

IAGA Bulletin No. 39

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

ASSOCIATION OF GEOMAGNETISM AND AERONOMY

**SUPPLEMENTARY GEOMAGNETIC DATA
1957-1975**

**INDICES K_n , K_s AND K_m , 1959-1963
INDICES aa , 1968-1975
NEW LIST OF ssc 's, 1968-1975
YEARLY DIAGRAMS OF ACTIVITY, 1957-1975**

by
P. N. Mayaud
and
A. Romano

Published for the International Council of Scientific Unions with the
financial assistance of Unesco through the mediation of the
Federation of Astronomical and Geophysical Services

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Foreword

At the IAGA-Assembly in Grenoble, 1975, the decision was made to publish in an extra IAGA Bulletin supplementary data which should complete certain data-series published in the yearly IAGA-Bulletin No. 32. This Bulletin no. 39 completes the series of Km and aa-indices, both officially adopted by IAGA. It also presents a new list of storm sudden commencements (ssc) for the years 1968-1975. Although previously published in the regular IAGA-Bulletin, the ssc-list was remade in accordance with the new method adopted during the Grenoble-Assembly. It links up with the IAGA-Bulletin No. 33, which contains the indices aa and a list of ssc's for the hundred years period 1868-1967. Further, the yearly diagrams in the last part of this Bulletin can be considered as the continuation of the diagrams in IAGA-Bulletin No. 33.

The indices Km and aa were determined by Dr. P.N. Mayaud, who also composed the diagrams and assisted in the preparation of the ssc-list. The lists of indices and the diagrams of activity were produced by computer at the Institut de Physique du Globe, Paris. The data on the Dst-index for the Dst-graphs in these diagrams were provided by Dr. M. Sugiura, NASA-Goddard Space Flight Center, Greenbelt, USA. The ssc-list was made by Dr. A. Romana at the Observatorio del Ebro, Roquetas, Tortosa, Spain. The editing took place at the office of the International Service of Geomagnetic Indices at De Bilt.

IAGA-Division V on Observatories, Instruments
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D. van Sabben, Director
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SURVEY OF PUBLICATIONS

WHICH CONTAIN PARTS OF THE COMPLETE DATA SERIES

Indices Kn, Ks and Km

- 1959-1963 in this IAGA-Bulletin No. 39
 1964-1967 in "Indices Kn, Ks et Km, 1964-1967" by P. N. Mayaud.
 Publ. of the "Centre National de la Recherche Scientifique - 15, Quai Anatole France - Paris VIIe.
 1968 in IAGA-Bulletin No. 32b.
 1969 in IAGA-Bulletin No. 32a.
 1970, 71, etc. in the yearly IAGA-Bulletin No's 32a, b, etc.

Indices aa

- 1868-1967 in IAGA-Bulletin No. 33.
 1968-1975 in this IAGA-Bulletin No. 39.
 * 1976, 77, etc. in the yearly IAGA-Bulletins No's. 32g, h, etc.

List of ssc's

- 1) classified by the central bureau from the monthly reports of the observatories:
 1949-1975 in the yearly IAGA-Bulletins No's. 12c, t/m 12l (1957) ,
 12m2 t/m 12x2 (1969) and 32a t/m 32f.
 2) classified by the central bureau with the aid of magnetograms:
 1868-1967 in IAGA-Bulletin No. 33.
 1968-1975 in this IAGA-Bulletin No. 39.
 * 1976, 77, etc. in the yearly IAGA-Bulletins No's. 32g, h, etc.

Yearly Diagrams of Activity

- 1868-1967 (aa-indices and ssc's) in IAGA-Bulletin No. 33.
 1957-1958 (aa-indices, Dst-indices and ssc's) in this IAGA-Bulletin No. 39.
 1959-1975 (am-indices, Dst-indices and ssc's) in this IAGA-Bulletin No. 39.
 * 1976; 77, etc. (am-indices, Dst-indices and ssc's) in the yearly IAGA-Bulletins No's 32g, h, etc.

