58m (58-59) b: B: Hu - bp; B: Tw.
- 09d 04h 02m (53-10) bp: A: Te Ac; B: Ma - bps; B: Es - (ssc: C: St).
- 09d 10h 50m (49-51) bp: B: Mb Ka Ky Ap To - pi2; C: Hu.
- 09d 17h 00m (53-20) b: A: Wn Pr Pe; B: Sw Hb TC - bs; B: Ir - bp; A: Tf IK; B: Mo Be
Kv? Ma Fd; C: Tl - (si: A: Me).
- 09d 22h 01m (59-06) bp: B: Eb - pi2; B: Ma Pe Bi.
- 09d 22h 31m (27-35) bp: B: CF; C: Eb - bps; B: Lg - pi2; A: Ac.
- 09d 22h 49m (48-51) bp: C: Eb - bps; B: Lg.
- 09d 23h 23m (22-24) bp: B: Eb; C: Kv? - bps; B: Lg.
- 10d 01h 56m (45-75) b: A: Pr; B: Wn Hb; C: Hu - bp; B: Le Sw Be Kv? Db Vi Lg Eb Tl
SM Ae MB Ac Tw - bps; A: Me; B: Es - pc4; C: Si.
- 10d 18h 35m (35) bp: C: Kv? Kg.
- 10d 19h 42m (42) bp: B: Pr Hb; C: Wn.
- 11d 08h 22m (21-24) b: B: Me - bp; C: Vi.
- 12d 15h 24m (18-40) bp: B: Mo Ir Kv?; C: Mb Ka Ky Wk - pi2; C: Bi.
- 12d 20h 40m (30-46) b: B: Sw Tn - bp; A: Nu Ha Od IK; B: Hl Wi Vl Ma Fd CF Hb Lg
Aq Tf Eb Ci Tl Pe SM Ae Ks Mc Bi Lu; C: St - pi2; B: Ni.
- 13d 06h 04m (00-08) bp: C: Vi - pi2; C: Hu.
- 13d 12h 03m (00-10) bp: A: Gn; B: PM To; C: Mb Ka Ky DU - bps; B: Sr Ir - pi2; B: Bi.
- 13d 16h 37m (33-40) b: A: Mo Ak; B: Hb - bp; A: Tf; B: Be Ma Pr Od Tk IK; C: Wn -
bps; B: Ks.
- 14d 15h 30m (29-31) bp: B: PM - pi2; A: Tn; B: Cm Aq - pc4; A: Tr - (si: B: Sr).
- 15d 17h 34m (30-40) bps: A: Nu; B: Mo Wk.
- 15d 22h 15m (13-17) bp: A: TC; B: Bi Hr - pi2; B: CF Eb.
- 15d 22h 46m (42-50) b: A: SF - bp; B: Wi Ni Ha Ma CF Hb Eb - bps; A: Pr Tl Ks; B:
Wn Vl Db Fd Lg Ae.
- 15d 23h 06m (01-12) b: B: Kv? - bp; B: Pe Mw.
- 16d 20h 59m (59) b: B: Sw - bp; C: Kv?
- 16d 22h 49m (48-50) b: B: Sw - bp; B: CF Bi.
- 16d 23h 13m (13) bp: B: Eb; C: Kv? - bps; B: Lg.
- 17d 19h 13m (10-14) bp: B: Kg; C: Kv? - pi2; A: Lg Ac; B: Ni Cm Tf Tk Eb Hu Tn.
- 18d 00h 21m (17-25) bp: B: CF Od IK Ci SM Bi; C: Ha Eb - bps; A: TC; B: Lg - pi2; A:
Ac; B: Aq Pe.
- 18d 16h 56m (52-65) bp: B: CF Tk IK Wk; C: Ir PM - pi2; B: St Ni Tf Eb Bi Tn; C: Cm
- pc4; B: Lg.
- 18d 17h 42m (36-48) bp: B: Ma Pr CF Hb Tk Tn; C: Wn Kv? - bps; B: Ks - pi2; C: Tf.
- 18d 23h 14m (10-18) b: B: Hl Be - bp; A: IK TC; B: So Es Vl CF Eb Ci Mc Lu; C: St Aq - bps; A: Lg
- pi2; A: MB; B: Ni Cm Ma Pe Ks Tn; C: Hu.
- 20d 09h 18m (15-21) bp: B: Vi - bps; B: Ag - pi2; B: Te MI.
- 21d 23h 18m (10-28) bp: A: IK TC; B: So Es Vl CF Eb Ci Mc Lu; C: St Aq - bps; A: Lg
- pi2; A: MB; B: Ni Cm Ma Pe Ks Tn; C: Hu.
- 22d 10h 16m (15-17) bps: C: MI - pi2; A: Ac Tw; B: Tu Ho Gu To - (si: A: Me).
- 22d 21h 13m (12-15) bp: B: Bi - pi2; B: Ni.
- 22d 21h 31m (27-36) b: B: Sw - bp; A: Nu Od Tf; B: Le Mo Wi Ni Vl Be Cm Ma Db CF Lg
Aq Fb; C: Es Ha Pe - bps; A: Pr; B: Hl Wn Fd Hb Ae; C: Tl - (si: B: Tr).

TABLE 2a BAYS AND PULSATIONS 1964 - continued
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22d 22h 10m (05-15) bp: B: Su; C: Ir Kv?
 26d 03h 29m (24-36) b: A: SF; B: Es - bp: A: TC; B: Le Vl Ma Db Pr Fü CF Hb Lg Eb
 Pe SM Ae MB; C: Wn Ha - bps: C: Tl - pc4; B: Lu - pc4+pc5: A: Tw.
 26d 09h 06m (05-08) bp: B: To; C: Mb Ka Ky - bps: A: Ap Am; B: Sr - pi2: A: Ac; B: Ho
 - (ssc: B: PM).
 26d 09h 23m (20-25) bp: A: TC; C: Bi - pc5: B: Ci.
 26d 21h 20m (17-25) bp: B: Nu Kv? Ma CF Od Eb; C: Pe - bps: B: Lg - pi2: B: Wi Ni
 Aq.
 27d 18h 57m (50-66) bp: A: Nu Tf; B: Tk; C: Eb - bps: B: Bi - pi2: A: Ac; C: Es Cm -
 pc4: B: Lg - (ssc: A: Tr; B: Tn; C: St?).
 27d 19h 47m (45-48) bs: B: So - bp: B: Ma CF Hb Eb; C: Wn Kv? - pi2: A: Cm Lg Ac;
 B: Ni Aq Pe Bi.
 27d 20h 02m (02-03) b: B: Sw - bp: B: Kv? - pi2: A: Lg.
 27d 21h 15m (15-17) bp: B: CF - pi2: B: Ni Cm Aq Eb Pe.
 27d 22h 37m (28-39) bp: B: CF Bi - pi2: B: Ni Ma Aq Eb Pe - pc4: A: Lg.
 28d 02h 05m (04-05) bp: B: CF - pi2: B: Eb Pe.
 28d 17h 07m (00-12) b: A: Pe; C: TC Hr - bp: B: Mo Hl Od.
 28d 17h 25m (24-26) bp: C: KV? Mb Tl Ka Ky - pi2: B: Tk; C: Bi.
 29d 23h 46m (20-52) b: A: Nu SF LM; B: Sw Be Ak MB Tn? - bs: A: Wn Ni Pr Lg Aq
 IK Ks; B: Es Hl Wi Vl Ha Hb Eb Pe - bp: A: Tf Tk Tl; B: Mo Cm Kv?
 Fü CF Ae Kg; C: Hr - bps: A: Od; B: Le Ma Db MI - (si: B: Tr).
 30d 00h 12m (10-15) b: A: Su; B: Ir.
 30d 05h 01m (55-03) bp: B: CF - bps: A: Me; B: Ag - pi2: C: Hu - (si: B: LM).

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02d 22h 28m (23-31) bp: B: Vl Ma CF Lg; C: Eb - pi2: B: Cm Od Aq Pe MB Bi - (si:
 B: Tr).
 02d 22h 54m (53-54) bp: B: Lg; C: Eb - pi2: B: Aq.
 03d 11h 26m (16-40) b: B: Ir - bp: C: Ap DU - pi2: B: To; C: Mb Ka Ky.
 03d 18h 40m (31-48) bp: B: Wi CF Od IK - pi2: B: Cm Aq Tk Bi - pc4: B: Lg.
 03d 19h 05m (58-09) b: A: Ak; B: Sw - bp: A: Tf; B: Ma Hb Tk Tl Ae Qu; C: Wn Kv?
 Wk - pc4: C: Fr.
 04d 16h 07m (05-09) bp: C: Wh - pi2: C: Tf.
 04d 16h 59m (55-61) bp: B: CF IK Kg; C: Hb - pi2: C: Mb Ka Ky Bi - pc4: A: Lg; B: Qu.
 05d 01h 23m (18-27) bp: B: SM - pi2: B: MB Bi - pc4: B: Lg Lu.
 06d 08h 37m (37-38) bp: B: Ac; C: Bi.
 06d 20h 22m (15-28) b: A: Pe SF; B: Hl Sw Be Tn - bs: B: So - bp: A: Nu Wn Tf IK; B:
 Le Es Wi Ni Vl Ha Ma Db Pr Fü CF Od Tk Eb Ci Bi - bps: B: Hb Lg
 Tl Ae Ks - pi2: B: MB; C: Hu - (si: A: Tr).
 07d 11h 37m (35-42) bp: A: Am; B: DU - pi2: A: Ac; B: Mb Ka Ky Bi.
 07d 21h 11m (00-21) bp: B: Ma; C: Kv? Tf Tl - pi2: B: CF Bi - pc4: B: Lg.
 08d 01h 01m (50-06) b: A: Pe - bp: A: IK; B: Vl CF Lu; C: Kv? - bps: A: Lg Ci; B: Tl
 Ae Bi; C: Eb MB - (ssc: B: SM).
 08d 04h 20m (18-22) bp: A: Tw - pi2: A: Ac; C: Hu.
 08d 05h 02m (01-03) bp: B: Vi - bps: A: Me Ac; B: Hu.
 08d 19h 27m (22-30) b: A: Nu; B: Sw Be - bp: B: Wn Vl Pr Hb IK Kg; C: Kv? Tk.
 09d 05h 32m (30-33) bp: B: Hu - pi2: A: Ac; C: Fr.
 09d 21h 41m (28-50) bp: A: IK; B: Db - pi2: A: Ni MB Ac; B: Lg Aq Tk Eb Pe Qu Mc
 Lu; C: Fr - pc4: B: Bi.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
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09d	22h 09m	(00-15) b: B: Sw - bp; A: Nu; B: St Wn Wi Vl Be Ha Ma Pr Fü CF Hb Lg Mc; C: Ci - bps; A: Lg; B: Le Es Eb Tl Ae Bi; C: MB - pi2; C: Hu.
11d	20h 26m	(18-36) b: B: Sw - bp; C: Tf - pi2; B: Aq; C: Tk.
12d	21h 04m	(03-05) bp; A: Nu IK; B: Vl CF; C: Kv? Eb - pi2; A: Ni Cm Ha MB TnAc; B: Wi Su Ks.
12d	22h 27m	(24-30) bp; C: Kv? Eb - bps; B: Lg - pi2; B: Cm Tf MB Bi Lu.
12d	23h 26m	(25-28) bp; C: Es - pi2; B: Ks.
13d	16h 50m	(50) bp; A: Ir - pg; C: Fr.
13d	18h 36m	(30-41) bp; B: Ma CF; C: Wn - pi2; B: Ks Bi.
14d	01h 12m	(10-15) bp; A: TC - pi2; B: Eb Bi.
14d	05h 11m	(05-20) b: A: SJ - pi2; A: Ac; C: Fr - (ssc: C: Ag).
14d	17h 15m	(00-19) b: B: Be - bp; B: Wn Pr Hb Od Tf; C: Kv? Tk Wk - bps; B: Ks - pi2; B: Lu.
14d	20h 25m	(20-31) bs; B: Ks - bp; C: Kv? Bi.
15d	01h 17m	(08-30) b: A: SF; B: Sw - bp; B: Wn Vl Pr CF IK Ci Tl SM Ae Lu; C: Kv? Eb MB Bi.
15d	04h 44m	(44-45) bp; B: Tw - pi2; A: Ac.
15d	05h 07m	(00-12) b: A: Ci SF; B: MB - bs; B: Pr; C: Wn - bp; A: Te; B: Vl Eb T1SM Ae; C: Vi - bps; A: Me Va Ac; B: Ag Hu.
15d	23h 55m	(50-59) bp; C: Ha Kv? Eb - pi2; B: Od Aq Pe Bi - pc4; B: Lg.
16d	00h 23m	(20-26) bp; B: CF - pi2; B: Wi.
16d	10h 10m	(06-12) bp; B: To; C: Ap - pi2; A: Ac Am; B: Bi; C: Ho.
16d	13h 22m	(00-32) b: A: Eb Fr? SF MB LM; B: Sw - bs; A: Nu; B: Es - bp; A: Mb IK Ka Ky Gn DU; B: Wi Kv? Ma CF Ho PM Hr; C: Vi - bps; A: Od Ap Am; B: Le Mo Hl Vl Hb To Wk - pg; B: Bi? - (ssc: C: Ae - si; A: Tr).
16d	13h 55m	(50-60) b: A: Su - bp; B: Ir - pc4; C: Fr? - (si: B: Tl).
16d	20h 36m	(34-40) bp; A: Nu; B: Ma CF; C: Wn Kv? - pi2; A: Tf Ac; B: Cm Od Pe Bi - pg; B: Me - pc4; B: Mb Ka Ky - (ssc: A: Tr; B: So).
16d	21h 46m	(45-47) bp; B: Bi; C: Kv? - pi2; B: Eb Pe.
17d	01h 03m	(55-07) b: A: SF; B: Es - bp; B: Le Vl CF Eb Tl Ae MB Bi Hr; C: Kv? - pi2; C: Cm - (ssc: B: TC).
17d	08h 46m	(46-47) bp; C: Ap To.
17d	19h 10m	(10) bp; A: Ir; C: Kv?
18d	12h 06m	(05-07) bp; C: To - bps; B: Co Sr - pi2; B: Am; C: Ho.
19d	12h 09m	(05-16) bp; B: To - pi2; A: Gn; B: Mb Ka Ky; C: Ho Hu.
19s	12h 30m	(30) bp; C: Mb Ka Ky - pi2; B: Gu.
19d	16h 12m	(00-25) b: A: Pe; B: Hl Sw Be Hb - bp; A: Ir; B: Mo Wn Vl Ma Pr TC; C: Kv? Tf Wk.
19d	19h 04m	(00-07) b: A: Aq Pe; B: Sw - bs; B: Hl Be - bp; A: Nu Od IK; B: Le Mo Es Wi Ha Kv? Ma CF Eb SM Kg; C: Wk - bps; A: Wn Cm Pr Tf Ks Qu; B: Do Ni Vl Fü Hb Tl Ae - pi2; A: Ac; B: Bi - (ssc: B: So).
19d	19h 25m	(20-30) b: A: Su - bp; A: Ir.
20d	18h 01m	(59-05) b: B: Sw - bp; A: Nu; B: So Be CF Hb; C: Kv? - pi2; A: Tf Qu Ac; B: Cm Bi; C: Tk Eb.
20d	18d 19m	(19-20) bp; B: Vl; C: Wk.
20d	22h 33m	(27-40) b: B: Sw - bp; B: Wi Vl Kv? Ma CF Hb Aq Eb; C: St Ha Bi - pi2; B: Ni Cm IK.
21d	16h 08m	(03-12) b: B: Sw - bp; B: Be Ma CF Hb IK; C: Kv? Tk - pi2; B: Mb Ka Ky; C: Tf.

TABLE 2a BAYS AND PULSATIONS 1964 - continued
(DECEMBER)

21d 23h 48m	(45-51) bp: B: Hb; C: Kv? Eb - pi2: B: Ma Od Aq IK Bi; C: Tf - pc4: B: Lg.
22d 00h 27m	(19-30) bp: B: CF Hb IK Eb SM Ae; C: Wn Ha - bps: B: Ci.
22d 14h 10m	(10-11) bp: B: PM To - pi2: B: Mb Ka Ky.
22d 14h 30m	(26-35) bp: B: Ir; C: Tk.
22d 21h 49m	(45-54) bp: B: TC - pi2: A: Tf.
22d 22h 54m	(48-58) b: B: Sw - bp: A: Ci; B: Vl Ma Fü CF Hb Eb IK - bps: B: Lg-pi2: A: MB Ac; B: St Ni Aq Fr Mc Bi; C: Lu - pi2+pc4: C: Tw.
23d 21h 37m	(30-40) bp: A: Nu IK; B: Wn Vl Ma Pr Fü Hb Tf; C: Pe - bps: B: Lg Ks - pi2: B: St Ni Cm CF Aq Mc Lu; C: Tk - (si: B: Tr).
23d 22h 15m	(13-17) bp: B: Kv? - bps: B: Lg - pi2: A: Tn; B: CF Pe; C: Tk-pc4: B: Lu.
24d 19h 44m	(37-45) bp: B: Ma - pi2: A: Qu; B: Es St Cm Od Tk; C: Mb Ka Ky.
24d 20h 04m	(00-07) bs: B: So - bp: A: Nu; B: Vl CF Hb IK; C: Kv? Pe - bps: B: Lg Ks - pi2: A: Tk; B: Ni Ma Aq Eb Bi - (si: B: Tr).
24d 20h 32m	(30-35) bp: C: Pe - bps: B: Lg Ks - pi2: B: Cm Tk,
25d 13h 47m	(45-49) bp: B: Co Am - bps: B: To.
25d 20h 05m	(58-08) bp: B: Ma; C: Eb Mc - pi2: A: Tn; B: CF IK; C: Tf MB - pc4: B: Lg? - (ssc: B: Tr).
25d 21h 44m	(27-55) b: A: SF; B: Sw - bs: A: So Nu; B: Hl Kv? - bp: B: CF Su Si; C: Tf Mc - bps: A: St Lg IK; B: Le Es Wn Wi Vl Ma Pr Fü Hb Aq Tl Pe Ae Bi; C: Ha Eb - pi2: A: MB; B: Ni - (ssc: C: Tk).
25d 22h 57m	(55-60) bp: C: Tf - pi2: B: Bi; C: MB.
26d 13h 41m	(41) bp: C: Mb Ka Ky.
26d 14h 15m	(15) bp: B: Ir; C: Kv?
27d 23h 16m	(06-25) bp: B: So Nu Le Es St Ma Db Pr Fü CF Hb Aq IK Eb Ci TC Lu; C: Wn Ha Kv? Pe Mc Bi - bps: Vl Lg - pi2: A: Ni MB; B: Cm; C: Tf Fr Hu.
28d 16h 16m	(12-20) bps: B: Tl - pc4: C: Fr.
28d 18h 30m	(28-30) bps: B: Cm - pi2: A: Ni Qu Bi Tn; B: CF Aq Tk.
28d 19h 11m	(07-25) bp: B: Mo Vl Ma Od Su Aq IK Eb Pe; C: Ir Mc - bps: A: So Nu Wn Hb Tf; B: Do Le St Ni Hl Wi Kv? Db Pr Fü Ks Qu Kg - pi2: A: Tn; B: SM - (ssc: C: Tk - si: A: Lg; B: Sw Be).
29d 06h 39m	(24-49) bp: B: Vi Fr; C: Mb Ka Ky - bps: A: Ag - pi2: A: Ac; B: Si Tu Te Bi; C: Ho Hu Tw.
30d 00h 32m	(27-38) bp: C: Mc - pi2: B: Aq IK Eb Bi; C: Lu - pc4: B: Lg.

TABLE 2b BAYS AND PULSATIONS 1964

Commencement of pulsational disturbances (pi2) not associated with bays
(See remarks at the head of Table 2a)

JANUARY

- 01d 15h 30m (30) B: Tk Ss; C: Mb Ka Ky.
 02d 04h 08m (06-11) A: Te - (ssc: C: Vi).
 03d 07h 50m (48-53) B: TI - (ssc: B: TC).
 05d 03h 54m (54) C: Hu LQ.
 05d 16h 32m (32) B: TI LM.
 06d 01h 31m (30-33) B: Pi; C: MB.
 06d 21h 02m (02) B: Ma Lu.
 07d 17h 56m (54-58) B: TI LM; C: Tk.
 08d 22h 02m (02-03) B: TI - (ssc: B: So).
 10d 22h 49m (43-52) A: Ni; C: MB - (si: A: So).
 11d 17h 42m (42) B: TI; C: Ss.
 12d 14h 14m (10-15) A: Mb Ka Ky Gn; B: Ss To; C: Mc LQ Pi.
 12d 14h 48m (42-52) pi2: B: Tk Qu Bi; C: TI.
 12d 16h 47m (46-48) B: Tr Mb Tk Ka TI Ky Qu LM Gn; C: Cm Ss.
 13d 11h 56m (56) C: Ss Hu.
 13d 12h 16m (12-21) B: Am; C: To.
 13d 20h 08m (06-10) A: TI; B: Ma Aq; C: Cm Tk.
 14d 09h 59m (56-67) B: To; C: Ss Mc Hu LQ Pi.
 14d 11h 30m (30) C: LQ Pi.
 15d 13h 09m (08-10) B: Co Gn; C: TI Ss.
 15d 15h 10m (10-11) A: LM; B: TI Gn.
 15d 22h 25m (20-30) B: Od TI.
 15d 23h 46m (46-47) B: TI - (ssc: C: Ma).
 17d 22h 02m (00-05) B: Od; C: TI.
 18d 05h 22m (21-25) B: Pi Tw; C: LQ.
 19d 13h 40m (36-42) A: Mb Ka Ss Ky; B: Tk LQ LM Pi Gn To.
 19d 18h 29m (29-30) B: TI LM.
 19d 23h 24m (23-25) B: Eb Mc; C: TI.
 20d 03h 15m (15) C: LQ Pi.
 20d 18h 49m (48-51) A: St; B: Tk TI Qu; C: LM.
 20d 20h 00m (58-01) B: Es Ni Ma Od Lg Tk Eb TI LM; C: Cm Hu.
 20d 20h 33m (32-34) A: TI; B: Ni Ma Tk; C: Cm.
 21d 01h 24m (22-25) B: MB LQ LM Pi.
 21d 04h 57m (57) B: LQ Pi.
 21d 20h 48m (46-49) B: Ma Od Eb TI Qu Pi; C: LQ.
 22d 12h 21m (20-21) B: MB Hu LQ Pi Gn; C: To.
 22d 15h 19m (17-20) A: Tk; B: Od TI Qu Gn; C: Ss.
 23d 15h 05m (04-06) A: Mb Ka Ky LQ Pi Gn; B: TI Qu To; C: Ss LM.
 24d 13h 24m (23-24) C: Mb Ka Ss Ky.
 26d 21h 50m (50) B: Od; C: TI.
 27d 18h 28m (27-29) B: Tk TI LQ Pi; C: LM.
 28d 03h 33m (33) B: Pi; C: LQ.

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(JANUARY)

28d 04h 10m (09-12) B: LQ Pi; C: Hu.
 28d 04h 30m (30) C: MB - (ssc: C: Ag).
 28d 05h 19m (18-20) B: LQ Pi; C: Hu.
 28d 18h 10m (10-11) B: TI; C: Cm.
 28d 19h 03m (00-08) B: TI; C: Cm - (ssc: A: Tr).
 30d 15h 41m (36-42) C: Mb Ka TI Ss Ky.

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01d 02h 19m (18-20) A: Ac; B: Hu.
 01d 02h 36m (36-37) B: Bi - (pc4: C: Ac).
 01d 12h 44m (44-45) A: Bi - (pc4: B: Ni).
 02d 04h 36m (34-38) C: Hu - (pc4: C: Ac).
 03d 03h 02m (02) B: Hu - (pc4: B: Ac).
 03d 13h 04m (56-14) B: Mb Ka Ky Gn; C: Tk Ss - (pc4: C: Ac).
 04d 20h 12m (12-13) B: Qu Hu; C: TI - (ssc: B: Tr).
 04d 21h 19m (18-20) A: TI; C: Tf.
 07d 02h 24m (23-25) B: Bi Ac; C: Hu.
 08d 14h 12m (12) C: Mb Ka Ss Ky.
 09d 10h 02m (00-05) C: Ss Hu.
 10d 05h 03m (03-04) A: Ac; B: Hu.
 10d 07h 06m (02-10) A: Lg; C: TI.
 10d 14h 14m (12-16) B: Ac; C: Cm.
 10d 20h 21m (20-23) B: Ni Cm Tf Tk Ac; C: Hu - (ssc: A: Tr).
 11d 04h 52m (52) A: Ac; C: Hu.
 11d 11h 51m (47-56) A: Ac; C: Hu.
 11d 21h 40m (39-42) B: Ni Cm Od Ac; C: Ha Hu.
 12d 01h 35m (34-36) C: Hu Ac.
 13d 13h 46m (46) C: Mb Ka Ss Ky.
 14d 14h 47m (45-50) B: TI Bi.
 15d 07h 04m (03-06) B: Te; C: Hu - (pc4: C: Ac).
 15d 12h 30m (30) B: Ss To.
 16d 07h 16m (15-17) B: Te; C: Hu.
 17d 01h 49m (48-50) B: Ci; C: MB.
 17d 17h 10m (09-10) A: Ac; B: Tk LM; C: Mb Ka Ss Ky - (si: C: TI).
 18d 06h 05m (02-07) A: Te; B: Va; C: Hu.
 18d 12h 50m (50-51) B: Lu; C: Hu.
 18d 14h 20m (20) B: Gn; C: Ss.
 18d 14h 43m (42-44) C: Mb Tk Ka Ky.
 22d 02h 07m (05-11) C: MB Bi - pc4: B: LM).
 22d 02h 39m (38-40) A: MB; B: Bi.
 24d 07h 48m (45-52) A: Te; B: Ac.
 24d 08h 24m (23-26) B: Hu To.
 24d 12h 09m (08-10) B: To; C: Ss.
 24d 12h 52m (50-60) A: Mb Ka Ky Ac; B: Gn.

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(FEBRUARY)

24d 21h 05m (00-09) B: Tk Lu; C: TI.
 24d 22h 27m (27-28) B: Ni Bi Lu.
 25d 05h 29m (25-33) B: Te - (pc4: B: Ac).
 25d 17h 58m (58-59) B: CF - (si: A: So).
 26d 04h 57m (57) A: Ac - (ssc: C: Vi).
 26d 21h 52m (51-54) B: TI - (ssc: B: Tr).
 27d 08h 25m (21-30) B: TI - (pc4: B: LM).
 28d 12h 20m (20) C: Mb Ka Ss Ky.
 29d 01h 59m (47-69) B: CF Aq TI Hu Ac Tw; C: MB - (pc4: B: Ci LM).
 29d 02h 51m (46-56) B: TI Tw.
 29d 04h 46m (42-48) B: Tw; C: Hu - (pi2+pc4: A: Ac - pc4: B: LM).
 29d 08h 15m (15) A: Ac; C: Hu.
 29d 10h 16m (12-21) B: To; C: Hu.
 29d 23h 32m (32) B: MB Bi.

MARCH

01d 03h 30m (30-31) C: Hu - (pc4: B: Gn).
 01d 13h 58m (52-68) A: Bi; B: Te Mc; C: Ss - (pc4: C: LM).
 01d 16h 29m (26-32) B: Bi LM.
 01d 17h 16m (15-18) B: Bi; C: Es - (pc4: C: LM).
 02d 03h 05m (00-07) B: Bi Hu Ac; C: LM.
 02d 07h 32m (29-36) A: Ac; B: Bi To; C: Te Hu.
 02d 23h 24m (24-25) B: Ni MB - (pc4: A: Lg).
 03d 00h 03m (00-06) B: Ci MB Bi Tn - (pc4: C: LM).
 03d 19h 02m (00-03) A: Tk Ac; B: LM.
 04d 10h 46m (46) B: Mb Ka Ky.
 04d 12h 13m (13) A: Mb Ka Ky.
 05d 14h 07m (07) C: Mb Ka Ky.
 05d 22h 50m (49-51) B: CF Ac.
 06d 19h 05m (05-06) B: Od - (pc4: C: LM).
 06d 22h 30m (27-37) B: Ni Ha Od Eb; C: Tr Hu.
 06d 22h 55m (54-56) A: Lg; B: Ni; C: MB.
 07d 11h 21m (21-22) C: Mb Ka Ss Ky.
 08d 12h 44m (44-45) B: Mb Ka; C: Ss Ky.
 08d 21h 15m (14-17) B: Lg Eb.
 09d 10h 56m (56) B: Mb Ka Ky LM; C: Hu.
 09d 15h 27m (27-28) A: Ac; C: Ss.
 10d 01h 43m (40-45) B: Ac; C: MB Hu.
 10d 04h 14m (14-15) A: Ac; B: Hu.
 10d 13h 26m (25-27) B: Qu Gn; C: Ss.
 10d 16h 23m (22-24) C: Ss LM.
 12d 02h 14m (14-15) B: Hu; C: MB.
 12d 03h 25m (21-29) A: Ac; B: Hu.
 12d 23h 29m (24-34) B: Sr Od - (pc4: C: LM).

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(MARCH)

13d 02h 28m (27-29) B: CF Hu Tw - (pi2+pc4: B: Ac - pc4: B: LM).
 13d 18h 43m (42-45) B: Tf Tk - pc4: B: LM).
 14d 08h 44m (40-46) A: Lg - (ssc: C: Bi - si: B: Vl).
 15d 05h 46m (45-47) A: Ac; C: Hu.
 16d 09h 10m (09-12) B: Te; C: Hu.
 16d 20h 19m (19-20) B: CF; C: Mw.
 17d 00h 33m (30-40) A: LM; B: St Mc Ac.
 17d 00h 59m (58-60) B: Lg Aq Eb MB Bi Lu Hu.
 17d 03h 44m (44-45) B: Mb Hu.
 18d 05h 39m (39-40) C: Hu - (pi2+pc4: B: Ac).
 19d 12h 30m (27-33) B: Es Te.
 19d 21h 18m (16-21) B: Es Ma Od Lg Aq Tk Eb Bi Lu Ac - (pc4: B: Ks).
 20d 04h 31m (30-32) B: Hu Va LM.
 20d 07h 14m (10-17) A: Ac; B: Hu - (pc4: C: Lg).
 20d 11h 06m (06) A: Lg; B: Hu - (si: B: Bi).
 21d 23h 30m (30-31) B: CF; C: MB.
 22d 02h 54m (53-56) A: Ac; B: Bi; C: Hu - (ssc: B: Ag).
 23d 03h 05m (03-08) B: Te Ac.
 25d 03h 10m (09-12) B: Te; C: Hu.
 25d 13h 16m (16) C: Mb Ka Ky.
 26d 23h 33m (32-35) B: Od Bi.
 27d 19h 29m (27-30) B: Ni Od Tf Qu LM; C: Tr.
 27d 22h 48m (45-50) B: Aq Bi Lu.
 28d 13h 14m (14-15) B: Bi Lu.
 28d 17h 36m (34-37) B: Od Tk Qu Tn; C: LM.
 30d 04h 58m (56-60) B: Ac; C: Hu.
 31d 17h 20m (20-21) B: Qu; C: LM.

APRIL

01d 12h 11m (10-12) B: Mb Ka Ss Ky Bi - (ssc: A: Co; B: MI; C: To).
 01d 15h 05m (05) A: Mb Ka Ss Ky.
 02d 19h 08m (08-09) B: Ni; C: Cm.
 04d 01h 27m (27) B: Tw; C: Hu.
 05d 19h 27m (27-28) B: Qu; C: Tk.
 05d 20h 54m (54-55) B: LM; C: MB.
 07d 15h 07m (07) B: Mb Ka Ky.
 07d 16h 46m (43-48) A: Tk; B: IK Bi.
 07d 23h 40m (40) B: Bi; C: MB.
 08d 03h 24m (23-25) C: MB Hu - (pc4: A: LM).
 08d 19h 30m (30) B: Od Tk.
 09d 00h 19m (18-20) B: Pe MB Bi; C: Hu.
 09d 15h 06m (06) B: Tk Qu Gn.
 09d 19h 34m (33-36) B: Lg; C: Tf Tk.
 09d 23h 17m (15-20) B: St Lg IK MB Bi; C: Es Cm.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(APRIL)

10d 00h 18m (17-20) B: SM MB - pc4: B: Bi.
 10d 21h 45m (45-46) B: Bi - (pc4: B: Lg).
 11d 04h 13m (09-15) B: Bi - (ssc: B: Tr - pc4: B: Lg).
 13d 03h 12m (10-13) B: MB; C: Hu - (pc5: A: Tr).
 13d 04h 10m (10) B: Hu Tw.
 14d 21h 33m (32-35) B: St Ha Eb Bi Tn; C: Cm MB - (pc4: B: Qu LM; pc5: B: Aq Lu).
 15d 14h 45m (45) C: Mb Ka Ss Ky.
 16d 18h 15m (11-19) B: Cm Tf.
 17d 20h 17m (14-20) A: Lg; B: Bi - pc4: Tn).
 21d 01h 53m (50-56) B: CF; C: Hu.
 22d 21h 25m (23-26) B: Es St Od; C: Cm.
 22d 22h 25m (25) B: Bi; C: MB.
 23d 02h 29m (28-30) B: Bi; C: MB.
 23d 03h 49m (46-51) B: Od MB Tw; C: Hu.
 23d 18h 57m (54-60) C: Tk - (pc4: C: Tn).
 24d 16h 52m (52) C: Tk Ss.
 25d 18h 43m (42-45) B: Tk - (ssc: B: Tr).
 26d 16h 23m (23-24) B: Tk; C: Ss.
 29d 23h 05m (05-06) B: Cm CF Lg Bi.
 30d 09h 11m (10-12) B: MI - (pc4: B: Lg).
 30d 16h 48m (43-50) A: Ni Tk; B: Mb Ka Ky - (ssc: A: TC; C: Lg).

MAY

02d 02h 08m (06-09) B: CF Lg Aq Eb Bi Hu; C: Cm - (ssc: C: Ag).
 02d 05h 05m (00-10) B: Es - pc4: B: Lg).
 03d 07h 57m (55-60) B: Co Tu - (pc4: B: Es).
 03d 10h 25m (25) A: Am - (si: A: PB).
 04d 00h 41m (37-44) B: Es MB Bi Hu Tw; C: Fr.
 04d 08h 25m (25) B: Tu; C: Ho.
 04d 18h 00m (58-02) B: Od Tf Tk Gn; C: Mb Ka Ss Ky Hu To - (pc4: A: Qu).
 04d 18h 50m (49-50) B: Tk Bi; C: Hu - (pc4: A: Qu).
 04d 22h 45m (45-46) B: Od Bi.
 05d 05h 45m (40-50) B: Tu Te Hu.
 05d 08h 02m (00-05) B: Hu - (pc4: B: LM).
 05d 08h 42m (36-45) A: Te; B: Ho - (pc4: B: Lg).
 05d 18h 17m (15-18) B: Od Tf; C: Tk.
 07d 02h 38m (35-40) B: Fr SM Bi; C: MB.
 07d 03h 16m (15-18) B: SM Bi; C: MB Hu - (pc4: B: Ci Lu).
 09d 07h 15m (15-16) C: Te Hu.
 09d 14h 52m (49-60) B: Aq Tf Qu Bi Lu To; C: Cm Ss - (pc4: B: Lg).
 11d 21h 21m (12-22) B: Ni Ma Od Aq Eb Bi Lu; C: Cm Tf - (si: A: Tr).
 14d 05h 16m (12-19) B: Fr Te; C: Hu - (pc4: B: LM).
 15d 01h 16m (13-21) B: Pe; C: MB - (pc4: B: LM).
 17d 00h 51m (49-53) B: Pe MB Bi.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(MAY)

17d 13h 04m (02-06) B: Bi - (pc4: B: LM).
 19d 04h 00m (00) B: SM; C: MB.
 19d 22h 20m (19-21) B: Od Lu; C: Cm - (pc4: C: Fr).
 20d 01h 36m (35-37) B: Fr MB.
 20d 07h 32m (30-34) B: Tu; C: Hu.
 20d 08h 37m (30-40) A: Tf; B: Co; C: Ho.
 21d 01h 40m (35-45) A: Fr; B: St IK Eb MB Bi Lu Va; C: Pa Hu - (pc4: A: Ci; B:LM).
 21d 04h 00m (59-00) B: SM MB Hu Va; C: Te Pa - (pc4: B: Bi).
 21d 13h 26m (25-27) B: Co; C: Ss.
 22d 07h 00m (00) B: Fr Te; C: Hu.
 22d 11h 59m (58-60) C: Mb Ka Ss Ky Hu - (pc4: B: Lg).
 22d 20h 17m (12-22) B: CF Tf LM; C: Tk.
 22d 21h 23m (23) A: Lg; B: IK.
 22d 22h 10m (10-11) B: Lg Bi.
 23d 09h 22m (20-24) B: To - (pc4: B: Lg).
 23d 14h 10m (10) B: To; C: Hu.
 23d 23h 00m (00-01) A: Lg Bi; B: CF MB.
 25d 05h 50m (50-51) B: SJ Hu; C: Fr MB.
 27d 21h 40m (39-42) B: CF Od Lg Eb Bi; C: Cm - (si: B: Tr).
 29d 03h 45m (45) B: Tu; C: MB.
 29d 06h 07m (05-10) B: LM - (pc4: B: Bi).
 29d 12h 02m (57-05) B: Co To; C: Hu - pc4: C: Bi).
 29d 16h 12m (12) B: Od; C: Tk.
 29d 17h 18m (15-20) A: Tf; B: Lg Tk; C: Cm Mb Ka Ss Ky Bi.
 29d 22h 50m (49-50) B: CF MB - pc4: A: Lg).
 31d 02h 39m (35-40) B: MB LM; C: Fr Hu - (pc4: C: Bi).
 31d 06h 20m (20-21) C: Fr Hu.

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01d 03h 28m (21-38) B: MB Hu; C: Te - (si: B: Hl; C: DU - pc4: C: Bi).
 01d 21h 01m (57-08) A: St Ma Tn; B: Ni CF Od Aq Tk Eb MB Bi - (si: B: Tr - pc4:
 A: Lg Ci Lu).
 02d 03h 17m (15-18) B: MB Hu - (pc4: B: Ci).
 02d 06h 33m (27-35) A: Co Tu; B: Si Fr To; C: Te.
 02d 07h 01m (00-02) B: Ho Hu; C: MI.
 02d 12h 09m (06-12) B: Bi To.
 02d 13h 47m (45-50) B: Co Bi To - (si: B: Mo).
 03d 03h 29m (21-35) B: Eb SM IK MB Hu; C: Te - (pc4: A: Ci).
 03d 07h 38m (36-40) C: Te Hu.
 03d 09h 30m (30) A: Co; B: MI.
 03d 23h 49m (49-50) B: Lg MB.
 04d 15h 14m (05-18) A: Co?; B: Gn To; C: Ss Ky.
 05d 01h 37m (35-40) B: Bi; C: MB Hu.
 06d 03h 48m (42-51) B: Bi Hu; C: Tu Te - (pc4: A: SJ - pc5: B: Tr).

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(JUNE)

- 06d 04h 20m (20) C: MB Pa.
 08d 07h 24m (15-30) A: SJ; B: Fr Tu Ho Hu; C: Te - (pc4: C: Tf).
 09d 00h 10m (10-11) B: Bi - (pc4: C: Lg).
 09d 00h 30m (30) B: MB Va.
 09d 14h 43m (43-44) B: To; C: Ss.
 09d 15h 06m (05-10) B: Bi; C: Cm Mb Ka Ky Ho - (ssc: B: Nu).
 13d 06h 31m (30-33) B: Pe - (si: B: Ir).
 14d 03h 45m (40-48) B: Es CF Fr MB Bi Hu - (si: B: Vl).
 14d 21h 14m (13-15) B: Od Aq Eb MB Bi; C: Cm.
 15d 02h 02m (00-05) B: Hu - (pc4: C: Fr).
 15d 11h 01m (59-05) A: Co; B: MI; C: Ho.
 15d 21h 39m (35-40) A: Tf Fr; B: CF Pe MB.
 15d 23h 07m (05-08) A: Lg; B: Es MB Bi - pc4: B: Ci).
 15d 23h 33m (32-35) A: Lg; B: MB Bi Lu.
 16d 01h 00m (00) B: CF MB.
 17d 03h 10m (07-12) B: St SM MB Pa Bi Hu - (pc4: B: Ci Fr SJ Lu - pc5: B: Va).
 17d 04h 55m (55-56) B: MB Bi Hu.
 17d 21h 59m (55-62) C: Cm Bi - pc4: B: Lg).
 17d 23h 14m (10-15) B: Ni IK Eb Fr MB Bi; C: Cm.
 18d 00h 55m (55) B: Eb MB.
 19d 17h 22m (21-23) B: Ni Tf Tk.
 20d 14h 55m (55) B: Mb Ka Ky; C: Ss.
 23d 17h 18m (08-22) A: Tf; B: St Aq Tk Eb; C: Bi?
 24d 03h 31m (30-32) B: MB; C: Hu.
 25d 00h 05m (00-12) B: MB Bi - pc4: C: Lg).
 26d 00h 51m (50-53) B: MB Hu; C: Fr.
 27d 06h 00m (00) B: Hu; C: Tu Te - (ssc: C: Ag).
 27d 11h 09m (06-10) A: Co Si; B: Ho To MI; C: Ss.
 27d 15h 11m (08-12) B: Mb Ka Ky To; C: Ss - (ssc: B: TC).
 28d 03h 33m (30-40) B: MB; C: Bi Hu.
 28d 08h 18m (15-21) C: Tu Te.
 28d 09h 41m (41) B: To - (ssc: A: PB).
 28d 14h 39m (38-40) B: Mb Ka Ky; C: Ss Ho.
 29d 00h 15m (15) B: Bi; C: MB.
 30d 00h 55m (51-60) B: Od - (pc4: B: Tf).
 30d 21h 01m (00-03) B: Lg Aq MB Bi; C: Cm.
 30d 22h 56m (50-60) B: Lg IK MB Bi; C: Cm - (si: Hl).

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- 01d 00h 52m (50-54) A: Cm Lg Fr; B: Es St Ni Ha Od IK Eb MB Bi Hu Tw Mw; C: Pa - (pc4: A: Ci; B: SM Lu).
 01d 02h 52m (50-53) A: Ac; B: Es Ha Cm Lg MB Bi Hu Va To Tw; C: Pa.
 01d 07h 18m (15-20) A: Ac; C: Ho Te.
 01d 20h 07m (05-08) A: Cm; B: St Ni Od Lg Aq Eb Bi Lu; C: Ha Tk.

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(JULY)

- 01d 20h 58m (57-59) B: Bi; C: Tk.
 02d 01h 27m (26-28) B: Ac - pc4: B: Tw).
 02d 04h 35m (35) A: Ac - (pc4: C: Bi).
 02d 11h 17m (15-20) B: Si Od Bi MI; C: Ho - (pc4: C: Ac).
 02d 14h 14m (14-15) B: Ac; C: Bi.
 03d 00h 53m (50-55) B: Es IK Fr MB Bi Tw; C: Hu - (pc4: A: SJ; B: SM).
 03d 04h 32m (30-36) A: Ac; B: Es Fr Te MB Hu Tw; C: Pa.
 04d 20h 02m (00-06) A: Ha; B: Ni Cm Od Lg Aq Tk Bi; C: Eb.
 04d 21h 23m (22-24) A: Cm Bi; B: Ha Aq Lg.
 05d 09h 41m (41-42) A: Co; B: MI.
 05d 18h 34m (33-36) B: IK; C: Tk.
 06d 00h 02m (00-05) B: Od Bi.
 06d 01h 37m (35-39) B: Cm Ha Ma MB Bi.
 06d 20h 24m (23-25) B: Od Bi.
 08d 00h 54m (53-55) A: Ac; B: MB.
 08d 02h 27m (27-28) B: CF - (pi2+pc4: A: Ac - pc4+pc5: C: Tw).
 08d 04h 18m (18-19) B: CF - (si: B: Kn).
 08d 04h 52m (51-54) A: Ac - (si: B: Kn).
 09d 13h 46m (46) C: Mb Ka Ky.
 09d 16h 46m (42-51) B: To - (si: B: Lg).
 09d 17h 43m (35-50) A: Tf; B: Od - (si: B: TC).
 09d 18h 20m (20-21) A: Cm IK - (ssc: B: Tr - si: B: Bi).
 09d 19h 26m (26-27) A: Es Tf.
 10d 01h 37m (35-39) A: Ac; B: CF - pc4: B: Tw).
 11d 15h 34m (33-34) C: Mb Ka Ss Ky.
 11d 15h 49m (48-50) A: Ac; B: Aq To.
 12d 02h 24m (23-25) B: MB Ac.
 13d 08h 48m (45-52) B: Ac - pc4: B: Lg).
 14d 00h 55m (54-56) B: Od Ac.
 14d 13h 32m (32-33) B: To; C: Ss.
 15d 02h 00m (00-02) A: Ac; B: CF Od Aq Eb Fr MB; C: Hu - (pc4:A:SJ; B: Ci SM Lu).
 15d 02h 39m (38-40) A: Ac; B: MB.
 15d 04h 01m (00-02) B: Tu - (pc4: B: Lg).
 16d 04h 05m (00-15) A: Va Ac Am; B: Eb Fr MB Bi Hu; C: Ho Te - (pc4: A: SJ; B: SM - pc4+pc5: Tw).
 16d 21h 01m (00-03) B: Ni CF Lg Aq Tf Tk Eb Bi.
 16d 22h 43m (39-48) A: Lg Mc; B: Es Od Aq Tk IK Eb Pe Ks MB Bi - (pc4: A: Ci; B: Lu).
 17d 09h 20m (14-25) A: Ac; B: Tu; C: Ho - (pc4: B: Tw).
 17d 11h 48m (47-52) B: Hu; C: Mb Ka Ss Ky - (ssc: C: DU - pc4: A: Lg).
 18d 21h 00m (00) B: Si MB.
 19d 01h 51m (45-54) A: Ac; B: Ha Tw; C: Fr Hu.
 20d 01h 21m (20-22) A: Ac; B: Hu - (pc4+pc5: B: Tw).
 20d 23h 55m (52-58) B: Es Od Aq Bi.
 21d 00h 02m (00-05) B: IK Eb - pc4: B: Lg).

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(JULY)

21d 06h 57m (55-60) B: Ag Tu.
 21d 10h 49m (48-50) A: Co; B: Ho
 22d 03h 26m (25-28) A: Ac; B: Eb MB; C: Hu.
 22d 07h 02m (58-07) B: Ac Tw; C: Ho.
 22d 12h 58m (58) C: Mb Ka Ky.
 23d 00h 47m (43-51) B: Tw - (pc4: B: Ac).
 23d 08h 29m (29-30) B: Co; C: Ho - (pc4: A: Ac).
 24d 09h 00m (59-00) B: Co Ho - (pc4: B: Lg Ac).
 25d 04h 51m (50-52) A: AC; B: MB Te; C: Fr Hu - (pc4 + pc5: C: Tw).
 25d 13h 34m (34-35) C: Mb Ka Ss Ky Ho.
 26d 03h 30m (58-07) A: Ac; B: Lg Fr Tw; C: Cm Hu.
 26d 03h 59m (56-60) A: Ac; B: Lg MB Hu - (pc4: C: Tw).
 26d 05h 19m (15-21) A: Ac; B: Tw MB Hu - (pc4 + pc5: B: Tw).
 26d 06h 29m (29-30) A: Ac; B: Hu.
 26d 08h 08m (00-15) A: Te; B: Co Ho - (pc4: B: Tw).
 26d 14h 12m (10-14) B: Co; C: Ss - (pc4: B: Ac).
 26d 14h 50m (50) C: Mb Ka Ky.
 27d 02h 00m (00-01) B: MB Bi; C: Fr - (pc4: C: Tw - pc5: B: SM).
 27d 03h 23m (21-24) A: Ac; B: Bi; C: Hu - (pc4: A: Tw).
 27d 10h 11m (11-12) A: Co - pc5: B: MI).
 27d 10h 45m (45) B: Ho; C: Ss.
 27d 17h 18m (17-19) A: Ac; B: Cm Lg.
 27d 21h 43m (42-43) B: Cm Od Ac.
 28d 01h 01m (00-05) A: Ac; B: Lg SM MB Bi; C: Cm - pc4: B: Ci).
 28d 14h 42m (40-45) B: Bi Gn.
 28d 16h 03m (02-03) B: To; C: Mb Ka Ky.
 29d 00h 11m (10-14) B: Od Bi; C: Lg.
 29d 00h 59m (55-60) B: MB Bi; C: Fr Hu - (pc4: C: Lg).
 29d 02h 12m (10-14) B: MB Bi.
 29d 03h 59m (57-60) A: Ac; B: Bi; C: Te Hu - (pc4: A: SJ; C: Tw).
 29d 13h 21m (15-22) B: Mb Ka Ky; C: Ss - (pc5: C: Ho).
 30d 00h 07m (00-10) B: Es CF Lg Eb MB Bi - (pc4: B: Ac).
 30d 03h 44m (42-46) A: Ac - (pc4: B: Lg).
 30d 05h 15m (15-16) A: Ac; B: Fr.
 30d 19h 17m (17-19) B: Ni Pe Bi - (pc4: C: Tu).
 31d 01h 36m (36-37) A: Ac; B: Tw.
 31d 02h 24m (23-25) B: CF Pe.
 31d 11h 13m (10-16) A: Ac - (pc4: B: Lg).