The IAGA-Bulletins can be obtained from the IUGG-Publications Office, 39ter, rue Gay-Lussac, Paris (V).

The complete series of indices Kn, Ks, Km and related quantities an, as, etc. from 1959 onwards is available in machine readable form at the World Data Center for Solar Terrestrial Physics, NOAA, Boulder, Colorado 80302, USA.

* to be published about the end of 1977, 1978 etc.

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INDICES Km, Kn AND Ks, 1959-1963

The three-hourly indices Km, Kn and Ks, listed in this Bulletin, are the beginning of a series, which is published for the later years in the regular yearly IAGA Bulletin no. 32 (see list of available data elsewhere in this bulletin no. 39). A full description of these indices is given in a publication of the "Centre National de la Recherche Scientifique", Paris: "Indices Kn, Ks et Km, 1964-1967", by P. N. Mayaud, 1968.

The indices Kn and Ks for the Northern and Southern hemispheres are based on the amplitude-indices a_n and a_s , which are derived from the K-indices of observatories in the sub-auroral zones of the Northern and Southern hemispheres. These K-indices are standardized according to the distances of the stations to the auroral zones. The stations are arranged in groups, each group representing a longitude sector in one of the hemispheres. For the years 1959-1963, the sectors were represented by the following stations: Memambetsu (Japan); Tomsk, Sverdlovsk (USSR); Niemegek (Germany), Witteveen (Netherlands), Hartland (U. K.); Fredericksburg (USA); Victoria (Canada), Tucson (USA); Amberley (New-Zealand), Toolangi, Gngangara (Australia); Kerguelen (Indian Ocean), Hermanus (South Africa); Argentine Isl. (Argentina). The mean standardized K for each sector is converted back into an equivalent amplitude and the weighted means a_n and a_s of these amplitudes are converted back into Kn and Ks. The mondial index a_m is the average of a_n and a_s , and Km is determined in the same way by conversion of a_m (this method is different from the method followed in the case of Kp, where a_p is derived from Kp).

As the tables are printed mechanically by computer, the values of Kn, Ks and Km, which vary by thirds of a unit, are tabulated in the form 3Kn, 3Ks and 3Km. A_n , A_s and A_m are the daily mean values of the amplitudes a_n , a_s and a_m , A_m2 is the mean of a_m over a 48-hour period centered in the middle of the day. σ_n and σ_s indicate the standard deviations of the sector values of K in the N. - and S. hemispheres. They are about equal to six times these standard deviations. Monthly mean values of A_n , A_s and A_m are given at the bottom of the tables.