AUGUST

01d 11h 22m (20-30) B: Ho Hu To; C: Mb Ka Ss Ky.
 01d 18h 27m (27-29) A: Tr; B: Tf Qu; C: Mb Tk Ka Ss Ky.
 02d 03h 46m (39-55) B: Te MB Bi Hu; C: Fr Tw - (pc4: A: Ac).
 02d 12h 20m (20) A: Co; C: Ho.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(AUGUST)

- 02d 13h 02m (02-03) A: Ac; B: Hu To; C: Mb Ka Ss Ky.
 02d 17h 01m (00-02) C: Cm Tk.
 03d 16h 03m (00-06) A: Ac; B: Ni Tf Tk Eb; C: Cm Mb Ka Ss Ky Hu - (pc4: B: Lg - pc5: A: Qu).
 03d 18h 34m (30-39) C: Tk - (si: C: Lg).
 05d 03h 09m (05-15) A: Ac; B: Bi Tw.
 05d 07h 29m (29-30) A: Ac Tw.
 08d 08h 16m (15-18) B: Tf Qu.
 09d 00h 27m (25-31) A: Ac Tw; B: Fr - (pc4: B: SM).
 09d 03h 05m (00-10) B: Od MB.
 10d 01h 02m (00-04) A: Ac Tw; B: Fr.
 10d 03h 15m (10-20) B: MB - (pc4: B: Lg).
 10d 05h 16m (15-18) A: Ac Tw; B: Si Tu Hu.
 10d 06h 31m (30-32) A: Ac; B: Hu; C: Ho.
 10d 17h 52m (50-56) A: Tf; B: Wi Ni Tk Pe Bi Hu - (pc4: A: Tr; B: Lg Qu).
 10d 23h 49m (45-55) A: Ac; B: Ni CF Lu - (si: C: Cm - pc4: B: Lg).
 11d 02h 05m (01-09) B: Bi - (si: B: Tr).
 11d 02h 36m (35-38) A: Ac; C: Fr.
 11d 05h 29m (26-32) A: Ac - (pc\$: A: Lg).
 11d 14h 38m (38) C: Mb Ka Ky.
 11d 21h 45m (45) B: CF Bi.
 11d 22h 02m (56-06) B: CF Lg; C: Fr.
 13d 00h 11m (10-12) A: Ac; B: Ma MB.
 13d 01h 42m (40-45) A: Ac; B: MB; C: Tw.
 13d 15h 24m (24-25) A: Ac; B: Bi.
 13d 21h 21m (16-25) B: Od Eb Bi - (pc4: B: Lg).
 14d 09h 00m (00-01) A: Co; B: Tu Hu MI; C: Ho - (pc4: C: Tw).
 14d 20h 07m (53-17) A: Es Lg Pe; B: Ni Ma CF Od Aq IK Eb MB Bi; C: Cm.
 14d 20h 35m (33-36) A: Lg; B: Ni CF MB.
 15d 03h 49m (47-52) B: Hu Tw.
 15d 14h 00m (58-00) A: Ac; B: Co Gn To MI; C: Mb Tk Ka Ss Ky.
 15d 19h 13m (10-20) A: St Ni Cm Tf Qu Ac; B: Do Es Ha Ma Lg Tk Eb Bi Hu Gn; C: Ho - (ssc: B: Do).
 15d 19h 52m (49-54) A: Ni Cm Lg; B: CF Aq Hu - (ssc: B: Tr).
 15d 20h 36m (33-40) C: Lg MB.
 16d 16h 12m (10-15) B: Ma Tf Bi Gn; C: Tk - (pc4: A: Ac).
 16d 16h 25m (25) C: Mb Ka Ky.
 16d 21h 23m (18-25) B: Ni Ma Od Aq Tf Eb MB - (pc4: B: Bi).
 16d 23h 42m (40-45) B: Fr MB.
 17d 03h 19m (18-20) A: Ac; B: Ma Eb MB Hu - (pc4: B: Bi Tw).
 17d 15h 42m (40-48) B: Qu Gn To; C: Tk Ss.
 18d 00h 16m (13-22) A: St Lg; B: Es Ni Ha Ma CF Od Aq IK Eb MB Bi Lu; C: Fr - (pc4: B: Ci SM).
 18d 02h 05m (00-10) B: MB; C: Hu.
 18d 22h 19m (18-20) B: MB Bi.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(AUGUST)

19d 04h 01m	(00-03) A: Ac; B: MB Hu; C: Fr.
19d 06h 05m	(00-07) A: Tu Ac; B: Ho Hu; C: MB Tw - (pc4: A: SJ).
19d 15h 40m	(36-42) A: Qu Tn; B: Tk Gn; C: Tf.
19d 22h 37m	(34-40) B: Bi; C: Lg.
20d 15h 16m	(15-17) B: Tf; C: Tk
20d 15h 40m	(40-42) B: Gn; C: Mb Ka Ss Ky.
20d 19h 49m	(48-50) C: Tk Hu.
21d 03h 02m	(00-04) A: Ac; B: Tw; C: Fr Hu.
21d 03h 20m	(15-25) B: Bi; C: Te.
21d 23h 55m	(51-60) B: Fr - (pc4: B: Lg).
22d 00h 32m	(28-35) A: Ac; B: Es Eb MB - (pc4: A: Lg; B: Ci Bi).
22d 10h 34m	(30-39) A: Ac; B: MB Hu Tw.
22d 09h 05m	(05) B: Si? Ho.
22d 09h 33m	(30-35) A: Tu Ac; B: Tw - (pc4: A: Lg).
22d 17h 24m	(24) B: Tk Tn - (si: B: Lg).
23d 00h 49m	(44-52) A: Ac; B: Lg Aq MB Bi Lu.
23d 01h 29m	(28-30) B: MB Bi; C: Lg Hu.
23d 08h 41m	(40-43) C: Ho Te MI.
23d 14h 44m	(37-50) B: Ma Bi Hu; C: Tf - (pc4: B: Lg).
23d 23h 14m	(10-16) A: Tr Fr Ac; B: Cm Od Bi - (pc4: C: Lg).
23d 23h 59m	(59-60) A: MB; B: Bi.
24d 14h 42m	(30-45) A: Gn Ac; B: Co Tk Ss MB Gu Hu MI; C: Mb Tf Ka Ky - (pc4: C: Tf).
24d 15h 21m	(20-23) B: Ma Tk MB Hu; C: Mb Ka Ky.
24d 19h 10m	(09-12) B: Od Bi - (pc4: B: Lg).
25d 02h 19m	(15-20) A: Fr MB; B: Aq Bi Hu Tw; C: Eb Te - (pc4: B: Lg Ci Lu - pc5+ pc4: A: Ac).
25d 03h 20m	(15-25) B: Hu; C: Te.
26d 03h 01m	(00-03) B: Hu; C: Eb.
26d 17h 03m	(00-06) B: Tf Tk.
27d 02h 43m	(41-45) A: Ac; B: MB Bi Hu.
28d 08h 04m	(03-05) C: Ho MI.
28d 11h 59m	(55-61) A: Co; B: To; C: MI.
28d 12h 37m	(35-41) A: Am; B: Ho; C: Mb Ka Ky.
28d 23h 59m	(58-60) B: Bi; C: MB.
30d 05h 24m	(20-25) A: Ac; B: Bi Hu; C: Fr Tu Ho Te.
30d 12h 26m	(26) C: Mb Ka Ky.
30d 15h 29m	(26-32) B: Bi - (pc4: C: Lg).
31d 02h 56m	(56-57) A: Ac; C: Hu.
31d 10h 10m	(10) A: Si?; B: Ho.
31d 19h 35m	(35-36) A: Tf - (ssc: A: Tr).
31d 19h 48m	(48-49) B: Ni; C: Cm.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

SEPTEMBER

02d 02h 44m (43-45) A: Ac; B: Hu Tw; C: Fr.
 02d 06h 26m (25-28) C: Fr - (si: Hl).
 02d 07h 00m (00-01) A: Co; C: MI.
 02d 09h 22m (19-25) B: Si; C: MI.
 02d 13h 04m (04) C: Mb Ka Ss Ky.
 03d 06h 11m (06-15) A: Ac Tw; B: Si Hu; C: Fr.
 03d 07h 14m (13-15) A: Co Ac; C: Ho.
 03d 14h 17m (17-18) B: Bi - (pc5: B: SM).
 04d 02h 08m (05-11) B: Eb MB Tw - (pc4: B: Bi Ac; C: Lg).
 04d 02h 56m (55-58) A: Ac; B: MB; C: Hu.
 04d 04h 00m (58-03) A: Ac; B: MB - (pc4: B: Bi - pc5: B: Tr).
 04d 13h 50m (50) C: Mb Ka Ky.
 05d 00h 07m (00-13) B: Bi; C: Fr Te MB.
 05d 00h 34m (33-35) A: Ac; B: MB.
 05d 23h 12m (00-19) B: St Cm Ha Ma Od Aq IK Eb Mc Bi; C: Tf - (pc4: B: Ni Lg).
 06d 00h 08m (07-10) B: MB Bi.
 06d 03h 49m (48-50) A: Ac; C: Fr Bi.
 06d 04h 48m (45-49) A: Ac; B: Tu Hu Tw.
 07d 06h 30m (30) A: Ac; B: Si Hu; C: Fr.
 08d 12h 44m (44) B: Mb Ka Ss Ky.
 08d 22h 46m (46-47) B: Eb MB.
 09d 12h 01m (00-04) A: Mb Ka Ky; B: Ss Bi.
 09d 20h 52m (47-54) A: Lg; B: Ni Cm CF Aq.
 10d 18h 30m (30-32) B: Lg Bi; C: Cm - (ssc: B: Tr).
 11d 00h 11m (10-15) A: Ac; B: MB; C: Bi Tw.
 11d 21h 19m (16-21) B: Ni Cm Od Aq MB; C: Fr Bi.
 12d 02h 31m (30-33) A: Ac; B: MB Bi - (pc4: B: Tw).
 12d 16h 03m (58-07) B: Gn To - (pc4: C: Lg).
 12d 17h 58m (54-63) A: Tf; B: Tk Tn - (pc%: A: Tr).
 12d 22h 55m (55) B: Od MB Bi.
 13d 09h 15m (13-19) A: Am; B: Ho To; C: Bi.
 13d 18h 51m (50-52) B: Ni Od; C: Cm Hu - (pc4: A: Ac).
 13d 19h 05m (04-06) B: Tk Tn Gn; C: Bi.
 14d 22h 09m (06-10) A: Mc; B: Cm Od Aq Eb MB Bi; C: Fr - (pc4: B: Lg Lu Gu).
 14d 22h 26m (25-28) B: MB Tn.
 15d 17h 53m (52-55) A: Tk Ac; B: Ni Cm Od Gn; C: Mb Ka Ky Bi.
 15d 19h 25m (24-25) B: Cm Tk; C: Bi.
 16d 03h 09m (00-16) B: Fr MB; C: Te Hu - (ssc: B: Sr; C: Ir - pc4: A: Ac; B: SM Va - pc4 + pc5: B: Tw).
 16d 08h 28m (24-32) B: Si Te.
 16d 15h 46m (46) C: Mb Ka Ss Ky.
 17d 08h 20m (20) A: Ac; C: Ho.
 17d 09h 39m (30-48) A: Tf; B: Cm Od Bi; C: Tk.
 17d 23h 19m (19-20) B: MB Bi.

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(SEPTEMBER)

18d 07h 00m (00) A: Co; B: Tu Ho Tw - (pc4: B: Tf).
 18d 14h 06m (04-12) B: Mb Tk Ka Ky Gn To; C: Ss.
 18d 16h 41m (40-42) B: Tk; C: Cm Mb Tf Ka Ss Ky.
 18d 18h 25m (24-27) B: Tf Tk.
 18d 23h 18m (15-20) B: Ma MB Bi; C: Cm.
 19d 03h 23m (18-25) A: Ac; B: Fr Tw; C: Te Bi.
 19d 04h 27m (25-30) B: Tu Ho MB.
 20d 05h 21m (18-25) C: Te Hu - (pc4: A: Ac).
 20d 11h 44m (40-46) A: Co; B: Cm Ma Lg Eb Ho Gu Bi Hu Tn Gn To Am; C: Mb Ka Ss Ky - (pc4: B: Ni - pi2+pc4: A: Ac).
 20d 15h 55m (54-55) B: Tk Gn.
 20d 20h 55m (52-57) B: Cm Ma Aq Eb Fr MB Mc Bi Tn; C: Hu - (si: B: Es Tl - pc4: B: Lg).
 21d 04h 33m (30-38) B: Tu; C: Fr Hu Tw.
 21d 05h 32m (30-35) B: Te Hu.
 21d 20h 29m (29-30) B: Bi; C: Cm.
 22d 07h 25m (21-30) B: Bi - (si: B: Tn).
 22d 18h 00m (00) B: Tk - (pc5: B: Co?).
 23d 00h 40m (39-41) B: Eb MB; C: Hu - pc4: A: Ac; B: Bi).
 23d 06h 50m (50) B: Tu Ho; C: Hu.
 24d 03h 18m (10-23) B: MB; C: Hu - (pc4: B: Bi).
 24d 03h 45m (35-52) A: Lg; B: Ni Aq Eb? Pe MB Bi To.
 25d 03h 27m (26-28) A: Ac - (pc4: B: Bi).
 25d 12h 47m (46-48) B: Bi Hu; C: Mb Ka Ss Ky - (pc4: B: MI).
 25d 22h 23m (22-25) A: Mc; B: Ma.
 25d 22h 47m (38-61) A: MB Ac; B: Cm CF Aq Tk IK Eb Fr Pe Lu; C: Te - (pc4: B: Tr Lg Gu - pc5: B: SM - pc4+pc5: C: Tw).
 26d 00h 49m (47-50) B: MB Bi - (pc4+pc5: B: Tw).
 26d 18h 13m (06-18) B: Cm Od Tk Bi.
 26d 22h 20m (15-34) A: Cm Ac; B: Es Od MB Bi.
 27d 05h 40m (30-46) A: Ac; B: Tu Te Bi; C: Fr - (pc4+pc5: B: Tw).
 27d 15h 59m (53-61) C: Mb Ka Ky - (ssc: C: Tl).
 27d 20h 53m (50-55) B: Aq Eb Ks Bi; C: Cm - (pc4: B: Lg - pc5: C: MB).
 28d 01h 06m (00-15) A: Ac; B: Fr Pe Tw - (pc4: B: Bi).
 28d 08h 37m (35-39) A: Am; B: Ho.
 30d 04h 30m (30) B: Ho; C: Fr.

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01d 06h 54m (52-55) A: Te Ac Tw; B: Si Tu Hu; C: Fr Ho.
 01d 11h 26m (26-27) B: Hu; C: Mb Ka Ky.
 01d 14h 07m (07) B: To; C: Mb Ka Ky.
 02d 15h 19m (19-20) A: Ac; B: Cm Tk Gn; C: Mb Ka Ky.
 03d 00h 40m (40-41) B: Bi; C: Fr.
 03d 11h 28m (27-30) A: Ac; B: To; C: Mb Ka Ky Ho Hu - (ssc: B: Bi).
 04d 00h 59m (58-60) B: Bi - (pc4: B: Tf).

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(OCTOBER)

04d 03h 39m	(39-40)	A: Ac; B: Tw.
05d 04h 56m	(52-61)	A: Ac Tw.
05d 06h 37m	(32-42)	A: Ks; C: Hu.
06d 14h 32m	(32)	C: Mb Ka Ky.
07d 01h 34m	(33-36)	A: Ac; C: Hu.
08d 00h 02m	(00-05)	A: Ac; C: Hu.
08d 02h 26m	(26-27)	B: Ac - (pi2+pc4: B: Tw).
08d 06h 36m	(32-41)	A: Co Ac.
08d 15h 23m	(23)	C: Mb Ka Ky.
09d 18h 34m	(34)	B: Od Qu.
09d 23h 55m	(50-60)	B: Bi; C: Hu.
10d 00h 27m	(25-30)	A: Ac; C: Fr - (pi2+pc4: B: Tw).
10d 09h 12m	(11-12)	B: Si Hu MI.
10d 09h 37m	(35-40)	B: To; C: Ho - (pc4: A: Bi).
10d 12h 16m	(16-17)	A: Co; B: Mb Ka Ky MI.
10d 15h 22m	(20-24)	B: Tk - (pc4: B: Qu).
11d 06h 14m	(12-16)	A: Ac; B: Tu; C: Hu.
11d 07h 17m	(13-19)	A: Ac; B: Bi; C: Hu.
11d 14h 29m	(27-30)	A: Gn; B: Gu Bi To MI; C: Mb Ka Ky - (pc4: B: Qu).
12d 05h 51m	(50-52)	B: Hu; C: Tu - (pc4: A: Ac).
12d 06h 27m	(16-34)	B: Si Te; C: Fr Ho - (pc4+pc5: A: Tw).
12d 10h 00m	(00)	C: Hu - (ssc: A: Tr).
15d 01h 11m	(10-11)	A: Lg; B: CF Pe Mc Lu Ac.
15d 06h 55m	(54-57)	A: Co; B: Tu Ho - (pc4: A: Ac).
16d 13h 55m	(55)	B: Gn; C: Hu.
16d 14h 26m	(23-27)	A: Ac; B: Od Mb Tk Ka Ky Qu.
16d 16h 54m	(52-56)	A: Ac; B: Ma Tf Tk Qu.
16d 20h 03m	(00-05)	B: Cm Od.
16d 20h 58m	(51-63)	B: St CF Aq IK Eb Bi Hu Tn - (pc4: B: Ni Lg Qu).
17d 03h 08m	(06-10)	A: Ac; B: Bi; C: Fr Hu.
18d 11h 50m	(50)	B: To; C: Si.
18d 14h 16m	(16-17)	B: Mb Ka Ky Bi To.
20d 15h 36m	(36)	C: Mb Ka Ky.
21d 00h 38m	(34-40)	A: Lg Ac; B: CF SM.
22d 10h 59m	(50-70)	B: Co; C: Hu - (pc4: B: Tw; C: Bi).
22d 15h 30m	(30)	B: Hu - (pc4: B: Ac).
22d 21h 48m	(48-49)	A: Tr; B: Bi.
23d 18h 50m	(48-51)	B: Tf Bi - (si: C: Mw).
24d 07h 03m	(00-05)	A: Ac; C: Tu Te.
24d 07h 40m	(40-41)	A: Am; B: Ho Bi.
24d 18h 53m	(50-55)	B: Tf Bi; C: Cm - (pc5: B: Co).
25d 09h 36m	(36)	A: Co; B: Te.
25d 09h 50m	(50-51)	C: Ho To.
25d 13h 05m	(03-07)	A: Gu Ac; B: Co Mb Ka Ky Bi Gn; C: Ho.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(OCTOBER)

- 25d 13h 52m (52) C: Mb Ka Ky.
 25d 21h 03m (55-18) A: Tf; B: St Ni Ma CF Od Tk Eb Bi Tn Ac; C: Cm Hu - (pc4: A: Qu; B: Lg).
 26d 02h 18m (10-24) A: Ac; B: Lg Fr Pe Bi.
 26d 03h 13m (12-15) A: Ac; B: Te Hu; C: Tu.
 27d 02h 43m (42-44) A: Ac; B: Bi.
 28d 09h 35m (30-38) B: To; C: Si - (pc4+pc5: B: Tw).
 28d 10h 17m (15-20) B: Tu Ho Am.
 28d 13h 31m (30-32) A: Ac; B: To; C: Mb Ka Ky.
 28d 18h 22m (20-24) A: Fr; B: Od Bi.
 29d 12h 46m (45-46) C: Mb Ka Ky Ho.
 30d 10h 56m (50-66) B: Te Bi Hu To; C: Mb Ka Ky - (pc4: A: Ac; B: Tu Ho Am Tw).
 30d 23h 14m (09-17) B: Od Aq Eb Pe Bi; C: Cm.
 31d 09h 18m (15-22) B: Bi Hu To MI; C: Ho - (pc4: B: Am).
 31d 12h 42m (36-50) A: Hu; B: Te - (pc4: B: Fr).

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- 04d 02h 48m (44-58) A: Ac; B: Tu MB Hu - (pc4: B: Bi - pi2+pc4: B: Tw).
 04d 21h 31m (30-33) B: Od Bi; C: Cm.
 05d 21h 54m (51-57) B: Bi - (si: B: Sr).
 06d 11h 34m (30-38) B: Hu; C: Bi.
 06d 17h 08m (06-11) B: Bi; C: Te.
 06d 17h 48m (47-49) A: Ac; B: Tk Gn.
 07d 13h 43m (41-43) A: Co Ac; B: Gn To MI; C: Mb Ka Ky.
 07d 17h 07m (06-08) B: Tf Gn.
 08d 14h 50m (50) B: Gn; C: Mb Ka Ky.
 09d 03h 38m (35-41) B: Bi; C: Eb - pc4: B: Lg).
 10d 08h 01m (00-04) B: Si Tu Te To; C: Ho Hu.
 10d 08h 33m (33) A: Ac; C: Hu.
 10d 12h 00m (00) B: Co; C: Hu.
 10d 18h 15m (10-22) B: Od Tk Bi; C: Hu.
 11d 08h 03m (00-05) A: Co; B: Te Bi Am; C: Ho - (pc4: C: Tf).
 11d 18h 09m (05-12) A: Tn; B: Es Ni Cm Ha Aq Tf Tk Bi.
 11d 18h 27m (23-32) A: Tn Ac; B: Ni Tk.
 12d 13h 51m (50-55) A: Gn; B: To; C: Mb Ka Ky.
 13d 02h 07m (00-15) A: Fr Ac Tw; B: Eb Bi; C: Hu.
 13d 02h 54m (52-62) A: Ac; B: Lg SM MB Bi; C: Hu - (pc5: B: MI).
 14d 15h 13m (08-16) A: Tk Gn Ac; B: Co Od Mb Ka Ky To.
 15d 02h 21m (20-22) B: Fr; C: Bi.
 15d 03h 29m (28-30) A: Hu Ac Tw; B: SM Bi.
 15d 13h 48m (47-50) A: Fr - (si: B: DU).
 16d 06h 17m (12-22) B: Te; C: Hu - (si: Hl).
 16d 18h 54m (50-58) B: Od Bi.
 17d 09h 43m (42-45) A: Ac; B: MI; C: Si Ho Hu.
 18d 11h 13m (01-18) B: Gu To MI; C: Mb Ka Ky Bi - (pc4: B: Tw).
 18d 16h 07m (06-08) B: Tk Gn.

TABLE 2b BAYS AND PULSATIONS 1964 - continued
(NOVEMBER)

18d 18h 22m (21-24) B: Bi; C: Tf.
 18d 21h 15m (15-16) B: Eb Bi.
 19d 07h 48m (46-50) B: Od Bi; C: Tk.
 19d 19h 11m (10-12) A: Tf - (pc4: C: Fr).
 19d 20h 10m (09-12) B: Tf; C: Tk.
 20d 01h 49m (43-57) B: Lg? Bi; C: Eb.
 20d 20h 49m (48-52) B: St Ni Cm Od Aq Tk; C: Tf Hu - (ssc: B: So - pc4: B: Lg).
 21d 12h 33m (24-38) B: Ma Eb; C: Cm - (si: A: TC - pc4: B: Ac).
 21d 18h 03m (00-10) B: Tn; C: Tf - (pc5: B: SM).
 22d 02h 20m (15-24) A: Ac; B: Eb; C: Fr Hu - (pc4: B: Lg).
 24d 11h 12m (11-12) A: Es; B: St; C: Bi.
 24d 23h 06m (59-12) B: Od Aq IK Eb Pe; C: Cm - (pc4: A:Lg; B:Ci Bi Lu-pc5: A: Tr).
 25d 15h 50m (48-55) B: Gn To; C: Mb Ka Ky - (si: B: Lg SM).
 26d 03h 07m (00-10) A: Ac; B: Te Bi Hu; C: Fr - (ssc: C: Ag - pc5: A: Va).
 26d 08h 50m (50) B: Gn To.
 26d 21h 00m (59-01) B: Lg; C: Cm.
 27d 18h 23m (23) A: Ac; C: Tk.
 28d 12h 09m (08-10) A: Ac; C: Ho.
 28d 12h 30m (30) A: Mb Ka Ky; B: To.
 28d 16h 08m (08) B: Gn; C: Mb Ka Ky.
 29d 22h 45m (41-50) C: Hu - (ssc: C: TC).
 30d 19h 53m (51-54) A: Tf; B: Od - (pc4: A: Tr).

DECEMBER

01d 00h 17m (17) B: MB Bi.
 01d 05h 49m (45-52) B: Te; C: Hu - (pc4: A: Ac).
 01d 13h 07m (00-10) C: Mb Ka Ky - (pc4: C: Fr).
 02d 07h 20m (19-21) B: Co Tu To; C: Ho Te Hu.
 03d 04h 25m (24-26) A: Ac; C: MB Hu.
 04d 10h 29m (26-32) B: Si To; C: Te Hu - (pc4: A: Ac).
 04d 11h 38m (38) C: Mb Ka Ky.
 04d 13h 08m (06-15) B: SM; C: Mb Ka Ky.
 04d 16h 31m (30-33) B: Tk Gn.
 05d 00h 12m (09-14) B: Tr; C: Ha Bi.
 05d 01h 14m (10-18) B: MB - (pc4: B: Lu).
 05d 09h 36m (35-37) B: To; C: Te.
 05d 09h 51m (50-52) C: Si Hu.
 05d 15h 41m (37-43) B: Tk Gn - (pc4: B: Qu Ac).
 05d 16h 05m (05) C: Mb Ka Ky.
 06d 01h 29m (29-30) B: SM - (pc4: B: Bi).
 06d 06h 49m (49-50) A: Ac; C: Hu.
 06d 09h 42m (40-46) C: Te Bi - (ssc: B: Ag; C: Kv).
 07d 10h 13m (05-15) A: Gu Ac; B: Si Ho Bi To.
 09d 07h 25m (25-26) A: Ac; C: Hu.
 10d 18h 05m (05) B: Od; C: Bi.
 10d 19h 05m (00-10) C: Fr Hu.

TABLE 2b BAYS AND PULSATIONS 1964 - continued

(DECEMBER)

- 10d 20h 25m (25) B: Ks; C: Bi.
 11d 07h 59m (55-70) B: Co Bi Ac To; C: Ho Te - (pc4: B: Am).
 11d 13h 11m (10-14) B: Co Gn To.
 11d 13h 32m (32) C: Mb Ka Ky.
 11d 20h 04m (04-05) B: Od; C: Bi.
 12d 04h 06m (05-07) B: Tw; C: Hu - (pc4: B: Ac).
 12d 11h 31m (23-40) A: Co Ac; B: Gu Gn To; C: Hu.
 12d 11h 52m (52-54) B: Bi; C: Mb Ka Ky.
 12d 13h 15m (15-18) A: Ac; B: Co Aq Tk; C: Mb Ka Ky - (pc4: B: Lu).
 12d 20h 43m (30-50) A: Tf Lu Tn; B: Tr St Aq Tk Eb Pe Qu Mc Bi Hu Tw - (pc4:B: Lg.).
 13d 10h 15m (15-16) B: Hu To; C: Si - (pc4: C: Lu).
 13d 19h 16m (15-18) B: CF - (si: B: Va).
 14d 14h 46m (42-50) B: Te Bi.
 14d 16h 46m (45-48) B: Tk; C: Mb Ka Ky.
 15d 19h 09m (09-10) A: Tf; C: Tk.
 16d 09h 33m (28-40) B: Si Te Hu.
 16d 21h 33m (33-34) A: Tf; C: Cm.
 17d 01h 42m (40-44) B: Ma Pe.
 17d 17h 49m (44-52) B: Od Eb Qu Bi; C: Cm.
 19d 18h 41m (41) C: Mb Ka Ky.
 20d 09h 38m (36-40) B: To; C: Si Hu.
 20d 09h 52m (52) A: Ac; C: Mb Ka Ky.
 22d 04h 50m (50) A: Ac; B: Ag Fr.
 22d 10h 22m (20-29) A: Ac; B: To Am Tw; C: Si Ho.
 22d 20h 41m (39-45) B: Ni Od Aq - (pc4: B: Qu).
 23d 04h 02m (00-03) A: Fr Ac Tw; B: Ag.
 24d 12h 09m (00-11) B: Sr Gu To; C: Mb Ka Ky Ho.
 24d 14h 58m (51-60) A: Qu; B: Mb Tk Ka Ky; C: Ho.
 25d 18h 06m (00-08) A: Tn; B: Od Aq Tk; C: Mb Tf Ka Ky Bi.
 25d 19h 47m (40-49) A: Ni; B: Es Aq Tk Bi - (si: B: Lg).
 25d 22h 09m (04-12) A: Tn; B: Lg Pe.
 27d 09h 43m (40-50) B: Aq SM; C: Hu.
 27d 17h 08m (00-18) B: Od; C: Tf Tk - (pc4: B: Qu Tw).
 28d 18h 07m (02-12) B: Mc - (si: A: Tr).
 28d 18h 53m (48-58) B: Lu - (pi2+pc4: C: Tw).
 29d 16h 40m (40) C: Mb Ka Ky.
 29d 22h 02m (00-05) B: Od; C: Tf.
 30d 15h 22m (22-24) B: To; C: Mb Ka Ky.
 30d 16h 10m (10-12) B: Bi; C: Mb Tf Tk Ka Ky.
 30d 22h 17m (15-19) B: Od Bi.
 31d 03h 33m (25-41) A: Tr; B: Aq SM; C: Fr Hu - (pi2+pc4: B: Tw - pc4: B: Bi Lu).
 31d 13h 14m (14-15) B: To Ac; C: Mb Ka Ky Ho.
 31d 19h 08m (08-09) B: Od Bi.