JAN. 1959		3 Kn				gn	an				An
1	1 0 1 2	2 1 0 1	2234 3312	2 1 2 4	4 3 1 2	2					
2	0 1 0 5	5 4 4 4	2323 2233	1 2 1 13	13 9 10 8	7					
3	4 6 5 5	5 3 5 1	3233 4132	9 15 12 13	13 7 13 3	11					
4	3 4 5 7	8 10 7 4	1315 4852	7 9 13 18	21 39 17 9	17					
5	7 4 4 10	12 13 13 12	3232 5424	18 8 10 38	54 61 65 60	39					
6	11 9 8 10	13 11 12 10	3134 5342	42 27 22 39	68 43 59 35	42					
7	9 9 7 7	4 8 12 11	3122 2476	28 31 20 18	10 21 51 48	28					
8	10 6 8 8	7 9 10 11	3432 2465	37 14 23 25	20 32 34 47	29					
9	12 5 6 8	11 16 14 15	3342 3753	51 11 14 25	44 117 74 99	54					
10	13 11 12 14	14 14 14 12	2274 4464	68 50 52 76	71 83 76 55	66					
11	11 5 6 4	6 6 9 12	3212 3413	49 12 14 9	16 16 28 53	25					
12	9 5 4 5	8 9 9 9	4344 2112	32 13 8 12	25 30 31 27	22					
13	5 4 8 8	8 8 9 4	3333 7334	11 10 22 24	24 23 32 8	19					
14	3 1 8 7	8 6 6 8	2322 2513	7 2 26 18	24 15 14 22	16					
15	6 8 8 7	5 3 2 2	4223 4532	16 22 24 17	11 7 5 4	13					
16	4 1 6 13	11 11 10 10	1433 3232	8 3 16 63	50 47 37 35	32					
17	7 9 9 9	11 10 8 6	2151 3341	18 28 27 28	50 40 24 15	29					
18	10 10 7 7	9 12 10 9	1122 1444	35 34 18 19	30 57 35 31	32					
19	6 7 6 6	6 6 8 4	1431 1472	14 17 14 15	16 14 24 10	16					
20	1 1 3 3	4 4 5 5	4644 2246	3 3 6 6	9 9 13 13	8					
21	1 1 3 1	5 6 5 3	4343 3231	3 2 6 3	11 15 11 6	7					
22	2 6 9 5	4 7 6 6	4211 3333	5 15 27 13	10 17 14 16	15					
23	7 6 4 6	9 5 5 4	4523 1242	20 14 10 16	28 11 12 10	15					
24	5 5 3 3	2 4 3 1	3341 3222	13 12 7 7	5 9 6 2	8					
25	2 3 3 10	13 13 14 8	4364 3262	4 7 6 36	70 66 72 25	36					
26	4 11 5 11	16 11 5 1	2524 3243	9 46 13 49	112 47 12 3	36					
27	2 6 7 9	8 7 8 6	4231 2334	4 15 19 27	25 20 21 15	18					
28	6 5 4 4	5 6 8 8	4223 2122	15 11 10 10	12 16 23 26	15					
29	4 4 7 8	8 9 11 10	2333 3543	8 10 19 26	23 31 50 38	26					
30	8 7 6 9	7 7 8 3	4141 2431	23 18 16 27	17 17 24 6	19					
31	7 8 9 10	7 6 6 4	2234 3433	20 26 27 34	18 15 15 10	21					
						23.3					

JAN. 1959		3 Ks				Gs	as				As
1	2 2 3 3	2 1 1 1	2300 1333	4 5 6 6	5 2 3 3	4					
2	2 4 3 6	7 6 7 6	3322 3040	5 9 6 16	20 15 18 15	13					
3	7 9 8 7	7 5 5 3	1413 1112	18 29 23 20	17 12 13 6	17					
4	5 5 8 8	10 9 7 6	5323 3145	12 13 22 21	36 29 19 16	21					
5	9 6 6 9	13 11 16 16	5220 3146	29 15 14 29	64 45 108 112	52					
6	11 11 8 9	13 11 13 11	3112 1232	49 49 26 32	65 41 69 43	47					
7	11 9 8 10	3 5 11 11	2014 1141	43 29 23 34	6 13 43 49	30					
8	8 6 7 7	6 10 10 13	1113 2335	26 16 17 20	16 39 39 68	30					
9	11 7 7 8	11 16 14 15	4113 3532	49 17 17 24	45 118 85 93	56					
10	14 13 13 16	14 12 14 14	1363 2466	84 64 67 117	72 56 83 83	78					
11	11 6 6 5	8 6 10 13	4213 3243	43 15 16 12	24 15 35 64	28					
12	11 7 4 5	8 9 10 10	2421 3233	41 17 10 12	24 32 37 38	26					
13	6 4 8 7	6 8 9 4	6263 1144	16 10 25 20	16 23 32 10	19					
14	3 3 10 8	8 5 5 8	1441 4311	6 6 39 26	21 13 13 23	18					
15	8 8 8 6	4 2 3 4	4120 4224	23 23 22 15	9 4 6 10	14					
16	7 3 5 13	12 11 9 10	3231 5413	18 6 12 62	52 45 32 40	33					
17	9 10 9 9	10 10 7 8	2110 2112	31 34 32 29	40 34 18 22	30					
18	9 8 8 8	8 11 8 8	1332 3131	32 22 24 25	24 49 25 26	28					
19	6 8 8 5	6 5 5 5	5221 2113	16 21 21 13	16 12 13 12	16					
20	2 2 3 3	3 4 5 4	3320 2323	5 5 7 6	7 10 11 10	8					
21	3 2 5 2	4 4 4 4	5323 3334	7 5 11 5	9 10 10 9	8					
22	4 10 9 5	6 8 5 6	5621 0315	9 34 31 13	15 21 13 16	19					
23	8 6 7 8	9 5 4 5	2261 1533	21 14 17 26	32 12 9 12	18					
24	11 6 5 4	2 3 2 3	9433 3115	41 15 11 10	5 6 5 7	13					
25	3 3 4 11	13 15 15 10	2462 1544	7 6 10 47	65 91 101 39	46					
26	7 15 12 17	18 11 7 6	5353 1346	20 87 54 121	154 46 18 14	64					
27	3 9 8 10	11 7 9 6	4223 3465	6 29 22 40	41 17 29 15	25					
28	6 6 5 7	7 6 9 12	2255 5256	16 15 12 17	18 14 31 51	22					
29	8 8 8 10	7 8 11 11	3112 3342	21 26 26 40	20 26 49 47	32					
30	9 9 7 9	8 5 8 5	2311 3432	29 27 17 32	24 12 23 11	22					
31	8 9 9 9	8 6 4 7	3424 2113	24 29 31 30	21 16 9 20	23					
						27.7					