TABLE 2c BAYS AND PULSATIONS 1964

Commencement of pulsational disturbances (pc4) not associated with bays.
(See remarks at the head of Table 2a)

JANUARY

22d 02h 10m (08-12) A: Ci - (pi2: B: Va).

26d 05h 14m (10-18) B: LM - (pi2: C: TI).

FEBRUARY

n o n e

MARCH

03d 19h 24m (23-26) B: Tn - (ssc: C: MI).

09d 06h 00m (00-01) B: Lg - (si: Hl).

12d 01h 18m (15-20) B: Ni Lg LM Ac - (pi2: B: Eb MB).

13d 07h 00m (00) A: Lg; B: Bi.

13d 20h 01m (00-03) B: LM - (pi2: C: Tk).

14d 00h 24m (23-26) A: Tr; B: Ci Ac; C: LM.

14d 03h 29m (25-33) B: Bi Gn - (pi2: C: Hu).

17d 05h 42m (39-45) B: Lg - (ssc: C: Ag).

20d 04h 18m (17-18) B: Ac - (ssc: B: Ag - pi2: C: Te).

26d 05h 13m (10-18) B: Lg - (si: A: Sr - pi2: C: Ks).

27d 14h 17m (15-20) B: LM - (pi2: C: Te).

28d 06h 55m (50-60) C: Lg - (pc4+pi2: B: Ac).

28d 12h 32m (30-36) B: LM Ac - (pi2: C: Te).

APRIL

01d 23h 55m (51-60) B: Lg - (si: B: Te).

08d 04h 55m (55) A: Lg; B: Bi.

12d 05h 34m (30-39) B: Es LM - (pi2: C: Te).

14d 21h 06m (00-10) A: Lg - (pi2: Od - pg: Hl).

25d 00h 17m (10-20) B: Lg Ci Bi Lu - (pi2: B: Eb MB; C: Hu).

MAY

01d 23h 55m (55) A: Si?; B: Gn.

18d 08h 08m (06-10) A: Tf; C: Fr.

18d 23h 20m (20) B: Si?; C: Fr.

18d 23h 57m (55-60) A: Am - (pi2: Od).

19d 05h 12m (09-15) B: Bi LM.

22d 19h 40m (36-43) B: Qu Bi - (pi2: Od).

23d 03h 50m (50) A: Bi - (pi2: B: MB).

23d 05h 01m (01-02) A: LM - (pi2: C: Hu).

23d 20h 31m (30-33) B: Lg - (pi2: C: Hu).

26d 05h 28m (26-30) A: Bi; B: LM.

27d 05h 10m (10-11) B: SJ - pi2: C: Hu).

31d 07h 50m (45-55) B: Tr Gn.

TABLE 2c BAYS AND PULSATIONS 1964 - continued

JUNE

02d 02h 51m (50-51) B: SJ Bi - (pi2: B: Fr).
 03d 02h 46m (40-50) A: SJ; B: Bi - (pi2: B: Fr; C: Tu).
 12d 00h 00m (00) A: Lg Am.
 12d 23h 11m (10-15) C: Mb Ka Ku Gu.
 13d 02h 00m (00) A: Tf; B: Bi.
 18d 00h 35m (35-36) B: Ci - (pi2: C: Bi).
 18d 08h 45m (42-48) B: Lg - (si: Hl).
 19d 17h 05m (05) B: Lg - (pi2: C: Cm).
 20d 09h 59m (59-60) B: Lg - (ssc: B: Me).
 23d 08h 30m (25-35) B: Lg; C: Bi.
 26d 04h 55m (47-60) B: Lg Gn - (pi2: C: MB).
 28d 08h 45m (40-50) A: Lg - (pi2: C: Ho).
 30d 00h 00m (00) B: Lg - (pi2: C: MB).
 30d 10h 32m (30-35) A: Tr; B: Bi.

JULY

01d 10h 09m (09-10) B: Bi Ac.
 04d 20h 57m (54-60) B: Si; C: Tf Fr.
 05d 00h 45m (45) B: Gn MI?
 05d 01h 00m (00) C: Mb? Ka? Ky? Ho.
 05d 01h 26m (23-30) A: Bi - (pi2: C: Hu).
 05d 02h 07m (05-10) A: Tw; B: St.
 09d 00h 33m (28-40) B: Tf Ac - (pi2: B: MB).
 10d 17h 00m (00) B: Co? Si.
 12d 19h 00m (00) B: Co? Si.
 18d 04h 43m (40-46) A: Bi - (si: Hl).
 18d 21h ..m (..) B: Co; C: Mb Ka Ky.
 21d 08h 36m (35-37) B: Lg; C: Ac.
 23d 09h 03m (00-06) A: Tf; B: Lg.
 25d 08h 29m (29-30) B: Lg Ac.
 25d 19h ..m (..) B: Co Fr.
 26d 00h 00m (00) B: Gn?; C: Tf.
 26d 06h 46m (42-50) B: Tw - (pi2: C: Te).
 26d 19h 57m (55-60) B: Tu; C: Fr.
 27d 03h 58m (56-60) A: Tw - (pi2: C: Te).
 27d 08h 31m (30-32) B: Lg Ac.
 28d 11h 27m (25-30) A: Bi Ac - (pi2: C: Hu).
 29d 07h 24m (23-25) B: Lg Bi.

AUGUST

01d 02h 43m (43) B: Ac - (pi2: C: Hu).
 02d 06h 28m (24-30) B: Tr Bi Gn.
 03d 04h 14m (13-15) B: Gn Ac.
 05d 06h 15m (10-20) A: Lg - (si: Hl).
 05d 09h 10m (10) B: Bi - (si: B: Od).

TABLE 2c BAYS AND PULSATIONS 1964 - continued
(AUGUST)

06d 06h 00m (00) B: Bi Gn.
08d 04h 49m (48-50) A: Ac Tw.
09d 02h 33m (30-36) A: Ac - (pi2; B: Eb).
12d 07h 38m (37-40) B: Tu Tw.
13d 07h 46m (44-48) A: Ac; B: Lg.
14d 07h 30m (26-34) A: Ac; B: Lg.
17d 13h 05m (00-10) A: Ac - (pi2; C: Hu).
18d 01h 56m (55-57) A: Ac - (pi2; B: Bi).
18d 06h 11m (07-17) B: Tu Tw - (pi2; B: Hu - pc4 + pi2; A: Ac).
20d 01h 44m (44-45) A: Ac - (pi2; C: Tw).
24d 05h 14m (08-21) A: Ac; C: Fr - (pi2; B: Bi - pg; H1 - pc4 + pc5; A: St).
26d 02h 48m (45-50) A: Ac; B: Lg - (pi2; C: Fr).
30d 12h 01m (58-04) A: Ac; C: Lg - (pi2; B: Gn; C: Ss).

SEPTEMBER

01d 05h 31m (27-35) B: Tf Gn.
01d 07h 00m (00) B: Es? Mb Ka Ky Bi.
02d 07h 47m (42-50) B: Es Bi; C: Tf.
05d 07h 18m (18) B: Es? Lg.
12d 11h 05m (00-10) A: Ac; B: Bi.
14d 10h 49m (48-50) A: Ac - (pi2; B: Bi).
15d 03h 20m (20-21) A: Ac - (pi2; C: Fr).
17d 03h 02m (00-05) A: Tf; B: Gn Am.
18d 13h 23m (20-28) A: Ac; B: Lg; C: Fr.
18d 13h 47m (40-52) B: SM Bi - (ssc: H1).
19d 09h 47m (44-50) B: Ac; C: Bi.
19d 23h 59m (59) A: Ac - (pi2; B: Bi).
21d 04h 21m (18-24) A: Ac; C: Si? Gn - (pi2; C: Te).
25d 07h 06m (00-11) A: Ac; B: Tf Tw - (pi2; B: Te; C: Hu).
25d 07h 45m (45) B: Bi - (pi2; C: Ho).

OCTOBER

10d 10h 08m (06-10) A: Lg; B: St.
10d 14h 05m (05) A: Co; B: SM.
15d 03h 35m (30-40) A: Tf; B: Gn.
25d 07h 25m (20-30) A: Ac; B: Es Tw.
27d 15h 06m (06-07) B: Qu - (pi2; C: Tf).

NOVEMBER

06d 15h 35m (35) B: Co? Tu.
06d 17h 30m (30) A: Co?; B: Fr.
07d 22h 48m (42-50) A: Lg; B: Bi Lu - (pi2; Aq).
10d 03h 20m (20) B: Co? ; C: Ky.
16d 02h 20m (20-21) A: Ac - (pi2; C: Hu).
18d 10h 08m (02-10) B: Lg Gn - (pi2; B: Bi; C: Hu).

TABLE 2c BAYS AND PULSATIONS 1964 - continued
(NOVEMBER)

18d 15h 39m (39) B: Bi; C: Fr?
21d 17h 19m (18-21) A: Lg - (pi2: B: Tk).
24d 06h 02m (00-05) B: Tr - (pi2: C: Si).
28d 18h 00m (00) A: Co?; B: Tu.

DECEMBER

01d 19h 41m (41-42) B: Lg - (pi2: C: Cm).
06d 03h 00m (00) B: Tf - (pi2: C: Hu).
08d 12h 10m (10) A: Ac - (pi2: C: Hu).
14d 14h 30m (30) A: Co?; B: Fr.
31d 20h 04m (00-07) B: Co? Lg; C: Si Fr? - (pi2: B: Aq; C: Tf Tk Hu).

TABLE 2d GIANT PULSATIONS 1964

Exceptional pulsations of very great period and regularity with a sufficient relative amplitude (checked by 57 observatories).

JANUARY

- 03d 22h 12m A: Ag Fr - B: Ki Co Do Es Ir Tl SM Ds SJ Bi Hr Kg - C: Le Mo Wn Wi Od Lg Tu Ho Te Mu Gu Pa To SB - E: Si CF DU - (pi2: C: Bi- pc5: B: MB).
 05d 16h 52m A: Mo - B: Ki Ir Mu - C: Si Kn Lg Fr Ds Tu Ho Gu - E: CF - X: Hb-(bp: Ma - pi2: Tl).
 05d 19h 15m B: Ki Ir - C: So Si Mo Ag Lg Fr DS Tu SJ Gu Kg - X: Hb - (pi2: B: Wn Tl; C: Le Es MB Hr - bp: B: Ma CF; C: Bi).
 05d 20h 45m B: Mo Ir; C: Ki Si Fr SJ DU.
 07d 06h 44m A: Si Tu Mu - B: Co Mo Ir Ag Fr Ds Ho SJ Gu Gn - C: Ki Wn Kg DU - X: Hb - (pi2: A: To; C: Es Bi Hr - pc4: MB).
 08d 13h 18m A: Co Mo - B: Ir Ag Fr Kg DU - C: Nu Kn Es Lg Ds Ho SJ - E: CF - X: Hb - (pi2: B: Mc - pc3: A: Ki - pc4: B: MB).
 22d 16h 03m A: Mo Ir Mu - B: Ki So Kn Vl Gu Gn Kg DU - C: Do Nu Le Si Wi Kv Db Bu Fü CF Hb Od Lg Fr Ds Tu Ho SJ To - X: SB - (pi2: B:Aq Tl MB;C: Wn Gt).
 26d 09h 30m B: Ki Si Mo Ho Mu Gu - C: Co Kn Es Wn Ir Hb Ag Fr Ds Tu Gn Am Kg DU - (pc3: B: Ki).

FEBRUARY

- 11d 08h 02m B: Mo Ir - C: Fr DU - X: Bu.

MARCH

- 06d 00h 54m B: Ki So Si Ir Ag Mu - C: Co Mo Wn Hb Od Fr Ds Tu Ho SJ Gu Gn - E: Do DU - X: Bi - (pi2: B: Tl).
 12d 23h 54m A: Gu - B: Ir Aq Ds - C: Ki Co Si Mo Hb Fr Tu Ho SJ Mu Kg - E: DU - X: SM - (pi2: B: Od Tl MB Gn;C: Es - pc4: CF?).
 13d 00h 45m A: Gu - B: Co Ir Ag Ds Mu DU - C: Si Mo Fr Tu Ho Gn Kg - X: SM - (pi2: B: Od Tl MB; C: Es - pc4: A: Ki CF?).
 21d 23h 14m A: Co - B: Kn Ag DU - C: Ki Si Mo Kv Fü Lg Fr Ds Tu Mu Kg - X: Am - (pi2: B: Es Ha Ma CF Od Aq Eb Tl MB Mc Bi; C: Wn Gt).
 22d 12h 35m A: Mo Ir Lg - B: Od Mu - C: Ki Le Si Kn Hb Ag Fr Ds Tu Ho SJ Gu Gn Kg - E: Co Wn Wi Ma Db Fü CF.
 30d 15h 50m A: Lg Mu - B: Ki Kn Mo Ir Kg - C: Le Si Hb Od Fr Ds Tu Ho Gn DU - E: Co Nu Wn Wi Fü - X: Kv - (bp: Ma).

APRIL

- 09d 02h 46m A: Ki - B: Ir Mu - C: Co Kn Mo Hb Hr Kg - E: CF - X: SB - (pi2: B: Tl Mc).
 20d 08h 11m A: Kn Ir Bu Fü - B: Ki So Nu Si Mo Es Wi Ha Db CF Hb Od Ag Aq Eb SJ Mu Gn Hr Kg - C: Le Fr Ds Tu Ho Te Gu DU - E: Co Do - X: Kv SB - (pi2: A: Tl Mc; B: Vl; C: Gt - pc4: A: Wn - sfe: Bi).

MAY

none

JUNE

- 07d 19h 40m B: Ki Mo Od Lg - C: Co Do Si Kn Ir Hb Fr Ds Tu SJ Mu Gu Kg - E: CF - X: Kv.

TABLE 2d GIANT PULSATIONS 1964 - continued

JULY

25d 14h 33m B: Ki Co Ir Od - C: Le Si Kn Mo Wn Lg Fr Ds Tu Ho SJ Mu Gu Hr DU
 - E: Wi CF - X: Bu Tl Bi.

AUGUST

none

SEPTEMBER

13d 14h 25m B: Kn - C: Ki Kn Ir SJ - X: Hb.

OCTOBER

03d 17h 15m A: Co - B: Ir - C: Ki Nu Le Si Kn Mo Wn Vl Hb Od Ag Lg Tl Fr Ds SJ
 Mu Kg DU - E: Fü CF - (pi2: B: Aq - pc4: B: Es).

06d 18h 56m A: Kn - B: Ki Ir Ni Hb Od Ag Kg - C: Nu Le Si Mo Wn Kv Fü Lg Fr SM
 Ds Tu Ho Te SJ Mu Gu Hr To - E: Wi - (pi2: B: Es Ma Aq Eb Bi; C: Gt
 - pc4: MB).

23d 20h 34m B: Ki - C: So Co Kn Mo Ir Fr Ds SJ DU.

NOVEMBER

01d 13h 20m A: Ki So Co Kn - B: Es Hb Od Ag Lg Aq Tl - C: Do Le Mo Wn Ir Fr
 SM Ds Tu Ho SJ Mu Gu Hr Kg - E: Bi - (pc5: MB).

DECEMBER

none

TABLE 3a SUDDEN IMPULSES (S.I.'S) 1964

This list cannot be considered as complete and can therefore not be used for statistical purposes without caution.
(See cautionary note at the head of Table 2a)
(checked by 60 observatories)

JANUARY

- 09d 03h 30m A: Co Si Kn Mo Lg Ds Te MB Mu Mc - B: So Do Nu Le Wn Wi Ir Gt Ha Kv Od Aq Eb Fr Ak Tu SJ Gu Ba Ap Tn Hr Am DU - C: Ki Ma Pr Vi Fü CF Mb Tk Ka Ky Ho Pa Kg - X: Hb - (b: C: SM - pg: A: Bi) - D: 10.
24d 08h 19m A: Nu Wn Pr - B: So Do Kn Mo Es Wi Ir Ni Fü? Od Mu - C: Ki Co Le Si Vl Gt Ha Kv Db CF Hb Ag Lg Eb Tl Fr Ds Tu Ho Te SJ Gu Ba Mc Tn To Kg DU - E: Ma - (bp: C: Hr - pi2: B: Mb Ky MB; C: Ka - pg: Aq - sfe: Tk Ak SM) - D: 8.

FEBRUARY

- 08d 17h 50m A: Ki Co Ir Fr - B: Le Si Mo Es Wn Vl Pr Vi Fü CF Od Ag Ds Tu Mc - C: Kn Wi Gt Ha Kv Ma Db Hb Mb Lg Tk Eb Tl Ka Ky Ho Gu Ba Gn - E: Bi Tn - X: SB - (pi2: C: MB) - D: 16.
12d 10h 14m A: Co Nu Kn Mo Wn Ir Ni Db Pr Fü Od Lg Aq Tk Ss Te MB Ba Mc Tn Hr - B: Do Wi Gt Kv Ma CF Hb Ag Eb Tl Fr Ak Ds Tu Ho Mu Gu Pa Bi Ap Gn To Am Kg - C: Ki So Es Vl Mb SM Ka Ky - E: Si Ha - D: 5.

MARCH

- 03d 16h 35m A: Ir Ss - B: Ki Co Kn Mo Od Lg Tk Ak Ho Mu Ba Mc - C: Nu Le Si Wn Vl Gt Ma Pr Fü CF Hb Mb Ag Aq Tl Fr SM Ka Ds Tu Ky SJ MB Gu Pa Bi Ap Tn Hr - (sfe: Kv) - D: 16.
11d 17h 59m A: Wn - B: Nu Le Kn Mo Es Wi Ir Vl Gt Db Pr Fü Hb Od Ag Lg Aq Tk Ak SM Mu Ba Mc Bi Hr Kg - C: Ki Do Ha Mb Eb Fr Ka Ds Tu Ky Te MB Gu Gn To - E: DU - X: Co - (ssc: B: Ma - sfe: Kv) - D: 14.
16d 17h 50m A: Si Mo Ir Fü Hb Lg Ak Te - B: Ki Co Nu Le Kn Es Wn Wi Ni Vl Kv Pr CF Od Aq Tk Eb Tl Fr Ds Tu Ho SJ Mu Gu Ba Mc Hr DU - C: So Do Gt Ha Ma Db Mb Ag SM Ka Ky MB Pa Ap Gn To Kg - E: Bi - D: 5.

APRIL

- 14d 01h 24m A: Ss - B: So Co Nu Si Kn Mo Ir Gt Fü Od Ag Lg Tk Fr SM Ds Mu Ba Bi Gn DU - C: Ki Le Es Wn Wi Vl Kv Ma Db Pr CF Hb Mb Aq Eb Ak Ka Tu Ky Ho Te SJ MB Gu Pa Mc Hr To Kg - E: Ha - X: SB - D: 7.

MAY

- 05d 03h 24m A: Fü Hb Lg Ss Ds Te - B: Ki So Co Nu Mo Es Wi Ir Gt Ha Ma Db CF Od Ag Aq Tk Eb Tl Fr Ak SM Tu Ho SJ MB Mu Gu Ba Mc Bi Ap Tn Gn Hr To Am Kg SB - C: Do Le Si Kv Mb Ka Ky Pa - E: DU - (ssc: B: Wn Vl Pr) - D: 3.
13d 18h 06m A: Co Mo Wn Ir Fü Od Aq Tk Ss Te SJ Mu Ba Mc - B: Le Si Es Vl Gt Ha Kv Db Lg Ak Ds Tu Ho Gu Pa Ap To Am - C: So Hb Mb Ag Eb Tl Fr Ka Ky MB Hr Kg - E: Ki Do Nu Kn Wi Ma Pr CF SM Tn - D: 7.
19d 01h 12m B: Ki Do Si Mo Es Wi Ir Vl Gt Ma Db Pr Fü Ag Aq Tk SM Mu Bi DU - C: Le Wn Ha CF Hb Mb Eb Ka Ky Te SJ Ba Gn Kg - X: Am - (bp: C: Hr - sfe: So Co Nu Kn Kv Od Fr Ds Tu Ho Gu - cr: Lg MB Tn) - D: 10.

JUNE

- 12d 10h 06m A: Nu Kn Mo Wn Ni Db Pr Gn - B: Ki So Co Do Wi Ir Vl Fü Od Ag Lg Fr Ak Ds Mu Gu Ba Mc DU - C: Le Tk Eb Tu Ho SJ MB Bi - E: Kv Hb SM - (pi2: A: Es Ha Aq Hr; B: Gt Tl Ky - pg: A: CF; B: Ma) - D: 13.
13d 17h 52m A: Od Te - B: Ki Co Si Kn Mo Es Wn Wi Ni Vl Gt Ma Db Pr Fü CF Hb Lg Aq Tk Eb Ak Ds Mu Ba Mc - C: Do Le Ir Ha Mb Ag SM Ka Ky Pa Ap - (b: C: Hr - sfe: Nu Kv Tl Fr Tu Ho SJ MB Gu Bi Tn) - D: 9.

TABLE 3a SUDDEN IMPULSES (S.I.'S) 1964 - continued

(JUNE)

- 19d 10h 14m A: Mo Ak - B: Ki So Co Do Nu Le Wn Wi Ir Vl Gt Ma Db Fu CF? Lg Aq Tk SM MB Mu Ba Hr - C: Si Es Ha Pr Mb Ag Eb Fr Ka Ds Tu Ky Ho Te SJ Gu Pa Mc Tn Gn To Kg - X: Hb Bi - (pi2: B: Tl - sfe: Kv Od) - D: 8.
- 25d 17h 58m A: Ak - B: Mo Es Wn Vl Gt Ma? Db Fü CF Hb Od Lg Aq Tl MB? - C: Ki Nu Le Si Wi Ir Pr Ag Tk Eb SM Ds Tu Ho Te Mu Pa Ba Mc Hr - E: Co - (pg: B: Ha; C: Bi - sfe: So Do Kn Kv Fr SJ Tn) - D: 14.

JULY

- 10d 14h 51m A: Co Mo Lg Ss - B: Ki So Si Es Wn Wi Ir Vl Kv Ma Db Fü CF Od Ag Aq Tk Eb Fr Ak SM Ds MB Mu Mc - C: Do Nu Le Gt Pr Hb Mb Tl Ka Tu Ky Ho Te Gu Ba Ap Tn Gn Hr To Am Kg DU SB - X: Kn - D: 6.

AUGUST

- 09d 13h 22m A: Co Mo - B: Ki So Do Nu Le Si Es Wn Wi Vl Gt Ma? Fü CF Od Aq Eb Fr Mu Ba Mc? - C: Db Ma Ag SM Ka Ky Ho Gu Pa Ap Tn Hr - (bp: C: Gn - sfe: Kn Ir Ha Kv Hb Tk Tl Ak Ds Tu Te SJ MB Bi) - D: 10.
- 09d 18h 12m A: Pr Fü - B: Co Le Si Kn Mo Es Wn Ir Vl Hb Od Ag Aq Tl Fr Ak Ds SJ Mu Ba Mc - C: Do Nu Gt Ha Kv Ma Db CF Mb Lg Tk Eb SM Ka Tu Ky Ho Te MB Gu Pa Bi Hr Am - E: Wi - D: 12.

SEPTEMBER

- 03d 15h 18m A: Mo Pr Lg - B: So Do Nu Le Kn Es Wn Wi Ir Vl Gt Db Fü Od Aq Tk Eb Tl Ak SM Tu MB Ba Mc Bi - C: Ki Co Ni Kv CF Hb Mb Ag Fr Ka Ds Ky Te SJ Mu Gu Pa Hr - E: Ha - X: Ap - (ssc: B: Ma) - D: 11.
- 22d 03h 06m A: So Le Si Kn Mo Wn Ir Pr Fü Od Lg Tk Fr Ds Tu Ho Te SJ Mu Gu Pa Gn Hr To - B: Co Wi Vl Gt Ha Kv Db Aq Eb MB Ba Mc Ap Am Kg DU SB - C: Vi Hb Mb SM Ka Ky - E: Ki Do Nu Es Ag Tn - (bps: A: Ma; B: Bi - sfe: Ak) - D: 4.
- 30d 14h 09m B: Do Nu Le Mo Wn Ir Vl Gt Ma Pr Fü CF Od Lg Aq Tl Ak Tu MB - C: Ki So Kn Es Wi Ha Kv Db Hb Ag Eb Fr SM Ds Te SJ Ba Mc Bi - E: Co DU - (pg: C: Hr) - D: 19.

OCTOBER

- 07d 08h 15m A: Kn - B: So Nu Le Mo Es Wn Vl Ha Pr CF Hb Od Lg SM - C: Ki Co Do Wi Ir Gt Kv Ma Db Aq Eb Tl Fr SJ MB Mu Ba Hr - (sfe:Fü) - D: 26.
- 24d 17h 39m A: Si Kn Lg Ss Te - B: Ki Co Do Nu Le Mo Es Wn Ir Vl Gt Ha Ma Pr Hb Od Fr Ak Ds Tu SJ Mu Gu Ba Mc Bi Ap Hr DU - C: So Wi Kv CF Mb Aq Tk Eb Tl SM Ka Ky Ho MB Pa Tn To SB - X: Fü - D: 7.

NOVEMBER

- 01d 14h 38m B: Co Si Kn Ir Vl Od Fr Ds Tu Mu Ba Mc Bi Hr To - C: Ki So Nu Mo Es Wn Wi Gt Kv Db Mb Ag Lg Tk Ak SM Ka Ky Ho Te SJ MB Gu Pa Ap Gn DU - E: Ha CF - D: 16.
- 08d 00h 16m A: Ak Ss Ho Te Gu - B: Kn Mo Ir Ma? Hb Od Lg Aq Tk Fr Ds Tu SJ Ba Mc Ap To - C: Ki So Co Nu Si Es Wn Wi Gt Kv Pr CF Mb Ag Tl SM Ka Ky MB Pa Gn Kg - X: Am - (ssc: A: Mu; B: Bi Tn Hr DU - sfe: Fü) - D: 9.
- 08d 01h 47m A: Ak Ss Te Gu - B: Co Kn Mo Wn Wi Ir Gt Ma Fü Od Lg Tk Fr Ds Tu Ho SJ Mu Ba Mc Bi Ap Tn Hr To Am DU - C: Ki So Nu Si Es Kv Db Pr CF Hb Mb Ag Aq Tl SM Ka Ky MB Pa Gn - E: Ha - D: 8.
- 12d 14h 18m A: Kn - B: Ki So Nu Le Mo Es Pr Od SM Ds - C: Co Do Si Wn Wi Ir Vl Gt Ma Db Hb Ag Lg Tk Fr Ak Tu Te Ba - (sfe: Kv Fü MB Bi) - D: 26.
- 15d 14h 43m A: Co Kn Mo Ni Pr Fü Hb Ak - B: So Nu Le Si Wn Ir Vl Gt Ma Db CF Od Lg Aq Tl Fr Ds Tu SJ MB Mu Gu Ba Bi Hr To - C: Ki Do Es Wi Ha Kv Mb Ag Tk Eb SM Ka Ky Ho Pa Ap Tn Am SB - X: Mc - D: 6.

TABLE 3a SUDDEN IMPULSES (S.I.'S) 1964 - continued

(NOVEMBER)

23d 05h 12m A: Co Nu Kn Mo Pr Fü Te Gn - B: Ki So Do Le Es Wn Wi Ir Vl Gt Ma ?
 CF Od Lg Eb Tl Fr SM Ds Tu Ho SJ Mu Mc Ap To Am Kg DU - C: Si
 Ha Kv Db Hb Mb Ag Aq Tk Ak Ka Ky MB Pa Ba Hr - X: Gu - (ssc: B:
 Tn - sfe: Bi) - D: 4.

25d 20h 07m A: Co Kn - B: Si Mo Es Ir Vl Gt Ma Fü CF? Od Ag Lg Aq Fr Ak Ds Tu
 Ba Mc Tn - C: Ki So Nu Wn Wi Ha Db Pr Hb Mb Tk SM Ka Ky Ho Te
 SJ MB Mu Gu Pa Bi Ap Hr To Am DU - (sfe: Kv) - D: 10.

DECEMBER

09d 06h 44m A: Ss - B: Kn Fü Od Ak Mu Gu Bi Ap Tn Am - C: Ki So Co Nu Si Mo
 Wn Wi Gt Kv Ma Pr Hb Mb Tk Fr Ka Tu Ky Ho SJ MB Pa Mc Gn Hr
 - X: Lg Ba - (sfe: Ir) - D: 20.

TABLE 3b NOT CHECKED SUDDEN IMPULSES (S. I.'S) 1964

JANUARY

02d 09h 13m A: Ir Te - (bps: A: Sr).
 05d 05h 36m B: Hl LM.
 28d 12h 31m B: Sw? Lg; C: Ae.
 28d 23h 00m A: Mc Bi; B: Od Pa Lu Hr; C: Ha.

FEBRUARY

09d 11h 15m A: Lg; B: Vl.
 11d 12h 29m B: Lg - (sfe: Eb?).
 13d 16h 10m A: St; C: Ha - (bps: B: Vl).
 20d 16h 00m B: Es Mc - (ssc: B: Ma).
 25d 04h 00m B: Hl Lg.

MARCH

03d 14h 36m B: IK - (ssc: C: Pa).
 04d 00h 38m A: Sr; B: Hl.
 04d 11h 26m A: Mo TC.
 07d 12h 33m A: Tl; C: Ae Wk.
 12d 05h 49m A: Sr; B: Am.
 12d 08h 16m A: Pr Hb; B: Kn Mo Wn Vl Be - (sfe: Sw Od).
 15d 04h 56m B: Be Lg - (pi2: C: Hu).
 16d 08h 30m B: Vl SM.
 16d 17h 26m A: Lg Ac; B: Ni Mc.
 17d 08h 14m B: Vl Be.
 22d 13h 32m B: Wn Pr - (ssc: B: Ci; C: Vi).
 23d 04h 52m A: Tl Am.
 23d 12h 11m A: Tl; B: Lg Bi.
 23d 15h 57m A: Lg; B: Le Es CF Bi.
 24d 17h 32m A: Pr; B: Wn Pe.
 30d 02h 43m B: Sr; C: Lg LM Hr.
 30d 19h 25m A: Lg; B: Te - (ssc: Sw?).

APRIL

01d 23h 30m A: TC; B: MB - (ssc: B: Ir).
 08d 10h 59m A: Ks - (ssc: C: Tf).
 09d 05h 10m B: Hl Vl Lg.
 11d 06h 54m B: Hl Vl Tl.
 11d 08h 05m B: Hl Vl - (ssc: B: Tr Sw?).
 13d 18h 51m A: Lg; C: Tl.
 15d 09h 09m A: Mo; B: Wi CF Lg; C: Cm - (ssc: A: LM).
 18d 01h 36m B: DU; C: Wk.
 18d 08h 50m A: Me - (pc4: B: Lg).
 18d 12h 47m B: Te - (ssc: C: TC).
 19d 11h 12m A: Mo; B: Kn.
 26d 13h 29m B: Hl CF Lg Tl.

TABLE 3b NOT CHECKED SUDDEN IMPULSES (S.I.'S) 1964 - continued

MAY

01d 04h 54m A: Kn Mo; B: Tl.
 06d 09h 36m B: TC; C: Mb Ka Ky - (sfe: IK).
 10d 07h 56m B: Mc Lu.
 10d 17h 10m A: Hb Od Lg SF; B: Tl TC Mc.

JUNE

02d 12h 25m A: Mo; B: Kn Pr; C: Wn.
 08d 01h 14m A: Te; B: Lg - (b: B: Hu).
 09d 12h 46m B: Pr; C: Wn.
 10d 03h 18m A: TC; C: Ks.
 10d 04h 33m A: Te Ac; C: Pa.
 10d 05h 31m A: Te; B: CF Kg.
 11d 14h 26m A: So Mo Te; B: Kn Vl DU.
 12d 10h 48m A: Kn Mo; B: IK.
 13d 06h 12m A: LM; C: To.
 15d 17h 05m A: Wn; B: Cm Ma Pr IK Tl - (bp: C: Kv?).
 18d 13h 04m B: Es Vl - (ssc: C: Ma).
 27d 13h 12m B: Es Lg.
 27d 13h 30m B: Vl Be; C: Ha.

JULY

01d 11h 04m B: Hl; C: Es St - (ssc: C: Lg - b: B: TC - sfe: Tl).
 03d 02h 20m A: Lg; B: Me.
 03d 02h 48m A: Kn Mo.
 03d 07h 11m B: Kn Mo Me; C: Kg - (bps: B: Am - pi2: B: Ac).
 07d 23h 42m A: Te - (pg: C: Fr).
 08d 08h 26m B: Es Vl.
 12d 04h 05m B: Hl; C: Hb.
 12d 18h 25m A: Lg; B: Hl; C: Tl Ae - (sfe: Es).
 16d 04h 54m B: Hl St Vl CF; C: Tl Ae - (pi2: B: MB - pc5: B: Tr).
 16d 16h 49m C: Mb Ka.
 25d 15h 39m B: IK; C: TC Ks.
 28d 22h 45m B: Ak - (ssc: C: Lg).

AUGUST

02d 15h 50m A: Lg; B: Hl.
 03d 01h 53m B: Hl Lg.
 04d 00h 02m B: Hl - (ssc: B: TC).
 04d 03h 09m A: Kn Ci Te Ac; B: Vl CF Lg.
 04d 03h 42m A: Te; B: CF.
 09d 18h 51m A: Od TC - (ssc: C: Lu).
 11d 03h 29m A: Lg Te.
 12d 08h 29m A: TC; B: Od.
 24d 17h 05m B: Es Lg - (pi2: B: Tk Gn).
 25d 23h 27m B: Hl Be Od Ae MB; C: Wn Tl - (ssc: A: TC - bp: C: Kv?).
 26d 03h 17m B: Hl; C: Le Tl Ae.

TABLE 3b NOT CHECKED SUDDEN IMPULSES (S.I.'S) 1964 - continued

SEPTEMBER

06d 14h 47m B: Vl - (ssc: B: Hu).
 07d 05h 59m B: Lg - (ssc: B: TC - pc4: C: Tf).
 08d 09h 59m A: So; B: Kn.
 08d 10h 32m A: Pr TC; B: Es Wn Ha Hb Eb Tl Ae.
 16d 20h 17m A: Te LM.
 18d 13h 35m A: Lg; B: Es; C: Ae - (pi2: B: Te).

OCTOBER

01d 21h 48m A: DU - (sfe: To?).
 04d 15h 23m B: Vl Lg - (ssc: B: So).
 05d 02h 10m A: Te - (pc5: B: MI).
 07d 04h 15m A: Ni; B: Be Hb? - (bs: B: Hu).
 18d 03h 06m B: Hl - (ssc: Sw - pc4: C: Tf).

NOVEMBER

01d 23h 10m B: Te; C: Fr - (ssc: A: SF; B: TC).
 09d 19h 59m B: Lg - (ssc: B: TC - pc4: C: Fr).
 15d 14h 45m A: Te; B: Mo Fü.
 15d 15h 29m B: Ni; C: Mb Ka Ky.
 22d 05h 12m B: St - (ssc: C: Db).
 23d 07h 50m B: Hb; C: Wn.
 23d 09h 47m C: Mc - (ssc: B: TC).
 27d 23h 32m B: Tl - (ssc: C: TC - pi2: B: Si).

DECEMBER

09d 03h 31m B: Hl; C: Eb.

TABLE 4 MINOR DISTURBANCES 1964

Minor disturbances (ssc, etc.) reported by only one station.

JANUARY

d	h	m	d	h	m	d	h	m	d	h	m	d	h	m					
01	03	09	ssc Ag	-	01	06	13	pi2 Hu	-	01	11	28	ssc Tf	-	01	16	00	bp Kn	-
01	19	00	si TC	-	02	02	24	ssc Sw?	-	02	02	39	ssc CF	-	02	04	46	si SF	-
02	05	47	si Te	-	02	06	26	si Kg	-	02	09	..	bp Kv	-	02	10	06	si Te	-
02	11	30	bps Ir	-	02	11	48	bp Kn	-	02	12	..	bp Kv	-	02	15	24	si Te	-
02	15	54	bp Kn	-	02	16	..	bp Kv	-	02	18	47	bp Hr	-	03	02	14	bp TC	-
03	02	40	pg Mw	-	03	08	20	pi2 TI	-	03	09	03	ssc PB	-	03	12	26	bps TI	-
03	14	02	pi2 TI	-	03	14	36	bp Kn	-	03	15	13	pi2 Ss	-	03	16	05	pi2 TI	-
03	16	45	ssc TC	-	03	17	..	bp Kv	-	03	19	05	pi2 TI	-	03	20	..	bp Kv	-
04	01	41	bps Ac	-	04	04	44	pi2 TI	-	04	06	26	pi2 TI	-	04	08	01	ssc PB	-
04	10	02	pi2 TI	-	04	11	11	si LM	-	04	13	32	pi2 Lg	-	04	17	29	b Sw	-
04	20	09	pi2 Vi	-	04	20	32	pi2 Es	-	04	22	02	b Pe	-	04	22	21	bps Ae	-
04	23	56	bs TC	-	05	04	05	pi2 LM	-	05	07	14	ssc PB	-	05	11	06	si HI	-
05	20	..	bp Kv	-	06	02	13	pi2 Hu	-	06	19	19	pi2 LM	-	06	20	09	pi2 Lg	-
06	21	..	bp Kv	-	06	22	40	pg Me	-	07	15	10	si MB	-	07	18	..	bp Kv	-
07	20	15	pi2 Od	-	07	20	48	pi2 Es	-	07	21	45	bp Mc	-	07	22	56	pi2 Es	-
08	03	22	si TC	-	08	11	05	b Me	-	08	12	22	pi2 TI	-	08	18	30	bp Su	-
08	20	..	bp Kv	-	08	22	..	bp Kv	-	09	00	..	bp Kv	-	09	04	40	pi2 Hu	-
09	14	50	bp MI	-	09	16	..	bp Kv	-	09	18	30	bp Eb	-	09	20	..	bp Kv	-
09	22	..	bp Kv	-	09	23	..	bp Kv	-	10	07	26	pi2 TI	-	10	14	22	pi2 Ss	-
10	14	58	bp TI	-	10	19	32	pi2 TI	-	10	19	..	bp Kv	-	10	21	..	bp Kv	-
10	23	..	bp Kv	-	11	04	17	b TC	-	11	11	01	bp MI	-	11	14	05	pi2 Mc	-
11	18	..	bp Kv	-	11	20	..	bp Kv	-	12	02	35	bp TC	-	12	04	26	si Gn	-
12	12	00	pi2 Hu	-	12	17	13	pi2 Tk	-	12	18	08	pi2 Tk	-	12	20	..	bp Kv	-
12	21	..	bp Kv	-	12	22	27	pi2 LQ	-	13	04	00	pi2 Pi	-	13	08	48	pi2 TI	-
13	23	..	bp Kv	-	14	17	52	pi2 TI	-	14	18	42	pi2 Tk	-	15	00	12	pg Me	-
15	00	35	ssc TC	-	15	20	20	ssc LM	-	15	22	46	ssc Lg	-	16	00	30	pi2 Tr	-
16	00	..	ssc MB	-	16	02	18	ssc Sw	-	16	03	00	b TC	-	16	09	34	ssc Me	-
16	11	..	bp Kv	-	16	13	06	pi2 Tk	-	16	16	00	pi2 TI	-	16	16	54	bps Kn	-
16	17	13	bp Db	-	16	20	..	bp Kv	-	16	21	..	bp Kv	-	16	22	30	pi2 Eb	-
16	22	..	bp Kv	-	16	23	..	pi2 Tk	-	17	02	50	pi2 Hu	-	17	10	52	pi2 TI	-
17	12	48	pi2 TI	-	17	14	30	b Ir	-	17	19	..	bp Kv	-	18	13	00	pi2 Hu	-
18	18	45	b Su	-	19	06	32	pi2 Hu	-	19	10	04	pc4 LM	-	19	19	..	bp Kv	-
19	20	30	b Su	-	19	21	18	bp Lg	-	20	00	25	bp Su	-	20	01	03	bp Lg	-
20	07	26	pi2 TI	-	20	17	52	pc4 LM	-	20	21	28	pi2 Ni	-	21	02	18	bps Mw	-
21	02	..	bp Kv	-	21	05	20	b Me	-	21	06	55	pi2 Tr	-	21	07	28	pc4 LM	-
21	08	21	si Nu	-	23	01	40	pi2 Bi	-	23	03	04	pi2 LM	-	23	08	20	si Ff	-
23	12	09	si LM	-	23	13	10	pi2 SM	-	23	16	30	pb Wk	-	23	23	50	pi2 TI	-
24	00	..	bp Kv	-	24	02	50	pi2 Pa	-	24	12	30	bs Tr	-	24	15	32	pi2 Ss	-
24	16	..	bp Kv	-	24	21	..	bp Kv	-	25	00	..	bp Kv	-	25	19	38	b Ak	-
25	20	54	b Su	-	25	23	20	bps Ks	-	26	01	37	bp Bi	-	26	02	54	bps Ag	-
26	12	31	bp DU	-	26	17	22	pi2 Cm	-	26	19	..	bp Kv	-	26	22	..	bp Kv	-
27	16	10	pc4 LM	-	28	05	35	si Bi	-	28	12	17	bp TC	-	28	20	..	bp Kv	-
28	21	..	bp Kv	-	29	13	..	bp Kv	-	29	15	..	bp Kv	-	29	16	..	bp Kv	-
29	19	20	ssc TI	-	29	23	58	bp So	-	30	02	15	b Su	-	30	13	08	pi2 Ss	-
30	14	00	pc5 Ci	-	31	04	54	pi2 Hu	-	31	06	26	pi2 Hu	-	31	10	00	si TC	-
31	11	00	bps Ir	-	31	16	..	bp Kv	-	31	18	..	bp Kv	-	31	21	39	bps Aq	-
31	22	37	pi2 Cm	-	31	22	50	bp TC	-										

FEBRUARY

01	05	53	pi2 Lg	-	01	07	30	si Hl	-	01	08	34	pi2 Hu	-	01	12	26	pi2 Mc	-
01	19	48	bp Bi	-	02	00	..	bp Kv	-	02	06	55	pi2 TI	-	02	07	27	pi2 Bi	-
02	08	44	pi2 Hu	-	02	09	04	si TI	-	02	21	09	bp TI	-	02	23	34	bp Hr	-
03	04	32	pi2 Ac	-	03	13	40	b Tr	-	04	02	52	pi2 Hu	-	04	03	51	si Hl	-
04	07	00	si Ti	-	04	10	13	si Es	-	04	12	40	bp Od	-	04	13	08	bp DU	-
04	14	20	ssc Ag	-	04	20	00	pi2 Tk	-	04	20	37	bp St	-	04	22	..	bp Kv	-
05	06	16	si Hl	-	05	06	56	si Hl	-	05	07	30	pi2 Lg	-	05	14	45	pi2 SM	-
05	15	10	pi2 SM	-	05	20	32	ssc TC	-	05	21	40	bs Ir	-	06	00	17	b Tl	-
06	00	52	bp Bi	-	06	04	28	bp Lg	-	06	06	13	ssc TC	-	06	07	07	si Eb	-
06	08	31	ssc Lg	-	06	09	00	bp Kv	-	06	12	58	si TI	-	06	14	30	pi2 TI	-
06	15	20	bp Ir	-	06	16	12	ssc TC	-	06	18	26	pi2 Cm	-	07	08	00	pi2 Lg	-
07	08	30	pi2 Hu	-	07	09	05	ssc Tf	-	07	11	44	bps Gn	-	07	17	15	b Su	-
07	20	00	pi2 Hu	-	07	21	37	pi2 Ni	-	07	23	14	bp Bi	-	08	14	30	pi2 Gn	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(FEBRUARY)

d	h	m		d	h	m		d	h	m		d	h	m		
08	18	26	ssc TC	- 08	23	24	bp Db	- 09	03	42	b Te	- 09	10	54	pi2 Ac	-
09	12	17	pi2 Ss	- 09	17	34	si Lg	- 09	18	12	bp Eb	- 10	09	05	pi2 Hu	-
10	10	51	pi2 TI	- 10	12	53	pi2 TI	- 10	13	50	bp Gn	- 10	16	04	pi2 TI	-
10	21	10	b Ss	- 11	03	21	pi2 Ac	- 11	06	33	pi2 Ac	- 11	07	42	pi2 Lg	-
11	10	03	pi2 Hu	- 11	16	20	pi2 Hu	- 11	21	09	bps Tr	- 11	21	23	bp Nu	-
11	23	18	pi2 Eb	- 12	10	30	ssc Ir	- 12	10	45	si Mc	- 12	15	10	si Lg	-
13	02	30	pi2 Hu	- 13	03	21	pi2 TI	- 13	03	45	b SJ	- 13	05	45	pi2 Lg	-
13	10	42	pi2 To	- 13	11	50	ssc Ir	- 13	12	55	bps Kn	- 13	17	20	si Ir	-
13	17	38	pi2 TI	- 14	03	05	ssc Ag	- 14	04	..	bp Kv	- 14	07	00	pi2 Lg	-
14	07	57	pi2 Hu	- 14	10	11	bp MI	- 14	10	26	pi2 Hu	- 14	11	11	si Tl	-
14	14	33	bp Ac	- 14	18	25	b Su	- 15	04	00	ssc LM	- 15	12	00	pi2 Hu	-
16	04	20	pc4 LM	- 16	06	34	pi2 Ac	- 16	20	..	bp Kv	- 17	07	10	pi2 Hu	-
17	07	50	pi2 Lg	- 17	08	32	pi2 Hu	- 17	19	..	bp Kv	- 18	05	45	pc4 Ac	-
18	08	00	pi2 Lg	- 18	09	50	pi2 Hu	- 18	15	15	pi2 Tk	- 19	02	39	pi2 Ac	-
19	08	58	pi2 Lg	- 20	04	12	pi2 Hu	- 20	04	52	ssc LM	- 20	09	17	si Kg	-
20	10	12	ssc TC	- 20	14	33	b Tr	- 21	01	15	pi2 Hu	- 21	02	43	pi2 Ac	-
21	04	37	pi2 TI	- 21	09	04	pi2 LM	- 21	09	16	pi2 TI	- 21	09	39	pc4 LM	-
21	10	56	pi2 Lg	- 21	14	15	pi2 TI	- 21	15	33	pc4 LM	- 21	16	10	pi2 TI	-
21	17	00	pi2 Bi	- 21	22	02	pi2 Tf	- 22	01	48	pi2 Od	- 22	05	46	si Lg	-
22	06	55	pi2 Hu	- 22	08	03	bp Vi	- 23	04	21	pc4+pi2 Ac	- 23	06	11	pi2 Hu	-
23	11	33	pc5 LM	- 23	18	05	b Su	- 24	11	35	ssc TC	- 24	15	40	pg Me	-
24	18	06	pi2 TI	- 24	21	38	bp TC	- 25	01	54	pi2 LM	- 25	05	20	si Hl	-
25	05	47	pi2 Hu	- 25	12	45	ssc TC	- 25	16	00	b LM	- 25	16	30	b Hr	-
25	17	15	b Bi	- 25	19	20	b Su	- 25	19	58	bp Lg	- 26	04	15	b Mc	-
26	05	44	pi2 Lg	- 26	12	15	pi2 TI	- 26	12	50	b Ir	- 26	13	38	pi2 TI	-
26	14	14	pi2 Ss	- 26	14	30	pi2 TI	- 26	15	36	ssc TC	- 26	13	39	pi2 Bi	-
27	01	25	pi2 MB	- 27	04	57	pi2 Lg	- 27	05	08	pc4 LM	- 27	19	20	bp Lg	-
27	23	57	pi2 TI	- 28	01	19	bp Lg	- 28	01	30	pi2 TI	- 28	03	15	pi2 Lg	-
28	04	12	pi2 Hu	- 28	07	10	si Vl	- 28	08	10	bp TC	- 28	10	30	pi2 Hu	-
28	12	35	ssc TC	- 28	12	50	bp Ir	- 28	15	00	b Sw	- 28	15	32	bps Hl	-
28	16	10	ssc TC	- 28	18	..	bp Kv	- 28	19	14	pi2 TI	- 29	03	12	bps Lg	-
29	05	30	pi2 Lg	- 29	12	45	bp Od	- 29	15	36	pc4 LM	- 29	17	50	pi2 TI	-
29	22	24	bp Ha	- 29	23	45	bp CF	-								