JAN. 1959		3 Km					Σ Km	am					Am	Am2						
1	1	1	2	2	2	1	1	1	3	3	4	5	5	3	2	2	3	7		
2	1	3	2	6	7	5	6	5	11.7	3	6	4	14	17	12	14	11	10	10	
3	6	8	7	7	6	4	5	2	15.0	14	22	18	17	15	10	13	5	14	14	
4	4	5	7	7	9	10	7	5	18.0	10	11	18	20	29	34	18	12	19	17	
5	8	5	5	10	12	12	14	14	26.7	24	12	12	34	59	53	86	86	46	36	
6	11	10	8	10	13	11	13	10	28.7	45	38	24	36	66	42	64	39	44	47	
7	10	9	8	8	4	7	11	11	22.7	35	30	22	26	8	17	47	49	29	33	
8	9	6	7	8	7	10	10	12	23.0	31	15	20	22	18	35	36	58	29	29	
9	11	6	6	8	11	16	14	15	29.0	50	14	15	25	44	118	60	96	55	55	
10	14	12	12	15	14	13	14	13	35.7	76	57	59	97	71	70	79	69	72	63	
11	11	6	6	4	7	6	9	12	20.3	46	14	15	10	20	16	31	59	26	36	
12	10	6	4	5	8	9	10	9	20.3	36	15	9	12	25	31	34	32	24	24	
13	6	4	8	8	7	8	9	4	18.0	14	10	23	22	20	23	32	9	19	21	
14	3	2	9	8	8	6	6	8	16.7	6	4	32	22	22	14	14	23	17	19	
15	7	8	8	6	4	3	2	3	13.7	20	23	23	16	10	6	5	7	14	17	
16	5	2	6	13	12	11	10	10	23.0	13	4	14	62	51	46	34	38	33	25	
17	8	9	9	9	11	10	8	7	23.7	24	31	29	29	45	37	21	19	29	32	
18	9	9	8	8	9	12	9	9	24.3	33	28	21	22	27	53	30	29	30	27	
19	6	7	7	6	6	5	7	5	16.3	15	19	18	14	16	13	18	11	16	18	
20	2	2	3	3	4	4	5	5	9.3	4	4	6	6	8	10	12	11	8	9	
21	2	1	4	2	4	5	4	3	8.3	5	3	6	4	10	12	10	7	7	11	
22	3	8	9	5	5	7	6	6	16.3	7	25	29	13	12	19	14	16	17	15	
23	8	6	5	8	9	5	5	5	17.0	21	14	13	21	30	12	11	11	17	16	
24	9	5	4	4	2	3	2	2	10.3	27	13	9	8	5	7	5	5	10	13	
25	3	3	4	11	13	14	15	9	24.0	6	6	8	42	6	7	87	32	41	34	
26	6	13	10	14	17	11	6	4	27.0	14	66	34	85	133	46	15	9	50	47	
27	2	8	7	9	9	7	8	6	18.7	5	22	20	33	33	19	25	15	22	27	
28	6	5	5	6	6	6	9	10	17.7	16	13	11	14	15	15	27	35	19	21	
29	6	7	8	9	8	9	11	11	23.0	15	18	23	33	22	28	50	42	29	26	
30	8	8	6	9	8	6	8	4	19.0	26	22	16	29	21	14	24	9	20	26	
31	8	9	9	9	7	6	5	6	19.7	22	27	29	32	19	15	12	15	21	20	
																		25.5		