MARCH

01	00	07	pi2 Bi	- 01	00	48	pc4 Bi	- 01	01	07	pc4 LM	- 01	02	55	pi2 Hu	-
01	04	12	pc4 LM	- 01	06	38	pi2 Aq	- 01	10	50	pi2 Hu	- 01	13	40	pi2 Hu	-
01	14	18	pi2 Gn	- 01	18	49	pi2 Od	- 01	19	00	pi2 Hu	- 01	19	29	bp Db	-
01	22	24	pi2 Bi	- 02	09	24	pc4 Ac	- 02	09	48	pc4 LM	- 02	10	51	pc4 Bi	-
03	05	48	pc4 LM	- 03	06	40	ssc Lg	- 03	07	37	pc4 Ac	- 03	08	09	pi2 Te	-
03	09	21	pc4 LM	- 03	09	53	pi2 Hu	- 03	15	24	pi2 Lg	- 03	19	03	pi2 Qu	-
03	20	14	ssc TC	- 03	20	45	ssc TC	- 03	21	50	b Su	- 03	22	..	bp Kv	-
04	02	..	bp Kv	- 04	04	15	pi2 Ac	- 04	04	43	bp CF	- 04	05	29	ssc TC	-
04	07	21	pc4 Lg	- 04	11	00	bps Ir	- 04	11	42	bps Sr	- 04	16	18	bp Mw	-
04	16	55	bps Db	- 04	20	14	ssc TC	- 04	20	36	pi2 Ac	- 05	00	36	ssc TC	-
05	01	35	b Mc	- 05	03	00	pc4 Lg	- 05	08	05	si Mo	- 05	11	30	si LM	-
05	12	37	ssc TC	- 05	12	54	si Mo	- 05	14	18	bp Kn	- 05	14	30	bs Ir	-
05	18	..	bp Kv	- 05	22	49	pi2 CF	- 05	23	17	bp CF	- 05	23	55	pi2 TC	-
06	01	37	si PB	- 06	02	10	pi2 Ac	- 06	02	44	bp Lg	- 06	05	27	b Te	-
06	09	40	b Te	- 06	11	54	pi2 Hu	- 06	12	20	si Ir	- 06	16	..	bp Kv	-
07	01	..	bp Kv	- 07	03	45	pc4 Tr	- 07	05	12	pi2 Ac	- 07	08	34	pc4 Lg	-
07	10	41	bp Fd	- 07	11	46	bps PM	- 07	17	25	si Mc	- 07	18	30	bp Eb	-
08	00	..	bp Kv	- 08	08	54	pc4 Lg	- 08	09	52	b Ap	- 08	18	27	pi2 LM	-
08	22	03	pi2 Lg	- 09	00	00	b MB	- 09	06	38	pi2 Hu	- 09	06	57	ssc PB	-
09	08	27	pc4 LM	- 09	10	10	pi2 Ss	- 09	12	42	pi2 Te	- 09	15	40	pc4 LM	-
09	19	42	bp Ma	- 09	20	15	pi2 Od	- 09	21	49	bp Ma	- 10	00	18	pc4 LM	-
10	02	24	pi2 Tw	- 10	02	51	pi2 Hu	- 10	05	08	pi2 Hu	- 10	06	53	pi2 Hu	-
10	08	00	pc4 Lg	- 10	12	50	pi2 Od	- 10	14	45	pi2 Tk	- 10	18	28	pi2 LM	-
10	20	..	bp Kv	- 11	04	10	b Hu	- 11	05	10	bps Hu	- 11	08	00	pc4 Lg	-
11	13	19	pi2 Ss	- 11	18	16	pi2 Od	- 12	04	15	si Sr	- 12	04	30	si Sr	-
12	04	55	pi2 Bi	- 12	15	31	bp Tf	- 12	17	36	pi2 LM	- 12	19	..	bp Kv	-
13	00	12	pc4 Tr	- 13	00	57	pg Am	- 13	03	31	si Gn	- 13	06	25	pc4 Gn	-
13	11	37	pi2 Lu	- 13	17	50	pi2 Od	- 14	01	06	pi2 Hu	- 14	03	00	pc4 Ac	-
14	05	00	pi2 Hu	- 14	09	02	pc4 Lg	- 14	14	12	pc4 LM	- 14	20	24	bp Tf	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(MARCH)

d	h	m		d	h	m		d	h	m		d	h	m					
15	03	01	pc5 Tr	-	15	05	26	pc4 Lg	-	15	07	45	pc4 LM	-	15	09	41	bp MI	-
15	19	..	bp Kv	-	16	00	10	pi2 Eb	-	16	00	58	pi2 Ci	-	16	01	20	pc4 LM	-
16	02	00	pi2+pc4Ac-	-	16	02	33	ssc Pa	-	16	07	00	pc4 Lg	-	16	15	44	pi2 Gn	-
17	02	25	pi2 LM	-	17	03	20	pi2 Hu	-	17	07	00	bp Te	-	17	11	12	bps Sr	-
17	11	50	bp Gn	-	17	15	00	bp Tk	-	17	15	12	bp Wk	-	18	00	50	pi2 MB	-
18	09	00	pc4 Lg	-	18	10	00	pi2 Hu	-	18	10	11	pi2 Ss	-	18	10	24	bp DU	-
18	13	49	pi2 Es	-	18	20	07	pi2 Lg	-	19	04	00	pc4 Ac	-	19	04	48	pc5 Tr	-
19	06	52	si Hl	-	19	11	54	pc4 Lg	-	19	12	..	pc4 Ac	-	19	14	47	pi2 Es	-
19	19	30	pi2 Ks	-	20	00	28	bp Mc	-	20	06	40	pg Ha	-	20	12	39	ssc PB	-
20	13	37	pi2 MI	-	20	17	17	si Me	-	20	18	21	bps Hl	-	20	23	59	si Gn	-
21	00	27	bp Ni	-	21	01	25	bp Hb	-	21	01	..	bp Kv	-	21	03	00	b TC	-
21	07	00	pc4 Lg	-	21	17	25	ssc Su	-	21	18	12	ssc LM	-	21	19	00	pc4 Lg	-
21	20	..	bp Kv	-	22	06	07	pc4 Ac	-	22	06	20	si LM	-	22	09	00	pc4 Lg	-
22	11	57	ssc Sw?	-	22	13	12	ssc TC	-	22	15	00	bs Ir	-	22	19	39	bp CF	-
22	21	31	bp Lg	-	22	23	..	bp Kv	-	23	00	00	pc4 Lg	-	23	12	50	bps Ir	-
24	03	46	bp Lg	-	24	04	00	b MB	-	24	09	30	pi2 Hu	-	24	10	00	b Ir	-
24	15	20	si Ir	-	24	15	54	bp DU	-	24	17	12	ssc So	-	24	19	32	si Hb	-
25	01	13	b Db	-	25	04	01	pi2 Hu	-	25	10	42	si Lg	-	25	14	54	si Lg	-
25	17	09	bp Tf	-	25	20	33	si Te	-	25	21	32	bp Bi	-	25	23	35	pi2 Ac	-
26	06	00	pi2 Hu	-	26	10	29	pi2 Es	-	26	19	00	pc5 Bi	-	26	20	00	pc5 Ci	-
26	22	57	pc4 Tr	-	26	23	11	pi2 Lg	-	27	01	00	pi2 Od	-	27	01	11	pi2 Lg	-
27	04	40	pc4 LM	-	27	13	06	pc4 Bi	-	27	14	50	pi2 Gn	-	28	00	24	pi2 Bi	-
28	03	40	pg Me	-	28	04	03	pi2 Te	-	28	04	34	pc4 Lg	-	28	10	42	pi2 Hu	-
28	18	30	pi2 Tf	-	29	07	36	si Hl	-	29	17	24	bp Tf	-	29	19	46	bp Lg	-
29	21	06	bp Tf	-	30	00	08	ssc Hl	-	30	01	39	pc4 Lg	-	30	04	01	bp Lg	-
30	04	12	bp Od	-	30	04	25	bp Es	-	30	06	10	pc4 Lg	-	30	09	10	pi2 Es	-
30	16	15	bp Ss	-	31	10	35	pc4 Bi	-	31	11	10	bp DU	-	31	16	25	b Gn	-

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01	02	34	pc4 Tr	-	01	11	05	bp TC	-	01	11	57	pc4 Lg	-	01	14	..	ssc Sw	-
01	16	33	bp Ss	-	01	17	30	bp DU	-	01	17	56	si PB	-	01	18	40	si Te	-
01	18	..	bp Kv	-	01	20	00	bs Ir	-	01	21	..	bp Kv	-	01	23	40	si Pa	-
02	04	15	bp Te	-	02	06	48	si Kn	-	02	11	07	bp DU	-	02	14	42	pi2 Bi	-
02	17	..	bp Kv	-	02	18	39	pi2 Es	-	03	00	..	bp Kv	-	03	06	00	pc4 Lg	-
03	08	39	si Wn	-	03	13	42	pi2 Ss	-	03	14	45	pc4 Bi	-	03	17	18	bps Lg	-
03	22	47	b Lg	-	04	01	45	b Pe	-	04	04	15	bp Te	-	04	04	33	bp Vi	-
04	05	32	pc4 Lg	-	04	06	11	ssc LM	-	04	13	35	pi2 Ss	-	04	19	42	bs Lg	-
04	20	15	bp Tf	-	04	21	39	si TC	-	05	02	13	pg Me	-	05	03	39	pi2 Tw	-
05	08	49	pc4 Lg	-	05	10	23	ssc PB	-	05	17	16	si TC	-	05	18	12	bs Es	-
05	23	17	b Bl	-	06	13	57	pi2 Ss	-	06	15	40	si Hl	-	06	19	21	si Tr	-
06	21	18	si Tr	-	06	23	01	pi2 Lg	-	07	07	58	si Ks	-	07	18	51	pi2 Tk	-
07	20	..	bp Kv	-	07	22	43	si Lg	-	08	07	30	si Vl	-	08	09	25	ssc PB	-
08	17	27	pi2 Tk	-	08	23	54	pc4 Lg	-	09	00	55	pi2 MB	-	09	04	40	pi2 Pe	-
09	06	44	pc4 Lg	-	09	14	33	si Tl	-	09	16	26	ssc Db	-	10	07	32	bps Ag	-
10	08	44	pc4 Lg	-	10	13	47	pc4 Bi	-	11	08	45	pc4 Lg	-	11	19	55	pi2 Od	-
11	20	..	bp Kv	-	12	07	47	pi2 Hu	-	13	05	10	si LM	-	13	07	38	pi2 Hu	-
13	12	53	pc4 Lg	-	13	13	04	pi2 To	-	13	21	10	pc5 Es	-	14	00	(11)	pc5 MI	-
14	05	08	pi2 Hu	-	14	06	30	pi2 Te	-	14	08	49	pc4 Lg	-	14	10	09	bs MI	-
15	08	45	pc4 Lg	-	15	09	48	pi2 Te	-	15	13	15	bp Ac	-	16	01	36	pi2 Hu	-
16	06	33	bps Hu	-	16	08	14	pc4 Es	-	16	08	36	pc4 Lg	-	16	09	25	pi2 LM	-
16	11	45	pi2 Ss	-	16	12	02	pi2 Hu	-	17	02	53	pi2 Hu	-	17	04	40	pi2 Es	-
17	04	53	pc4 Lg	-	17	13	..	b Tr	-	17	19	17	si Tr	-	17	19	30	pc4 Am	-
17	22	..	bp Kv	-	18	07	09	ssc SM	-	18	11	13	pi2 Te	-	18	13	38	si Be	-
18	14	37	si Bi	-	18	18	..	bp Kv	-	18	22	43	b Pe	-	19	01	36	pi2 Lg	-
19	08	33	pi2 Hu	-	19	09	26	b Pe	-	19	16	..	bp Kv	-	20	05	44	pi2 Hu	-
20	06	08	pc4 LM	-	20	07	55	bp To	-	20	10	30	pi2 Hu	-	20	10	50	bp Ap	-
20	20	52	si Ha	-	21	07	00	pc4 Lg	-	21	09	53	bp Ap	-	21	10	35	pc4 Bi	-
21	11	30	pi2 Hu	-	21	14	05	pi2 Tk	-	22	04	42	pc4 LM	-	22	06	50	pi2 Hu	-
22	20	33	pi2 Tf	-	22	21	45	pi2 Bi	-	23	04	10	pi2 MB	-	23	20	55	pi2 MB	-
24	00	19	pi2 CF	-	24	04	50	pi2 Hu	-	24	19	24	pi2 Tk	-	25	05	02	ssc Qu	-
25	05	36	pi2 Te	-	25	05	53	pc4 Bi	-	25	06	30	pc4 Lg	-	25	10	35	si TC	-
25	15	00	pi2 Tk	-	25	22	30	bp TC	-	25	23	27	pi2 Lg	-	26	07	43	pc4 Lg	-
26	22	49	pc4 Lg	-	26	(23	00)	bp MB	-	27	06	31	bp Te	-	27	07	38	pc4 Lg	-
27	10	31	ssc SF	-	27	10	45	ssc Sw	-	27	13	00	ssc TC	-	27	17	22	pc4 Lg	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(APRIL)

d	h	m		d	h	m		d	h	m		d	h	m					
27	17	42	ssc Tr	-	27	18	30	bp Wk	-	27	18	51	bp CF	-	27	19	38	bp Tl	-
28	00	05	pi2 Hu	-	28	01	24	b TC	-	28	04	00	pc4 Lg	-	28	04	14	pi2 Hu	-
28	07	10	pi2 Hu	-	28	11	48	bp Kn	-	28	12	00	ssc Ir	-	28	20	02	bp Cm	-
28	21	50	bp CF	-	28	22	06	bps Lg	-	29	00	13	pi2 Hu	-	29	04	09	si Me	-
29	04	33	b Te	-	29	06	00	pc4 Lg	-	29	13	22	si TC	-	29	21	40	bs MB	-
30	03	08	pi2 Es	-	30	05	50	pi2 Hu	-	30	17	36	ssc SF	-	30	17	49	ssc Nu	-
30	19	46	bs Pe	-	30	21	26	b Pe	-	30	21	42	bp BI	-	30	23	15	bp Kg	-

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01	01	..	pc5 MI	-	01	04	00	pc4 Lg	-	01	06	11	si CF	-	01	06	22	si Tl	-
01	09	30	si Kn	-	01	11	50	b Ir	-	01	13	24	pi2 TC	-	01	16	30	bps Wk	-
01	17	12	bps Wk	-	01	19	39	pi2 TC	-	01	19	51	si LM	-	01	22	..	pc4 MI	-
01	23	03	pc4 Am	-	02	01	48	pi2 Fr	-	02	02	52	si Hl	-	02	04	47	pi2 Tu	-
02	20	30	si Tr	-	03	06	27	pc4 LM	-	03	07	00	pc4 Tf	-	03	09	55	pc4 Bi	-
03	12	03	pc4 LM	-	04	05	30	pi2 Hu	-	04	06	00	pi2 Hu	-	04	11	27	si Hl	-
04	13	40	pi2 Hu	-	05	01	14	ssc TC	-	05	01	50	pc5 St?	-	05	03	00	pc4 Tf	-
05	04	40	si Lg	-	05	05	08	b Ac	-	05	12	06	ssc PB	-	05	14	00	pi2 Bi	-
05	22	00	pc4 Tr	-	06	07	00	pi2 Te	-	06	18	46	pi2 Cm	-	07	02	12	pi2 Va	-
07	02	24	pi2 Hu	-	07	19	12	pc4 Tr	-	08	10	50	pi2 Co	-	09	03	45	pc5 Tr	-
09	05	03	pc4 LM	-	09	10	45	pi2 To	-	09	11	52	ssc PB	-	09	12	33	pi2 Ss	-
09	19	10	pi2 Od	-	10	09	15	b MB	-	10	12	30	pi2 To	-	10	15	19	bp Ss	-
10	17	41	si CF	-	10	18	05	si Mc	-	10	18	18	pi2 Tf	-	10	18	50	pi2 Bi	-
10	19	43	pi2 Bi	-	11	06	39	b Te	-	11	14	42	pi2 Bi	-	12	01	21	si DU	-
12	06	50	pi2 Tu	-	12	10	50	pi2 Co	-	13	15	59	bp BI	-	13	17	50	si MB	-
13	18(51)	pc4 MI	-	14	00	00	pc4 Lg	-	14	02	10	pi2 MB	-	14	14	10	pc4 Bi	-	
14	15	15	bps Wk	-	14	16	15	si Lg	-	14	23	05	pi2 MB	-	15	03	00	b Sw	-
15	04	20	bp Ir	-	15	04	40	pc4 Lg	-	15	06	10	si Te	-	15	06	26	bs Am	-
15	11	00	pc4 Tf	-	15	12	14	si Mo	-	15	15	30	bps Wk	-	15	20	05	pc4 Am	-
15	23	45	bp CF	-	15	23	57	bps Lg	-	16	01	15	pi2 Fr	-	16	02	00	pc4 Tf	-
16	04	10	pi2 Ae	-	16	08	25	pi2 TC	-	16	11	35	pc4 Lg	-	16	17	15	pi2 TC	-
16	20	05	bp St	-	16	23	20	bp MB	-	17	02	50	pi2 Fr	-	17	03	10	pi2 MB	-
17	03	45	pi2 MB	-	17	03	58	ssc Lg	-	17	05	44	pi2 Hu	-	17	06	30	pc4 Tf	-
17	06	52	pc4 Lg	-	17	08	50	bp PM	-	17	14	08	bps Wk	-	18	03	36	pi2 MI	-
18	04	02	si Be	-	18	08	20	pc4 Bi	-	18	08	31	pc4 Lg	-	19	04	30	pc5 Tr	-
19	07	45	pi2 Ho	-	19	08	10	pi2 Si	-	19	18	30	bp Wk	-	19	20	25	pi2 Bi	-
19	23	..	pc4 Co	-	20	00	(15)pc4 MI	-	20	01	05	bp SM	-	20	02	35	pi2 Bi	-	
20	06	07	pc4 LM	-	20	07	15	pi2 Te	-	20	09	14	bp MI	-	20	15	15	b PB	-
21	03	32	pc4 LM	-	21	04	58	pi2 Hu	-	21	05	02	pc4 LM	-	21	06	00	pi2 Hu	-
21	09	45	pi2 Ho	-	21	17	24	si Lg	-	21	17	40	pi2 Od	-	22	12	30	b Tr	-
22	17	51	pc4 Lg	-	23	01	15	pc4 Bi	-	23	03	10	pi2 MB	-	23	05	45	pi2 Te	-
23	11	00	pi2 Hu	-	23	13	00	pc4 Bi	-	23	15	05	pi2 Ss	-	23	20	45	bp Bi	-
23	21	08	bps Lg	-	24	03	12	si Te	-	24	03	26	pi2 Bi	-	24	05	10	pi2 Tf	-
24	06	26	bp Te	-	24	06	52	pc4 Lg	-	24	08	27	bp To	-	24	08	45	pc4 Bi	-
24	13	40	bp Ir	-	24	17	00	bp Tf	-	24	17	..	pc4 Si	-	25	04	00	pc4 Bi	-
25	06	20	pi2 Hu	-	25	09	00	pc4 Lg	-	25	10	05	pc4 Bi	-	25	14	40	pi2 Tf	-
25	18	45	bp Wk	-	25	21	10	pc4 Fr	-	26	20	28	pc4 Tr	-	26	23	38	pi2 Bi	-
27	03	00	pc4 Tf	-	27	07	00	pc4 Lg	-	28	01	20	pi2 Hu	-	28	01	48	pc4 Bi	-
28	09	00	pc4 Lg	-	28	11	35	bp PM	-	28	11	52	bp DU	-	28	12	06	si PB	-
28	13	04	si Wn	-	28	14	40	pc4 Bi	-	28	15	36	pi2 Tf	-	28	16	09	bp Wk	-
28	21	37	pi2 LM	-	29	01	00	pc4 Tf	-	29	06	50	pi2 Hu	-	29	16	24	pi2 Tk	-
29	17	36	pi2 Tk	-	30	06	33	pc5 MI	-	30	17	16	pi2 Lg	-	30	23	10	b Su	-
31	03	00	pi2 MB	-	31	07	07	pi2 Hu	-	31	07	33	pc4 LM	-	31	11	02	pc4 LM	-
31	12	00	pc4 Bi	-	31	19	50	pi2 Od	-	31	20	35	pi2 Bi	-	31	21	23	pi2 Bi	-
31	21	55	pi2 Bi	-	31	22	40	bp Hr	-					-					-

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01	02	12	pc4 SJ	-	01	04	10	pi2 MB	-	01	07	45	pi2 Si	-	01	08	46	pi2 Hu	-
01	13	44	pi2 Tn	-	01	21	55	pi2 MB	-	02	10	44	bp Ac	-	02	11	04	pi2 Bi	-
02	11	54	bp MI	-	02	14	02	pc5 MI	-	02	14	25	pi2 Bi	-	02	17	42	pg Bi	-
02	18	43	pc4 Lg	-	02	19	34	pi2 Od	-	02	22	50	pc4 Fr	-	03	00	36	b TC	-
03	03	55	pi2 MB	-	03	04	40	pi2 Hu	-	03	07	25	pi2 Co	-	03	08	20	pi2 Ho	-
03	23	35	bp Bi	-	04	02	17	bp Mc	-	04	02	30	pi2 SM	-	04	04	20	pi2 Pa	-
04	06	20	pi2 Tu	-	04	22	..	pc4 Co	-	05	02	05	pi2 Bi	-	05	02	30	pi2 MB	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(JUNE)

d	h	m		d	h	m		d	h	m		d	h	m					
05	06	20	pi2 Hu	-	05	22	40	pc4 Fr	-	06	03	20	pi2 Fr	-	06	09	31	b TC	-
06	12	14	pi2 Hu	-	06	21	08	pc4 Lg	-	06	22	00	pi2 Bi	-	07	04	02	pi2 Bi	-
07	12	57	b Sr	-	07	18	21	si Te	-	08	00	18	b TC	-	08	00	36	b TC	-
08	06	19	pc4 Bi	-	08	11	03	b Sr	-	08	17	33	pi2 Tk	-	09	00	..	pc5 MI	-
09	04	50	pi2 Fr	-	09	05	03	pi2 Te	-	09	05	18	pi2 Hu	-	09	06	30	pc4 Lg	-
09	09	00	pc4 Tf	-	09	09	40	pc4 Lg	-	09	16	45	b TC	-	09	17	03	pc4 Lg	-
09	17	57	b TC	-	09	20	13	ssc Bi	-	10	00	00	pc4 Lg	-	10	02	19	bp Lu	-
10	04	15	si Te	-	10	05	54	si Te	-	10	08	00	bs Ir	-	10	09	20	pc4 Cm	-
10	19	42	bps Wk	-	10	21	26	ssc Tr	-	10	22	33	bp Ac	-	10	22	51	bp Lg	-
11	00	00	pc4 Lg	-	11	02	40	b SF	-	11	03	41	bp Lg	-	11	07	00	bp Te	-
11	08	38	si LM	-	11	10	23	pi2 To	-	11	11	05	pi2 To	-	11	17	05	bp DU	-
11	17	27	bps Wk	-	12	03	17	bp Ac	-	12	05	49	si Tl	-	12	06	00	pc4 Tf	-
12	10	32	bps Bi	-	12	11	50	pi2 Bi	-	12	12	04	ssc PB	-	12	12	42	bp DU	-
12	16	08	pi2 Cm	-	12	19	00	pc4 Si	-	12	22	30	pi2 SJ	-	12	22	45	pc4 Am	-
13	00	00	pc4 Lg	-	13	01	02	si Lg	-	13	02	22	pi2 Pe	-	13	03	19	pi2 Pe	-
13	03	58	bps Hu	-	13	05	17	pi2 Pe	-	13	12	30	pc4 Bi	-	13	20	50	pc4 Bi	-
13	21	00	pc5 Fr	-	13	22	20	pi2 MB	-	14	01	40	pc4 Am	-	14	04	00	pc4 Tf	-
14	04	40	pi2 Bi	-	14	08	30	pc4 Bi	-	14	09	30	pi2 Lu	-	14	12	55	pc4 Bi	-
14	21	30	si Tr	-	15	02	23	ssc Lg	-	15	07	15	pc4 Lg	-	15	07	50	pi2 Hu	-
15	09	57	pi2 Hu	-	15	13	20	pc5 Ci	-	16	02	00	pc4 Tf	-	16	13	08	pi2 Ss	-
16	19	08	pc4 Lg	-	16	22	55	pi2 Co	-	16	22	..	pc4 Co	-	17	01	05	pi2 Co	-
17	03	28	pi2 SM	-	17	05	42	si Tl	-	17	07	36	pi2 Te	-	17	07	50	pi2 Hu	-
17	09	25	pc4 Lg	-	18	11	26	bp MI	-	18	12	..	bp Kv	-	18	13	..	bp Kv	-
18	18	39	bp Tf	-	18	22	..	bp Kv	-	19	11	12	si Ma	-	19	16	(00)	pc5 MI	-
19	20	57	ssc Tr	-	19	22	30	ssc MB	-	19	22	45	ssc Sw	-	20	01	35	pc5 MI	-
20	11	09	pi2 To	-	21	01	..	bp Kv	-	21	08	30	bp To	-	21	08	45	bp Od	-
21	10	00	pc4 Tf	-	21	17	56	pc4 Lg	-	21	20	00	bp Wk	-	22	07	00	pc4 Tf	-
22	08	39	si Hl	-	22	09	35	pc4 Lg	-	22	11	00	pc5 Tr	-	22	14	20	pi2 Ho	-
22	19	15	bp Wk	-	22	20	54	pi2 Eb	-	22	21	33	pi2 Tf	-	22	23	11	pi2 Bi	-
23	03	15	pi2 Mb	-	23	08	24	si Hl	-	23	09	10	pi2 Ho	-	23	10	30	pi2 Tf	-
23	11	30	pi2 Ho	-	23	22	55	si MB	-	24	03	00	pi2 MB	-	24	12	40	pc4 Lg	-
24	15	(25) pc5 MI	-	24	18	..	pc5 Co	-	24	20	24	bp Wk	-	24	20	40	bp Su	-	
25	06	12	pi2 Fr	-	25	07	00	pc4 Lg	-	25	07	46	bp DU	-	25	08	11	si MI	-
25	13	18	si LM	-	25	21	00	pc4 Si	-	24	23	..	pc4 Co	-	26	00	35	pi2 Tw	-
26	02	56	pc4 Tr	-	26	04	00	pi2 Hu	-	26	04	27	pc4 Bi	-	26	06	00	pc4 Tf	-
26	07	00	pi2 To	-	26	10	40	bp DU	-	26	15	15	bp Wk	-	26	21	10	pi2 Es	-
26	21	39	pi2 IK	-	26	22	..	bp Kv	-	27	13	10	pc4 Lg	-	27	14	53	bp Bi	-
27	20	00	pi2 Tf	-	28	04	25	pi2 MB	-	28	07	48	si Hl	-	28	10	00	b SJ	-
28	12	22	si TC	-	28	14	00	pc4 Si	-	28	18	..	pc4 Co	-	28	22	14	bp Ma	-
29	01	18	pi2 Hu	-	29	04	00	pc4 Tf	-	29	04	45	pi2 Bi	-	29	08	00	pc4 Lg	-
29	09	06	bp DU	-	29	15	..	bp Kv	-	29	20	30	pc4 Tu	-	29	21	..	pc4 Co	-
30	00	16	pi2 Bi	-	30	10	18	pc4 Lg	-	30	20	30	pc4 Fr	-	30	23	45	pi2 Lg	-

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01	02	37	pi2 Te	-	01	06	00	pc4 Tf	-	01	06	48	pc4 Tw	-	01	08	12	pi2 Te	-
01	12	10	pc4 Bi	-	01	13	45	pc4+pi2Ac	-	01	17	13	pi2 Tk	-	01	20	37	pi2 Lg	-
01	20	59	pi2 Tk	-	01	21	59	pi2 Bi	-	01	22	40	pi2 Bi	-	02	08	26	pi2 Ac	-
02	11	44	pi2 Hu	-	02	12	30	pc4 Tw	-	02	17	45	pg Es	-	02	17	56	pc5 SM	-
02	20	20	pi2 Od	-	02	21	30	pi2 Bi	-	02	22	46	pi2 Bi	-	03	01	14	pi2 Ac	-
03	02	21	si Kn	-	03	05	20	pc4 Lg	-	03	05	42	pc4 Ac	-	03	09	20	pi2 Bi	-
03	11	16	si Te	-	04	01	22	pi2 Ac	-	04	02	58	pi2 Ac	-	04	04	09	pc4+pi2Ac	-
04	07	08	pc4 Lg	-	04	11	20	pi2 Es	-	04	22	26	pi2 Bi	-	04	23	53	pi2 Bi	-
05	00	00	pc4 Lg	-	05	00	15	pc4 Ac	-	05	04	03	pc4 Tr	-	05	14	50	pi2 Hu	-
05	16	40	pc4 Lg	-	05	19	10	b TC	-	06	04	43	pi2 Ac	-	06	05	20	pi2 Su	-
06	08	20	pc4 Bi	-	06	14	18	pc4 MI	-	06	17	32	si Lg	-	06	21	05	pi2 Bi	-
07	05	32	pi2 Ac	-	07	06	32	pi2 Ac	-	07	10	46	pc4 Lg	-	07	11	..	ssc Sw	-
07	20	38	bps Lg	-	08	00	00	pc4 Lg	-	08	00	15	pi2 Ac	-	08	01	45	pc4 Am	-
08	02	..	bp Kv	-	08	11	30	bp Ir	-	08	12	08	pi2 To	-	08	12	24	bps Hl	-
08	18	40	bp Vl	-	08	19	15	pi2 Pe	-	09	00	00	pc4 Lg	-	09	00	55	pi2 Ac	-
09	01	20	pi2 Cf	-	09	04	07	pi2 Ac	-	09	05	10	bp Hu	-	09	05	24	bp Te	-
09	07	40	pi2 To	-	09	09	20	pi2 Bi	-	09	14	50	si Lg	-	09	18	06	pi2 Cm	-
09	19	51	bp Bi	-	10	03	22	pi2 Ac	-	10	06	58	pc4 Lg	-	10	10	45	pc4 Ac	-
10	12	36	bp DU	-	10	16	05	pc4 Bi	-	10	23	30	pi2 Od	-	11	00	15	pi2 Bi	-
11	04	03	pi2 Ag	-	11	10	30	pc4 Ac	-	11	10	41	bp MI	-	11	11	35	pi2 Tk	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(JULY)

d	h	m		d	h	m		d	h	m		d	h	m					
11	12	02	pc4 Lg	-	11	13	20	pc4 Bi	-	11	18	04	pi2 Od	-	11	19	..	bp Kv	-
11	20	00	bp Wk	-	12	00	29	pi2 Bi	-	12	01	05	pi2 Fr	-	12	01	36	pi2 Bi	-
12	05	55	pc4 Ac	-	12	08	25	pi2 Ho	-	12	08	55	pi2 Ac	-	12	10	35	pc4 Lg	-
12	15	45	pc4 Fr	-	12	18	00	si TC	-	12	21	15	pi2 Od	-	12	21	30	pi2 Te	-
12	22	57	bp CF	-	13	05	15	pi2 Tu	-	13	11	45	bp DU	-	13	15	40	pi2 Ss	-
13	21	54	pi2 Od	-	14	01	00	pc4 Co	-	14	02	05	pi2 MB	-	14	08	35	pc4 Lg	-
14	17	34	pi2 Od	-	14	18	..	pc4 Co	-	14	19	12	pi2 Tk	-	15	00	45	pc4 Ac	-
15	01	26	pc4+pc5Tw	-	15	09	45	pc4 Bi	-	16	02	52	pi2 Ac	-	16	12	23	si Hl	-
16	13	11	pc4 Lg	-	16	13	32	pi2 Ss	-	16	14	22	pi2 Bi	-	16	14	47	pi2 Ac	-
16	16	03	ssc TC	-	16	18	00	bp Mc	-	16	18	16	ssc SF	-	16	20	45	pi2 Ni	-
17	03	00	pc4 Tf	-	17	03	55	pc4 Ac	-	17	08	41	si Hl	-	17	13	06	si Kg	-
17	14	18	bps Ks	-	17	17	58	b LM	-	17	19	00	si TC	-	18	00	00	pc4 Lg	-
18	01	..	bp Kv	-	18	02	46	pi2 Ac	-	18	05	12	b Te	-	18	10	01	bp DU	-
18	11	40	bps Ir	-	18	17	14	bp Hb	-	19	02	16	pi2 Pe	-	19	03	00	pc4 Tf	-
19	03	24	pc4 Lg	-	19	04	51	pc4+pc5Tw	-	19	19	25	b TC	-	19	19	53	b Cm	-
19	20	10	pi2 Cm	-	19	21	58	pi2 Lg	-	20	04	42	pc4 Lg	-	20	05	20	pc4 Gn	-
20	08	00	pc4 Bi	-	20	10	25	pc4 Ac	-	20	19	15	b Su	-	21	02	28	si DU	-
21	02	43	bps Ag	-	21	05	00	pc4 Bi	-	21	08	00	pc4 Tf	-	21	22	52	bp St	-
22	00	51	ssc Hl	-	22	04	41	b Ac	-	22	05	24	pi2 Bi	-	22	05	43	pc4 Lg	-
22	16	53	b LM	-	22	20	14	si Te	-	23	04	35	pi2 Ac	-	23	05	31	pi2 Ac	-
23	06	22	bp MI	-	23	09	43	pi2 Bi	-	23	12	00	pi2 Hu	-	23	18	17	pi2 Od	-
23	18	43	pi2 Tf	-	23	20	..	bp Kv	-	24	03	16	pc4 Ac	-	24	10	17	pi2 To	-
24	21	12	pi2 Lg	-	25	06	40	pi2 Ac	-	25	11	17	ssc SF	-	25	19	00	pi2 Ac	-
25	20	18	pi2 Ac	-	26	00	30	pc4 Co	-	26	07	25	pc4 Ac	-	26	10	(39)	bp MI	-
26	19	00	pc4 Co	-	27	00	00	pi2 Hu	-	27	00	20	pi2 Bi	-	27	01	00	pc4 SJ	-
27	01	41	pi2 Ac	-	27	03	10	pi2 Co	-	27	05	05	pi2 Ac	-	27	08	00	pc4 Es	-
27	09	15	pc4 Bi	-	27	11	25	pi2 To	-	27	13	00	ssc Ae	-	27	13	..	bp Kv	-
27	18	18	pc4 Tr	-	28	17	42	pi2 Bi	-	29	00	53	pc4 Ac	-	29	01	29	pi2 CF	-
29	02	40	pi2 Bi	-	29	08	19	pi2 Ac	-	29	12	25	si Es	-	29	14	04	bp To	-
29	16	30	ssc TC	-	29	21	25	si Te	-	30	01	05	pi2 Ac	-	30	02	14	pi2 Ac	-
30	04	35	pc4 Bi	-	30	07	50	si TC	-	30	10	15	pc4 Bi	-	30	11	45	bp To	-
30	12	58	si Lg	-	30	13	26	bp DU	-	30	15	53	pi2 Ac	-	30	17	42	pi2 Pe	-
30	18	00	pi2 Si	-	30	19	40	pi2 Pe	-	30	20	14	pc4 Bi	-	30	21	00	pc4 Tf	-
30	22	..	pc4 Gn	-	31	02	10	pc4 Co	-	31	05	13	pi2 Ac	-	31	13	56	pc4 MI	-

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01	01	35	pc4 Bi	-	01	02	21	pi2 Tw	-	01	02	54	pc4 Am	-	01	04	10	pc4 Gn	-
01	06	35	pi2 Ac	-	01	09	25	pi2 Co	-	01	10	25	pi2 MI	-	01	13	16	bp TC	-
01	14	38	pi2 Ac	-	01	15	35	pc4 Bi	-	01	19	00	pi2 Tk	-	01	19	11	pi2 Cm	-
01	19	28	bps Lg	-	01	20	18	bps Lg	-	02	00	17	bp Db	-	02	04	29	pi2 MB	-
02	18	09	pi2 Ni	-	02	20	00	pi2 Fr	-	03	01	25	ssc Lg	-	03	02	22	pi2 Hu	-
03	06	10	pi2 Bi	-	03	06	30	pc4 Lg	-	03	08	36	pi2 Hu	-	03	13	20	pc4 Bi	-
03	15	..	bp Kv	-	03	17	42	pi2 Ma	-	03	18	09	pi2 Tf	-	03	21	41	si Co	-
04	03	23	si Te	-	04	04	36	pc4 Lg	-	04	08	49	si Lg	-	04	13	05	pc4 Bi	-
04	21	50	bp Bi	-	05	03	30	pc4 Ac	-	05	12	00	bp Tw	-	05	16	..	bp Kv	-
06	00	45	pc4 Ac	-	06	01	31	pi2 Bi	-	06	02	17	bp Eb	-	06	02	45	pc5 Co	-
06	03	18	si TC	-	06	03	45	pc4 Bi	-	06	07	18	pc4 Lg	-	06	08	00	pc4 Fr	-
06	08	15	pc4 St	-	06	09	00	pi2 Hu	-	06	18	50	pc4 Bi	-	06	23	50	pi2 St	-
07	05	05	pc4 Bi	-	07	12	20	b Ir	-	07	17	15	bp Wk	-	08	03	33	pc5 Tr	-
08	05	50	pi2 Ho	-	08	10	45	pi2 Co	-	08	11	30	pi2 Ho	-	08	13	20	si Lg	-
08	13	44	si Ma	-	08	21	22	pc4 Bi	-	08	22	45	pi2 MB	-	09	09	42	ssc Sw	-
09	13	50	pc4 Bi	-	09	18	35	si Tr	-	09	21	52	pi2 Lg	-	09	22	05	pi2 Lg	-
10	02	26	pi2 Hu	-	10	07	00	bp Te	-	10	08	20	pc4 Ac	-	10	15	41	pc4 Ac	-
10	16	53	pi2 Cm	-	10	22	22	pi2 Cm	-	11	00	18	pc4 Lg	-	11	02	50	pi2 Me	-
11	03	43	si Lg	-	11	04	56	pi2 Lg	-	11	07	25	ssc TC	-	11	17	00	pi2 Si	-
11	18	18	pi2 Cm	-	12	00	00	pc4 Lg	-	12	00	51	pi2 Tw	-	12	04	00	pc4 Tf	-
12	04	28	si Hl	-	12	05	16	si Hl	-	12	07	57	bp Am	-	12	19	30	b Ir	-
13	01	00	pc4 Tf	-	13	03	07	pi2 Ac	-	13	05	18	pc4 Ac	-	13	11	15	pi2 Bi	-
13	12	36	pi2 Bi	-	13	13	43	si TC	-	13	14	54	pi2 Tk	-	13	16	00	pc5 Tr	-
13	23	12	pi2 Fr	-	14	04	35	pc4 St	-	14	05	00	pc4 Tf	-	14	08	25	pc4 Bi	-
14	14	34	bp Ap	-	14	15	00	pc4 Tu	-	14	17	..	bp Kv	-	14	20	52	pi2 Ni	-
14	22	23	pi2 Od	-	14	22	36	pi2 Lg	-	14	23	21	pi2 Lg	-	15	03	06	pi2 Ac	-
15	09	15	pi2 Co	-	15	14	36	pi2 Tk	-	15	18	34	pi2 Od	-	15	20	..	bp Kv	-
15	23	32	pi2 Bi	-	16	00	24	pi2 Bi	-	16	03	59	si Lg	-	16	07	03	si Sr	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(AUGUST)

d	h	m		d	h	m		d	h	m		d	h	m					
16	07	55	pi2 Ac	-	16	10	47	pc4 Ac	-	16	12	00	pc4 Lg	-	16	16	43	pi2 Ac	-
16	17	09	pc4 Lg	-	16	20	12	pc4 Lg	-	16	22	..	bp Kv	-	17	00	00	pi2 MB	-
17	00	19	pi2 Cm	-	17	08	27	pi2 Ac	-	17	15	24	pi2 Tf	-	18	00	00	pi2 Hu	-
18	00	54	bp IK	-	18	01	09	si TC	-	18	02	..	bp Kv	-	18	07	30	pc4 Lg	-
18	11	20	pi2 Hu	-	18	12	20	bp To	-	18	16	54	pi2 Tk	-	18	20	23	pi2 Od	-
18	21	00	pi2 MB	-	18	21	46	pi2 MB	-	19	07	00	pc4 Lg	-	19	08	20	pi2 To	-
19	08	50	pc4 Ac	-	19	15	58	pi2 Tn	-	19	22	08	bp V1	-	20	03	00	pi2 Hu	-
20	03	52	pi2 Ac	-	20	14	27	pc4 Ac	-	20	19	27	pc4 Lg	-	21	07	40	bp TC	-
21	09	49	bp Ap	-	21	10	31	bp TC	-	21	15	35	pi2 Bi	-	21	17	05	bp Ir	-
21	20	41	bp St	-	22	02	..	bp Kv	-	22	09	50	bp To	-	22	10	01	bps Vi	-
22	12	04	si H1	-	22	12	43	pi2 Tf	-	23	06	02	pi2 Ac	-	23	13	55	pc4 Ac	-
23	16	..	bp Kv	-	23	17	..	bp Kv	-	23	22	15	pi2 MB	-	24	00	35	pi2 MB	-
24	03	00	pc4 Tf	-	24	04	12	pc4+pc5 Tw	-	24	04	52	pc4 Es	-	24	07	22	pc4 SM	-
24	13	33	pi2 To	-	24	17	24	si Lg	-	25	04	15	pi2 Bi	-	25	08	28	si H1	-
25	11	00	si Lg	-	25	11	57	si Wn	-	25	12	22	pc4 Bi	-	25	13	10	ssc TC	-
25	14	52	bp DU	-	25	15	08	pi2 Bi	-	25	15	59	si Es	-	26	00	32	bp Pe	-
26	03	04	pi2 Bi	-	26	11	55	pc4 Ac	-	26	13	06	b Ir	-	26	13	33	ssc TC	-
26	14	54	pc4 Lg	-	26	19	..	pc4 Si	-	26	23	15	bp Bi	-	27	03	00	pc4 Tw	-
27	04	00	pc4 Tf	-	27	05	24	pi2 Ac	-	27	07	30	pc4 Lg	-	27	08	12	pc4 Ac	-
27	19	08	bp H1	-	28	00	44	pi2 MI	-	28	04	17	pc5 Ac	-	28	08	18	pi2 Co	-
28	12	00	pc4 Ac	-	28	15	15	pi2 Ma	-	28	18	30	pi2 MI	-	28	19	54	bp Qu	-
29	01	00	si H1	-	29	06	42	pi2 Ac	-	29	07	50	pi2 Hu	-	29	11	30	pi2 Bi	-
29	13	25	pi2 Bi	-	29	13	53	pi2 Gn	-	30	04	26	pi2 Tw	-	30	11	31	pi2 To	-
30	13	34	pi2 Bi	-	30	15	58	si Lg	-	30	20	03	pc5 Tr	-	30	21	00	pi2 SJ	-
30	21	50	pi2 Bi	-	30	22	..	bp Kv	-	31	00	30	pi2 Lg	-	31	01	54	pi2 Lg	-
31	08	08	pc4 Lg	-	31	08	43	pc4 Ac	-	31	10	24	pi2 Am	-	31	20	..	bp Kv	-
31	23	20	bp MB	-															

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01	01	50	pc4 Ac	-	01	06	05	pi2 Ho	-	01	12	35	pc4 Bi	-	01	12	59	ssc TC	-
01	13	30	pi2 Fr	-	01	14	51	pi2 Ac	-	01	17	20	bs Ir	-	01	18	30	bp Od	-
01	22	..	bp Kv	-	02	03	04	pi2 Ac	-	02	06	09	pi2 Si	-	02	08	10	pc4 St	-
02	08	45	pi2 Hu	-	02	10	14	si TC	-	02	11	06	pc4 Lg	-	02	11	53	pi2 Lg	-
02	15	05	pc4 Bi	-	02	15	45	pi2 Ac	-	02	23	45	pi2 Fr	-	03	00	48	pc5 SM	-
03	05	15	pc4 Es	-	03	10	12	bps Sr	-	03	10	45	pi2 Hu	-	03	12	40	pc4 Bi	-
03	14	29	pc4 Lg	-	03	16	15	pi2 Hu	-	03	17	..	bp Kv	-	03	20	55	bp Hr	-
03	22	..	bp Cm	-	04	02	25	pi2 Fr	-	05	00	52	pi2 MB	-	05	01	10	bp Hu	-
05	04	27	pc4 Ac	-	05	05	00	pc4 Tr	-	05	08	50	pi2 Bi	-	05	11	30	bp PM	-
05	11	59	pi2 To	-	05	12	58	bp PM	-	05	13	46	bp PM	-	05	14	35	bp PM	-
06	03	50	pi2 Fr	-	06	06	07	bps Me	-	06	06	30	pc5 Tr	-	06	08	35	pi2 Bi	-
06	18	12	bp Nu	-	06	18	31	pi2 Bi	-	06	21	15	bp Kg	-	06	23	04	si Te	-
06	23	15	si Mc	-	07	03	26	si H1	-	07	06	48	si Me	-	07	07	06	pc4 Lg	-
07	11	30	bp Ir	-	07	14	35	si TC	-	07	16	15	pc4 Si	-	07	18	07	bp Db	-
07	18	18	si LM	-	08	01	40	pi2 Hu	-	08	02	12	bps Hu	-	08	04	52	pc4 Lg	-
08	06	55	pi2 Hu	-	08	09	51	pi2 Si	-	08	17	16	b Pe	-	08	23	08	bp CF	-
08	23	35	pi2 MB	-	09	02	23	pi2+pc4 Ac	-	09	02	45	bp Te	-	09	05	45	pc4 Ac	-
09	07	10	pc5 Ci	-	09	08	54	pc4 Lg	-	09	09	20	pi2 Ho	-	09	11	30	pi2 Gu	-
09	13	45	pc4 Bi	-	09	15	52	si Tl	-	09	16	..	bp Kv	-	09	17	00	bps Wk	-
09	20	00	pi2 Hu	-	09	21	54	pi2 Ni	-	10	01	14	bp Tw	-	10	03	43	bp Te	-
10	04	13	si H1	-	10	18	30	pi2 Lg	-	10	19	..	bp Kv	-	10	20	06	pi2 Hu	-
11	04	20	pi2 Hu	-	11	06	04	si H1	-	11	06	23	si Sr	-	11	09	30	si Sr	-
11	11	32	si H1	-	11	19	00	pi2 Ni	-	11	23	20	pc4 Co	-	12	06	28	si Sr	-
12	10	57	pc4 Lg	-	12	11	46	pi2 Hu	-	12	23	10	pi2 Aq	-	13	00	00	pc4 Co	-
13	10	05	pi2 MB	-	13	03	10	pi2 MB	-	13	07	27	pc4 Ac	-	13	20	30	bp Su	-
14	18	07	pi2 Tr	-	14	20	07	pi2 Ni	-	15	00	00	pi2 Hu	-	15	20	55	pi2 Ni	-
15	21	46	pi2 Ni	-	15	21	58	pi2 Bi	-	16	00	37	bp Be	-	16	02	07	pc4 Bi	-
16	05	14	si H1	-	16	05	35	pc4 Ac	-	16	10	00	pi2 Me	-	16	10	56	ssc TC	-
16	17	00	b Pe	-	16	17	56	ssc LM	-	16	23	50	pi2 Fr	-	17	01	..	bp Kv	-
17	04	00	pc4 Bi	-	17	04	42	pc4 Lg	-	17	08	35	pc4 Fr	-	17	15	24	pi2 Tk	-
17	18	35	pi2 Hu	-	17	19	12	pc4 Ac	-	17	20	..	bp Kv	-	18	06	33	pi2 Ac	-
18	07	18	pi2 Te	-	18	07	30	pc4 Ac	-	18	07	46	pc4 Tw	-	18	12	40	pi2 Co	-
18	14	30	pi2 Tk	-	18	17	06	pi2 Tk	-	18	22	..	bp Kv	-	19	03	40	pi2 MB	-
19	05	05	pc4 Ac	-	19	11	10	pi2 Gn	-	19	21	03	si Lg	-	19	21	14	si Tn	-
20	10	30	pi2 Si	-	20	13	20	pi2 Hu	-	20	16	35	pi2 Od	-	20	23	..	bp Kv	-

TABLE 4 MINOR DISTURBANCES 1964 - continued
(SEPTEMBER)

d	h	m		d	h	m		d	h	m		d	h	m					
21	03	04	bps Mo	-	21	04	00	pc4 Tf	-	21	07	00	pi2 Te	-	21	07	40	pi2 Bi	-
21	20	..	bp Kv	-	21	21	..	bp Kv	-	21	23	..	pc4 Si	-	22	00	11	si DU	-
22	00	(25)	pc5 MI	-	22	01	49	b Sw	-	22	04	15	pc4 Lg	-	22	11	30	pi2 Fr	-
22	12	43	si Tl	-	22	19	56	pi2 Cm	-	22	22	..	bp Kv	-	23	01	13	pi2 Pe	-
23	03	05	pc4 Bi	-	23	07	04	pc5 Tr	-	23	10	55	bps MI	-	23	20	46	pi2 Od	-
23	22	..	bp Kv	-	24	07	07	si Hl	-	24	08	22	pi2 Bi	-	24	08	52	bps Am	-
24	09	05	pc4 Lg	-	24	12	45	pi2 Bi	-	24	14	30	pi2 Bi	-	24	15	10	bp Ir	-
24	23	13	pi2 Bi	-	25	07	..	pc4 Si	-	25	08	13	bp MI	-	25	13	45	pi2 Bi	-
25	16	05	pi2 Bi	-	25	18	15	si Lg	-	25	21	55	pi2 Bi	-	26	00	27	pc4 Ac	-
26	03	00	pc4 Tf	-	26	03	23	pc4 Bi	-	26	13	00	pi2 Hu	-	26	19	40	pi2 Bi	-
26	21	35	pi2 Fr	-	26	23	05	pi2 MB	-	26	23	37	pi2 MB	-	27	01	04	pc4 Ac	-
27	07	11	bps Ag	-	27	08	25	pi2 Bi	-	27	10	39	ssc Tf	-	27	14	55	pi2 Gn	-
27	17	..	bp Kv	-	27	23	..	bp Kv	-	28	01	36	pi2 Te	-	28	03	42	pi2 Ac	-
28	04	27	pi2 Te	-	28	08	00	bp Te	-	28	10	16	pc4 Lg	-	28	10	51	pi2 Bi	-
28	12	50	bps Ir	-	28	15	00	bp Wi	-	28	18	34	bp St	-	28	22	10	pi2 MB	-
29	01	18	pi2 Bi	-	29	02	35	pc4 Ac	-	29	04	40	bp Hu	-	29	05	06	pc5 Tr	-
29	06	00	pc4 Tf	-	29	06	35	pc4 Bi	-	29	07	00	pc4 Lg	-	29	09	00	pi2 SM	-
29	11	36	pc4 Ac	-	29	12	00	pi2 Co	-	29	12	32	bp To	-	29	12	45	pi2 Bi	-
29	16	43	bps Bi	-	29	22	36	bp Bi	-	30	03	59	pc4 Ac	-	30	07	00	pc4 Lg	-
30	09	40	pi2 St	-	30	16	12	bp Tf	-	30	22	05	pi2 MB	-					

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01	03	14	bps Tw	-	01	06	27	si Hl	-	01	07	20	pi2 Bi	-	01	10	07	pi2 To	-
01	14	25	bp Ir	-	01	20	09	si Lg	-	01	21	48	sfe To?	-	01	23	06	pi2 Bi	-
02	00	40	ssc Ag	-	02	04	00	pc4 Tf	-	02	13	23	pi2 Te	-	02	14	00	pi2 Bi	-
02	14	34	pi2 MI	-	03	00	04	si Lg	-	03	11	56	pi2 Ac	-	03	20	15	pc4 Si	-
04	00	00	pi2 Hu	-	04	03	27	bp Te	-	04	06	20	si Lg	-	04	06	35	pg Es	-
04	07	12	pc4 Lg	-	04	08	30	pi2 Si	-	04	11	02	si Es	-	04	15	..	pc4 Si	-
04	17	50	pg Fr	-	04	19	00	bp Tf	-	04	20	..	bp Kv	-	04	23	29	ssc Tr	-
05	18	00	bp Tf	-	05	23	00	b Su	-	06	06	45	ssc TC	-	06	07	06	pc5 Tr	-
06	07	20	pi2 Hu	-	06	09	10	si Lg	-	06	10	20	pi2 Hu	-	06	13	06	pc5 Tr	-
06	13	40	pi2 Bi	-	06	19	21	pi2 Lg	-	06	19	..	bp Kv	-	06	22	..	bp Kv	-
06	23	30	pc5 Si	-	07	00	07	pi2 Tw	-	07	02	21	pi2 Ac	-	07	12	15	pi2 Bi	-
07	12	58	bp To	-	07	16	05	pi2 Tk	-	07	17	17	pi2 Tk	-	07	17	..	bp Kv	-
07	19	24	si Lg	-	07	22	..	bp Kv	-	08	01	36	pi2 Hu	-	08	04	56	pc4 Tr	-
08	06	00	pc4 Tf	-	08	07	00	pc4 Lg	-	08	08	15	si Tl	-	08	14	..	bp Kv	-
08	15	..	bp Kv	-	08	20	04	pi2 Hu	-	09	03	03	pi2 Ac	-	09	07	00	pc4 Lg	-
09	07	16	bp MI	-	09	08	59	bp To	-	09	10	30	pc4 Ac	-	09	11	12	pc4 Bi	-
09	19	18	pi2 Tf	-	09	20	15	b Pe	-	09	20	..	bp Kv	-	10	02	20	pi2 To	-
10	07	30	pc4+pc5Ac-	-	10	08	00	pc4 Tf	-	10	11	43	pi2 Hu	-	10	12	05	pi2 Hu	-
10	15	03	pc4 Va	-	10	19	09	pc4 Ni	-	10	20	10	pc4 Co	-	10	20	27	pi2 Od	-
11	00	36	pi2 Ac	-	11	00	55	bp Bi	-	11	14	00	pi2 Sr	-	11	15	50	bp Wk	-
11	16	50	pi2 Tk	-	11	17	..	bp Kv	-	11	18	10	pi2 Ag	-	12	07	(00)	pi2 MI	-
12	08	57	ssc Qu	-	12	11	42	b Te	-	12	17	41	si Gn	-	12	19	09	pi2 Tf	-
12	19	42	pi2 Hu	-	12	20	..	bp Kv	-	13	00	41	pi2 Hu	-	13	00	59	pi2 Ac	-
13	23	40	pi2 Od	-	14	01	..	bp Kv	-	14	05	00	pc4 Tf	-	14	08	42	pc4 Tw	-
14	10	40	pi2 To	-	14	10	54	bp To	-	15	00	35	bp Su	-	15	00	55	pi2 TC	-
15	03	52	pc4 Bi	-	15	08	54	si DU	-	15	12	25	pi2 Gn	-	15	14	42	bp Od	-
16	11	16	pg Me	-	16	13	30	pi2 Cm	-	16	14	10	bps Ag	-	16	14	40	pi2 Tk	-
16	15	55	pi2 Cm	-	16	21	56	pi2 Aq	-	16	22	..	bp Kv	-	17	04	03	pi2 Ac	-
17	06	30	pc5 Tr	-	17	16	05	pc4 Co	-	17	19	51	ssc Tr	-	18	03	32	pi2 Hu	-
18	14	50	ssc Ir	-	18	19	45	ssc Tr	-	18	19	..	bp Kv	-	18	22	04	pi2 Bi	-
19	00	..	bp Kv	-	19	02	30	pc5 Co	-	19	05	02	b LM	-	19	08	10	ssc Bi	-
19	10	15	ssc Tr	-	19	15	23	bs Nu	-	19	15	..	pc4 Si	-	19	16	00	bps Ir	-
19	21	45	si Tr	-	19	22	..	bp Kv	-	20	02	26	si Hl	-	20	04	33	pi2 Ac	-
20	04	57	pi2 Ac	-	20	16	..	bp Kv	-	20	21	..	bp Kv	-	20	23	21	bp Eb	-
21	03	25	si DU	-	21	05	06	pc5 Tr	-	21	05	54	pc4 Lg	-	21	06	15	si Wk	-
21	07	00	pc4 Tf	-	21	13	12	ssc TC	-	21	14	00	bps Ir	-	21	15	..	pc4 Si	-
21	18	02	bp Bi	-	21	19	..	bp Kv	-	22	01	19	si Hl	-	22	06	06	pc4 Lg	-
22	08	30	pc4 Bi	-	22	13	20	pc4 Co	-	22	14	00	pc4 Fr	-	22	15	50	pc4 Bi	-
22	16	..	pc4 Si	-	23	01	50	pc4 Bi	-	23	11	08	pc4 Ac	-	23	13	10	pi2 Hu	-
24	00	35	pi2 Bi	-	24	01	17	pi2 Ac	-	24	02	16	si Hl	-	24	03	25	si DU	-
24	17	12	si Lg	-	24	17	58	si Lg	-	24	19	..	bp Kv	-	25	06	00	pi2 Sr	-
25	09	10	pi2 Bi	-	25	12	21	pi2 To	-	25	20	03	ssc Tr	-	25	22	49	bp Eb	-