FEB. 1959		3 Km					Σ Km	am					Am	Am2						
1	7	8	6	9	9	7	6	5	19.0	18	23	14	27	32	20	15	11	20	22	
2	5	10	10	10	11	10	10	11	25.7	13	37	39	38	50	37	40	47	38	30	
3	9	7	7	10	11	11	10	12	25.7	32	18	19	37	41	43	34	55	35	37	
4	11	9	9	10	12	12	13	14	30.0	45	33	28	36	59	57	65	71	49	44	
5	10	10	8	9	11	12	9	9	26.0	34	39	25	32	48	54	33	30	37	41	
6	10	6	7	9	9	9	11	8	23.0	39	15	17	32	30	32	48	25	30	29	
7	8	6	5	5	10	6	8	3	17.0	25	15	13	13	35	16	22	7	18	21	
8	5	6	6	7	9	6	9	12	20.0	11	15	14	18	29	16	28	51	23	27	
9	11	11	12	9	10	7	4	6	23.3	45	42	60	30	40	17	9	16	32	26	
10	6	2	2	2	2	4	5	8	10.3	16	5	5	4	5	9	13	22	10	26	
11	4	10	11	18	14	13	10	12	30.7	10	34	47	162	74	67	38	59	61	44	
12	10	13	8	10	10	10	9	10	26.7	37	62	25	34	38	39	28	36	37	39	
13	10	6	4	8	12	11	13	11	25.0	34	15	10	25	54	50	67	45	38	36	
14	8	10	8	11	17	14	11	6	28.3	26	37	24	44	127	78	42	16	49	53	
15	9	13	14	13	13	12	11	7	30.7	29	61	73	68	66	59	43	17	52	58	
16	14	14	13	8	14	16	15	15	36.3	75	76	67	26	78	113	88	89	77	61	
17	14	10	12	6	7	6	7	3	21.7	71	36	55	16	19	16	18	7	30	40	
18	3	3	3	4	3	5	3	5	9.7	6	6	6	8	6	11	6	11	8	13	
19	8	8	8	7	9	5	6	5	18.7	24	22	24	20	28	12	14	12	20	14	
20	1	5	5	6	3	4	3	3	10.0	3	11	11	14	7	8	6	6	8	11	
21	4	2	7	5	5	5	7	4	13.0	8	5	18	13	13	12	18	10	12	16	
22	8	11	8	11	6	9	6	9	22.7	26	42	24	43	16	28	14	31	28	27	
23	9	9	11	12	9	1	3	1	18.3	33	29	42	57	31	2	6	3	25	20	
24	1	2	3	4	5	4	4	6	9.7	2	4	6	9	12	10	9	16	9	28	
25	12	13	16	16	17	17	14	11	38.7	51	64	108	114	141	144	75	44	93	66	
26	12	12	16	11	13	12	11	10	32.3	59	60	111	45	65	60	43	40	60	61	
27	8	9	6	8	12	16	13	9	27.0	21	33	16	24	58	115	66	30	45	47	
28	12	12	8	11	14	13	14	13	32.3	56	52	21	47	74	70	84	70	59	60	
																		35.8		