TABLE 4 MINOR DISTURBANCES 1964 - continued

(OCTOBER)

d	h	m		d	h	m		d	h	m		d	h	m					
26	05	53	ssc TC	-	26	08	16	bs MI	-	26	10	21	si Ni	-	26	12	00	pc4 Fr	-
26	14	12	pi2 Te	-	26	18	45	si Co	-	26	18	..	bp Kv	-	26	19	43	b Pe	-
26	20	..	bp Kv	-	27	04	02	pi2 Ac	-	27	08	45	si Hl	-	27	11	36	bp TC	-
27	13	00	bp Tk	-	27	14	55	pi2 Bi	-	27	20	28	bps Lg	-	27	23	20	bp Od	-
28	01	24	bps Lg	-	28	08	46	pi2 MI	-	28	09	00	pi2 Te	-	29	01	49	pi2 Ac	-
29	11	43	pi2 Sr	-	29	13	..	bp Kv	-	29	21	48	pi2 IK	-	29	23	04	bp Eb	-
29	23	20	bp Vl	-	29	23	51	pi2 CF	-	29	23	..	bp Kv	-	30	00	02	pi2 Lg	-
30	00	..	bp Kv	-	30	09	30	pi2 Sr	-	30	11	..	bp Kv	-	30	22	44	pi2 Es	-
30	23	40	pi2 Lg	-	31	13	02	pc4 Bi	-	31	13	55	pc4 SM	-	31	18	09	pi2 Mw	-
31	19	46	bps Bi	-	31	20	16	si Mw	-										

NOVEMBER

01	02	18	pi2 Bi	-	01	03	04	b TC	-	01	04	07	bp TC	-	01	08	00	pi2 Te	-
01	08	50	pi2 Bi	-	01	11	02	pi2 Bi	-	01	11	47	pi2 Ac	-	01	12	32	pi2 Bi	-
01	15	35	pc4 Co	-	01	16	20	bp To	-	01	16	55	bps Ir	-	01	22	30	bp Eb	-
02	00	..	bp Kv	-	02	02	00	pc4 Tf	-	02	06	33	si Hr	-	02	18	33	pi2 Hu	-
02	20	20	pi2 Fr	-	02	22	12	b Sw	-	02	23	..	bp Kv	-	03	06	00	pi2 Tu	-
03	06	25	pi2 Hu	-	03	12	33	pc4 Co	-	03	15	52	pi2 Gn	-	03	17	12	pc4 Co	-
03	19	30	pi2 Hu	-	04	02	13	pc5 Tr	-	04	14	55	pi2 Bi	-	04	17	39	pi2 Tf	-
04	20	34	bps Mw	-	04	22	42	si Tr	-	05	12	17	bp To	-	05	14	50	pc5 Si	-
06	02	10	pi2 Hu	-	06	04	50	pi2 Fr	-	06	05	40	pi2 Hu	-	06	10	55	pc4 Ac	-
06	14	50	pi2 Bi	-	06	20	..	bp Kv	-	07	00	16	si TC	-	07	00	28	pi2 Bi	-
07	01	45	si TC	-	07	13	00	pi2 Hu	-	07	17	37	si Tn	-	07	20	00	pc5 Co	-
08	02	55	ssc Tn	-	08	10	52	pi2 Bi	-	08	11	16	pi2 Co	-	08	12	06	si Hl	-
08	17	05	pi2 Bi	-	08	18	45	pi2 Bi	-	08	19	40	bp Wk	-	08	20	00	bp Ir	-
08	22	45	si Tn	-	09	01	41	bps Es	-	09	11	05	bp TC	-	09	19	45	pc4 Co	-
09	20	..	bp Kv	-	10	01	00	pc4 Gn	-	10	05	00	pc4 Tf	-	10	05	17	pi2 Bi	-
10	09	35	pi2 Bi	-	10	09	50	pc4 Tw	-	10	12	38	pi2 Bi	-	10	12	..	bp Kv	-
10	14	..	pc4 Co	-	10	15	00	pc4 Tu	-	10	18	35	pi2 Cm	-	10	18	..	pc4 Co	-
10	19	00	pi2 Tf	-	10	20	..	bp Kv	-	11	02	17	b TC	-	11	10	00	pi2 Hu	-
11	12	15	pi2 Bi	-	11	12	35	pi2 Co	-	11	15	47	pi2 Ac	-	11	17	30	pi2 Od	-
11	18	22	pi2 Ni	-	11	18	38	pi2 Ni	-	11	18	54	pi2 Ni	-	11	21	00	si Tr	-
11	23	49	pi2 Bi	-	12	00	18	pi2 Pe	-	12	05	13	bp Vi	-	12	07	50	pi2 Bi	-
12	10	08	pi2 Hu	-	12	11	02	pi2 Bi	-	12	19	40	pi2 Bi	-	12	21	..	bp Kv	-
13	00	05	pi2 Bi	-	13	09	01	bp To	-	13	10	00	pi2 Tu	-	13	14	28	bp Ac	-
13	17	..	bp Kv	-	14	05	15	pi2 Tu	-	14	12	10	pi2 Hu	-	15	00	38	pi2 Bi	-
15	08	30	pi2 Bi	-	15	12	15	pi2 Ho	-	15	14	15	si Cm	-	15	15	42	si Ni	-
15	16	..	bp Kv	-	15	17	00	pc4 Fr	-	15	18	..	bp Kv	-	15	21	15	pc4 Bi	-
16	05	47	pi2 Hu	-	16	07	00	pc4 Lg	-	16	07	59	si Kg	-	16	10	27	pi2 Bi	-
16	12	14	pc4 Bi	-	16	15	00	pi2 Bi	-	16	19	35	bp Hb	-	16	19	54	b Be	-
16	21	10	si Co	-	17	06	16	si TC	-	17	18	55	pi2 Od	-	18	05	50	pi2 Bi	-
18	07	52	pi2 To	-	18	18	..	bp Kv	-	18	18	..	pc4 Co	-	18	21	00	pc4 Fr	-
18	22	12	pc4 Lg	-	18	23	50	bp Es	-	19	02	43	pi2 Bi	-	19	03	00	pc4 Tf	-
19	07	44	pc4 Lg	-	19	09	00	pc4 SM	-	19	09	50	pi2 Hu	-	20	02	47	pi2 Ac	-
20	04	00	pi2 Bi	-	20	12	10	pi2 Hu	-	21	15	00	pc4 Fr	-	21	15	15	pi2 Mc	-
21	15	36	pi2 Te	-	21	17	02	pi2 Ks	-	21	18	24	pi2 Tn	-	21	21	15	pi2 Od	-
21	22	20	pi2 Mc	-	22	08	44	si Lg	-	22	09	14	ssc TC	-	22	11	21	si Tl	-
22	16	30	ssc Tr	-	22	16	50	si Lg	-	22	23	35	pc4 Bi	-	23	03	16	ssc Sw	-
23	04	00	ssc Tr	-	23	06	03	ssc Tr	-	23	09	20	pi2 Te	-	23	10	05	sfe Bi?	-
23	12	00	b Te	-	23	13	00	bp Tf	-	23	14	02	si DU	-	23	14	15	b Ir	-
24	00	23	pi2 Bi	-	24	07	00	pi2 Te	-	24	12	16	pi2 Es	-	24	17	31	pi2 MI	-
24	20	59	si Co	-	25	20	36	pi2 Tk	-	26	04	..	bp Kv	-	26	12	06	ssc Tr	-
26	17	..	bp Kv	-	27	02	00	pc4 Tf	-	27	08	05	pi2 Tu	-	27	14	46	si LM	-
27	21	00	pi2 Si	-	27	21	15	pi2 Tf	-	28	01	41	pg Bi	-	28	08	40	pc4 Lg	-
28	11	55	pi2 Gu	-	28	15	01	si Mw	-	28	15	..	pc4 Co	-	28	16	27	b Sw	-
28	16	40	bp Wi	-	28	16	55	bp Kg	-	28	18	51	bp Tf	-	28	22	15	pi2 Bi	-
29	03	00	pc4 Tf	-	30	02	03	b SJ	-	30	09	35	pi2 MI	-	30	10	00	pi2 Hu	-
30	20	42	ssc Tr	-															

DECEMBER

01	00	03	pi2 Es	-	01	00	51	bp TC	-	01	01	24	si TC	-	01	03	00	pc4 Tf	-
01	11	56	pi2 Gn	-	01	13	50	bp To	-	01	14	20	bp Ir	-	01	19	05	pi2 Od	-
01	19	21	pi2 Tf	-	01	20	15	pi2 CF	-	02	11	40	pi2 Am	-	02	21	00	pi2 Tf	-

TABLE 4 MINOR DISTURBANCES 1964 - continued
(DECEMBER)

d	h	m		d	h	m		d	h	m		d	h	m					
03	04	00	pc4 Tf	-	03	11	05	pc4 Ac	-	03	18	15	pi2 Tf	-	03	19	30	bp Ir	-
03	20	..	bp Kv	-	03	21	10	pi2 Hu	-	03	21	25	pc4 Tu	-	04	03	22	pi2+pc5Tw-	-
04	03	45	pi2 Ac	-	04	11	10	pi2 Ho	-	04	17	13	pi2 SM	-	04	18	30	pi2 Bi	-
04	23	49	pi2 Od	-	05	00	30	pi2 Aq	-	05	01	40	pi2 Aq	-	05	03	00	pc4 Tf	-
05	18	00	pi2 Hu	-	05	18	25	pc4 Fr	-	05	20	45	pg Bi	-	05	23	20	pi2 Bi	-
06	05	06	pi2 Ac	-	06	05	23	pi2 Bi	-	06	05	44	pi2 To	-	06	08	05	pi2 Bi	-
06	10	31	pi2 SM	-	06	19	21	bp Cm	-	06	19	46	bp Bi	-	06	22	06	si Bi	-
07	01	47	pc4 Bi	-	07	03	00	pc4 Tf	-	07	03	33	pi2 Bi	-	07	05	18	pi2 Bi	-
07	07	40	bp Ap	-	07	14	03	si Mw	-	07	18	..	bp Kv	-	07	22	..	bp Kv	-
08	06	00	pc4 Tr	-	08	12	10	pi2 Hu	-	08	13	00	pc4 Fr	-	08	14	00	pc4 Si	-
08	17	40	pc4 Co	-	08	19	00	bp Tf	-	08	23	30	pi2 Bi	-	09	03	51	pi2 Ac	-
09	05	18	pi2 Te	-	09	16	27	pc4 Tr	-	09	20	42	pi2 Ma	-	09	21	00	pi2 Tf	-
09	22	36	pi2 Lu	-	09	23	..	bp Kv	-	10	06	00	pi2 Hu	-	10	10	01	pi2 To	-
10	19	27	pi2 Tf	-	11	22	00	pi2 Tf	-	12	03	00	pc4 Tf	-	12	03	29	pi2 Bi	-
12	15	00	pc4 Fr	-	12	17	35	pi2 Bi	-	12	20	00	pi2 Od	-	13	00	30	pi2 Bi	-
13	03	10	ssc Bi	-	13	04	30	ssc Lu	-	13	05	07	ssc Mc	-	13	06	57	pi2 Te	-
13	15	15	pc5 Si	-	13	16	17	bp Gn	-	13	17	01	si Tl	-	13	17	..	bp Kv	-
13	19	43	si Te	-	13	19	..	bp Kv	-	13	20	19	si Tl	-	14	09	14	bp Vi	-
14	17	30	bp Ir	-	15	10	08	pc4 St	-	15	12	30	pc4 Fr	-	15	13	..	pc4 Co	-
15	16	13	pi2 Od	-	15	17	43	pi2 Bi	-	15	18	..	bp Kv	-	16	09	05	si Lg	-
16	12	32	ssc TC	-	16	12	..	bp Ni	-	16	15	24	pi2 Lu	-	16	15	40	pi2 Bi	-
16	17	20	pc5 Si	-	17	02	00	pc4 Tf	-	17	03	..	bp Kv	-	17	09	10	b Ir	-
17	12	00	pc5 Tr	-	17	18	18	bp Tf	-	17	18	48	bp Qu	-	17	23	26	bp TC	-
17	23	45	bp CF	-	18	01	50	bs Ag	-	18	13	06	si Gn	-	18	17	00	pi2 Tf	-
18	18	..	pc4 Fr	-	19	03	30	ssc Ag	-	19	09	00	pc4 Tf	-	19	09	41	si Hl	-
19	12	45	bp PM	-	19	19	54	pi2 Bi	-	20	17	01	pi2 Lg	-	20	21	25	bp Lg	-
20	22	06	pi2 Tf	-	20	23	42	pc4 Lu	-	21	00	13	bp TC	-	21	04	55	pi2 Ag	-
21	09	30	pi2 Bi	-	21	12	10	pi2 Ho	-	21	16	25	bp Ir	-	22	01	..	bp Kv	-
22	02	00	pi2 Tf	-	22	09	21	pi2 Hu	-	22	21	00	pi2 Bi	-	22	23	..	bp Kv	-
23	05	56	pi2 Ac	-	23	15	01	pi2 Gn	-	23	20	09	pi2 Od	-	24	01	11	pi2 SM	-
24	14	43	pi2 Cm	-	24	21	..	bp Kv	-	25	07	09	pi2 Te	-	25	08	47	pi2 Bi	-
25	14	06	bps Sr	-	25	19	00	pi2 Fr	-	26	00	58	bp To	-	26	07	00	pc4 Tf	-
26	10	00	pi2 To	-	26	13	55	bp To	-	27	08	00	pc4 Tf	-	27	08	18	pi2 Te	-
27	08	54	pi2 Gn	-	27	12	15	pi2 Fr	-	27	17	40	pi2 Bi	-	27	20	00	bp Lu	-
27	21	08	pi2 Hu	-	28	02	00	pi2 Bi	-	28	15	44	pi2 Tk	-	28	16	00	pc4 Si	-
28	19	40	bp CF	-	28	21	10	pg Bi	-	28	21	40	b TC	-	29	00	10	b TC	-
29	07	09	bp Ac	-	30	00	00	pi2 Tf	-	30	00	15	pc4 Ci	-	30	01	..	bp Ky	-
30	08	30	pi2 To	-	30	22	45	pi2 Aq	-	30	23	16	pc4 Co	-	31	03	00	pc4 Tf	-
31	14	29	pi2 Bi	-	31	20	..	bp Kv	-	31	23	40	pc4 Bi	-					

TABLE 5a SOLAR-FLARE EFFECTS (S.F.E.'S) 1964

Starting-times of solar-flare effects checked by 57 observatories. Observatories near the subsolar point are underlined. A simultaneous ionospheric or radiosolar disturbance or simultaneous chromospheric flare observed on the sun has been indicated by underlining the time. Stations near the twilight-zone are indicated by dotted brackets. Stations in full dark are given in parentheses. Stations on the night-side of the Earth which gave a negative or doubtful answer have been omitted. Stations whose checking-lists have not been received, but whose monthly reports have been sometimes taken into account in order to get a better knowledge of the real effect observed (IK, Ks, Hu, Tw) are included in square-brackets. Strong effects are marked by an asterisk.

JANUARY

none

FEBRUARY

none

MARCH

none

APRIL

none

MAY

none

JUNE

22d 10h 08m A: Kn Mu - B: So Nu Le {Si} Ir Ky Db Fü Hb Od Lg [IK] Fr SM {Ds}
Ba - C: Ki Do Wn Gt Ma Pr Ag Aq Tk SJ Mc Bi Tn - D: Es Wi Ni Vl
 Ha Eb Tl MB Pa Kg - E: CF - (si: C: Hr).

JULY

none

AUGUST

30d 08h 59m B: Kn Ir Fü Hb Lg Tk Mu Ba Bi - C: Ki So Nu Es Wn Gt Ha Ky Ma SM
 MB Mc Gn Hr Kg - D: Do Le Wi Ni Vl Db Pr CF Mb Aq Eb Tl Ka Ky
Tn - X: Od.

SEPTEMBER

29d 10h 06m A: Nu Kn Od - B: So Ir Ky Fü Lg Tk (Te) MB (Gu) Ba Mc Bi Tn Hr Kg
 - C: Ki Do Le Wn Gt Ma Db Pr Hb Aq Tl - D: Es Ni Vl Ha Eb SM Gn
 - E: (Co) CF {DU} - (bp: Wi).

OCTOBER

none

NOVEMBER

none

DECEMBER

none

TABLE 5b DOUBTFUL SOLAR-FLARE EFFECTS 1964

Starting-times of presumed solar-flare effects checked by 57 observatories Observatories near the subsolar point are underlined. A simultaneous ionospheric or radiosolar disturbance or simultaneous chromospheric flare observed on the sun has been indicated by underlining the time. Stations near the twilight-zone are indicated by dotted brackets. Stations in full dark are given in parentheses. Stations on the night-side of the Earth which gave a negative or doubtful answer have been omitted. Stations whose checking-lists have not been received, but whose monthly data have been sometimes taken into account in order to get a better knowledge of the real effects observed (IK, Ks, Hu, Tw) are included in square-brackets. Effects which very probably are real sfe are indicated by an asterisk.

JANUARY

none

FEBRUARY

none

MARCH

12d 13h 47m B: Ki So Kn Es (Ir) Kv Fü Od Ag Ds Mu [Hu] {Kg} - C: Gt Ma Pr Lg Tl Fr SM Te SJ Ba Hr - D: Do Nu Wi Ni Vl Db Eb MB Pa Mc Bi Tn - E: (Co) Ha CF Aq {Tk} - (si: B: Le Wn Hb).

APRIL

06d 09h 07m* A: Mu - B: Do Kn Ir Fü Od Tk [IK] [Ks] - C: Ki Nu Le Es Wn Gt Kv Ma CF Hb Lg Aq SM Ba - D: So Wi Ni Ha Db Pr Tl Ky MB Mc Tn Gn Hr Kg - E: (Co) - X: Vl Eb Bi.

12d 08h 10m A: Do Kn - B: Ki So Es Ir Kv Fü Od Tk SM - C: Nu Le Wn Vl Ma Gt Ha Pr Hb Mu Hr - D: Wi Ni Db Mb Aq Eb Tl Ka Ky MB Gu Ba Mc Bi Tn Gn Kg - X: Lg.

MAY

11d 13h 52m A: Fr (Mu) - B: {Ir} Vl Vi Od Lg Tk Ds Tu Ba [Hu] - C: Ki Co Nu Le Si Kn Gt Ha Kv Ma Pr Hb Ag Tl SM Te SJ MB Mc Bi Hr - D: So Do Es Wi Ni Fü Eb Pa Tn - E: Wn CF Aq (DU) - X: Db.

JUNE

03d 11h 20m B: Kn Ir {Vi} Fü Od Tk {Tu} (Ho) (Mu) Bi - C: Ki So Do Nu Le Es Wn Kv Ma Pr Hb Lg Aq Tl Fr SM SJ MB Ba Mc Hr - D: Wi Ni Vl Gt Db AG Eb Pa Tn - E: Ha.

25d 17h 58m A: Fr SJ (Mu) - B: Do {Kn} {Kv} Fü Lg Te (Kg) [Tw] - C: Ki Ma Pr Vi Hb Ag Tu Ho - D: Ni Pa - E: Co - (si: B: Es Wn Wi Vl Gt CF {Od} (Tk) Tl SM Ds MB? - C: Nu Le Si (Ir) Eb - pg: B: Ha Aq (Bi)).

JULY

11d 12h 51m* A: (Mu) - B: Ki So Kn Es Ir Kv Db Hb Od [IK] [Hu] {Kg} - D: Co Nu Wn Vl Gt Ma Pr Fü Lg Fr Ds SJ Ba Mc Hr - D: Do Ni Vi Ag Tk Eb Tl Tu Te MB Pa Bi Tn - E: Wi Ha Aq SM - (b: C: (Gn) - bp: C: Le).

AUGUST

03d 15h 41m* A: Co Si (Mu) - B: Nu (Ir) Vl Kv Ma Db Vi Fü Fr SM Tu - C: Ki So Do Kn Es Wn Wi Gt Ha Hb Od Ag Aq Tl SJ Ba Bi Hr - D: Le Ni Pr Eb Te Pa Mc - E: {Tk} - X: Lg Ds MB - (si: C: (Mb) (Ka) (Ky)).

SEPTEMBER

03d 17h 20m B: So Vi Ds SJ [Hu] - C: Ki Co Nu Si Es Gt Tl Fr Tu - D: Do Le Ni Vl Ha Ma Db Hb Ag Lg Aq Eb Ho Te MB Mc - E: Wn Wi Pr Fü CF SM {Ba} (Kg) - X: Ap - (bps: C: {Bi}).

TABLE 5b DOUBTFUL SOLAR-FLARE EFFECTS 1964 - continued
(SEPTEMBER)

12d 12h 26m B: {Co} Nu Fü Od Lg - C: Ki So Do Le Kn Es Wn Wi Gt Ha Kv Ma Db Pr CF Hb Tk Tl Fr Ds SJ MB Ba Kg - D: Ni Vl Ag Aq Eb Mc Bi Tn Hr - E: SM.

19d 09h 40m A: Mu - B: Ir Fü Od - C: Ki Nu Le Kn Es Wn Gt Ha Kv Hb Aq Tk SM Ba Hr - D: So Do Wi Ni Ma Db Pr Lg Eb Tl MB Mc Bi Tn Gn Kg - E: (Co) - X: Vl - (ssc: C: CF).

OCTOBER

02d 12h 21m* A: Kn Tk (Mu) - B: Nu Es {Ir} Vl Ha Fü Od [IK] (Gu) Ba - C: Ki So Do Le Wn Gt Kv Ma Db Pr CF Hb Lg Aq Tl Fr SM SJ MB Bi - D: Wi Ni Ag Eb Pa Mc Tn Hr Kg.

07d 16h 44m B: Fü SM Ds (Mu) [Hu] - C: Le Si Es Vl Gt Ma Vi Ag Lg Fr Tu Ho SJ Ba Bi - D: Wn Wi Db Aq Eb Tl Te MB Mc Hr - E: Co Do Ha {DU} - (si: C: CF).

NOVEMBER

11d 11h 33m A: Kn (Mu) - B: (Ir) Fü Od Lg Tk SM - C: Ki Nu Le Es Wn Gt Ha Kv Ma Db CF Hb Aq [IK] Eb Tl SJ MB Ba Tn Hr - D: So Do Wi Ni Pr Mc Bi DU SB - X: Kg - (si: B: Vl).

DECEMBER

none

TABLE 5c REJECTED SOLAR-FLARE EFFECTS 1964

Starting-times of presumed cases, presented by one or more observatories, which most probably do not represent real solar-flare effects.

JANUARY

18d 15h 14m - 24d 08h 19m - 28d 16h 27m -

FEBRUARY

04d 05h 36m - 10d 17h 12m - 15d 12h 45m - 18d 16h 35m -

MARCH

17d 14h 06m - 26d 18h 19m -

APRIL

13d 16h 26m - 14d 09h 39m - 17d 12h 33m - 24d 20h 13m -

MAY

19d 01h 12m -

JUNE

13d 17h 52m - 18d 15h 58m - 21d 05h 40m - 21d 16h 40m - 30d 18h 23m -

JULY

09d 20h 51m - 12d 17h 20m - 16d 04h 23m -

AUGUST

09d 09h 27m - 09d 13h 22m -

SEPTEMBER

10d 04h 40m -

OCTOBER

none

NOVEMBER

none

DECEMBER

03d 12h 41m -

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No. 16a	Paléomagnétisme et Variation Séculaire, Toronto 1957	Out of print
No. 16b	Aéronomie, Toronto 1957	Out of print
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Caractère Magnétique Numérique des Jours (from 1 January 1930 to 31 December 1939) and Caractère Magnétique Numé- rique des Jours pendant l'Année Polaire 1932 - 1933 (in complete sets only)		\$ 5.60
International Auroral Atlas, published for the IUGG, to be obtained from University Press, Edinburgh, 1963		45 sh.
IAGA Symposium No. 1, Copenhagen, 1960		\$ 8.00
IAGA Symposium No. 2, Berkeley, 1963		\$ 5.30
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