MAY 1959		3 Kn				σn		an				An
1	2 10 6 7	8 4 7 7	4252 2544	5 34 15 17	22 10 19 20	18						
2	6 8 7 3	4 4 5 8	5544 2323	14 21 19 7	9 9 12 21	14						
3	3 3 4 4	5 5 7 10	4252 2345	7 7 9 9	12 12 18 35	14						
4	8 5 8 9	8 8 8 13	3231 2242	22 13 23 29	24 21 25 67	28						
5	15 14 9 10	12 6 3 2	4212 1243	87 73 29 35	52 16 7 5	38						
6	4 5 3 4	5 4 1 2	4622 2424	9 13 7 9	11 10 3 4	8						
7	4 2 4 6	4 4 4 9	2424 2221	9 4 6 14	10 9 10 30	12						
8	9 14 14 14	11 11 8 11	3114 2323	30 86 86 83	46 49 25 47	57						
9	9 7 6 9	10 10 7 8	3115 4322	29 18 14 27	37 36 18 25	26						
10	9 8 11 11	6 9 8 9	2233 3433	27 23 44 45	14 32 24 31	30						
11	8 7 11 9	10 9 10 16	2223 3223	26 18 50 27	38 33 36 110	42						
12	19 16 17 15	15 21 12 10	3224 2313	197 120 121 97	103 261 54 36	124						
13	5 8 10 10	8 8 8 10	3344 2254	11 21 39 34	26 22 25 35	27						
14	4 2 1 4	7 5 3 2	5442 2223	9 4 3 10	18 12 7 5	9						
15	7 5 8 11	12 13 11 12	4324 4754	18 13 25 49	52 64 48 60	41						
16	13 13 14 11	6 5 5 10	5553 1323	64 68 86 44	16 11 11 39	42						
17	5 6 9 9	10 10 7 6	3443 2325	13 15 28 28	35 38 18 15	24						
18	9 12 10 8	8 9 10 13	1333 2433	31 53 35 22	22 29 39 67	37						
19	9 9 6 9	8 7 8 8	2123 2332	30 27 16 32	24 17 22 24	24						
20	9 6 7 6	6 7 9 7	1223 3234	28 16 17 16	14 17 33 18	20						
21	9 8 7 7	6 6 10 10	6222 4323	27 23 17 20	14 16 36 37	24						
22	9 8 9 8	7 9 9 7	3312 4143	28 24 30 25	17 31 30 20	26						
23	9 9 8 7	6 7 8 9	6132 3223	31 30 23 17	16 19 25 30	24						
24	10 13 15 14	12 10 12 17	3333 2243	40 66 94 77	60 37 53 135	70						
25	14 12 11 10	6 8 8 7	2423 4422	83 60 46 37	16 25 21 18	26						
26	9 3 1 7	5 4 7 5	4232 3342	30 7 2 18	13 9 19 13	14						
27	7 5 5 4	5 2 3 4	5312 2233	20 12 13 9	12 4 6 10	11						
28	2 4 3 3	2 3 3 4	4244 4112	5 9 7 6	5 6 7 10	7						
29	4 1 2 3	1 3 2 7	2244 2423	8 2 4 6	2 7 5 17	6						
30	4 1 3 5	10 8 6 3	3353 4215	10 2 7 13	37 24 14 7	14						
31	7 11 9 10	11 10 11 9	3244 3234	20 41 33 34	50 36 44 31	36						
						29.1						

MAY 1959		3 Ks				σs		as				As
1	4 9 5 8	6 2 5 6	4532 1230	8 31 12 22	16 4 11 15	15						
2	4 6 5 3	2 3 3 7	4521 1503	9 15 11 6	5 7 6 20	10						
3	5 4 3 1	3 1 3 9	2553 1245	11 8 7 3	6 2 6 31	9						
4	6 5 6 8	7 4 6 11	0123 5222	15 12 15 26	19 10 16 47	20						
5	16 15 8 8	9 5 3 1	5633 2312	112 93 25 24	31 13 6 3	38						
6	2 3 2 1	3 2 1 2	3112 0232	5 6 5 3	6 4 2 4	4						
7	4 2 4 3	3 3 1 4	4341 2133	9 5 8 6	7 6 2 10	7						
8	10 13 14 14	10 8 5 9	4333 3410	35 68 71 80	36 24 13 29	45						
9	8 8 6 7	7 6 6 5	1113 3201	26 23 16 19	19 16 15 13	18						
10	6 8 10 9	3 7 6 7	1310 5113	16 24 37 29	7 17 16 18	21						
11	7 7 10 7	8 6 8 14	1133 2162	17 18 40 20	22 16 21 82	30						
12	18 15 15 14	12 17 9 11	1111 1244	166 91 91 86	53 123 27 49	86						
13	5 5 7 8	7 5 8 9	3111 3120	11 13 18 26	20 12 21 29	19						
14	4 2 2 4	4 3 1 1	3223 2033	9 4 4 9	10 6 2 2	6						
15	7 4 8 11	9 9 11 12	4623 2261	17 10 22 41	29 31 47 57	32						
16	13 12 14 10	6 3 3 8	3533 1013	66 54 78 36	16 6 7 24	36						
17	5 6 8 8	8 8 4 4	3412 3334	12 14 26 22	25 24 9 8	18						
18	9 10 11 7	5 8 9 11	0131 2203	29 37 50 17	12 21 29 44	30						
19	8 8 4 9	8 3 8 7	1312 4221	23 21 8 31	24 6 22 17	19						
20	8 5 7 5	3 5 9 7	3242 1351	21 11 18 11	7 12 31 17	16						
21	11 9 7 5	3 4 7 8	8542 1322	46 30 18 11	7 9 19 25	21						
22	8 7 8 7	8 9 6 7	3333 1205	24 20 25 20	23 29 15 19	22						
23	10 9 8 7	3 6 7 5	4533 2412	34 30 21 20	6 14 18 12	19						
24	10 10 14 13	9 10 7 17	4331 2532	34 40 80 61	32 36 20 123	53						
25	15 11 11 9	3 7 5 7	5212 2134	96 42 49 29	7 18 13 18	34						
26	10 3 1 5	4 4 7 4	4232 3633	38 6 2 11	9 10 19 10	13						
27	7 4 3 2	3 1 2 1	4311 1333	18 9 6 5	6 2 4 2	7						
28	2 2 1 2	3 1 0 2	2132 2301	4 5 2 5	6 2 0 5	4						
29	3 2 1 2	1 1 1 3	1232 2331	6 4 2 4	3 2 2 6	4						
30	2 1 2 3	5 5 4 1	1320 3143	5 3 4 6	12 13 8 2	7						
31	5 8 7 7	8 8 8 11	4113 3312	11 23 17 20	26 24 26 47	24						
						22.0						

JUNE 1959		3 Kn				σn	an				An
1		7 6 7 5	5 6 7 6	4233 2241	20 16 18 11	12 16 20 15	16				
2		8 6 9 9	10 9 11 10	2232 2132	21 21 31 33	35 30 44 35	31				
3		9 12 9 9	9 9 7 8	1633 5332	28 51 29 28	31 27 18 24	30				
4		11 11 12 11	8 9 10 13	3523 2341	45 44 51 50	23 28 37 62	43				
5		10 9 7 8	9 9 7 7	4134 3232	40 28 19 24	30 28 20 18	26				
6		6 6 8 9	8 8 7 8	2143 4342	16 14 22 30	25 24 20 25	22				
7		6 10 5 5	7 8 7 6	4322 2321	14 38 12 11	18 24 18 14	19				
8		6 5 9 8	8 9 9 8	1532 3233	15 11 33 22	21 33 33 25	24				
9		9 9 11 12	12 9 8 8	1542 3332	30 32 42 53	52 27 23 21	35				
10		10 12 8 8	6 6 5 7	2442 3312	39 60 21 26	14 14 13 19	26				
11		4 4 5 14	15 12 7 6	3113 4324	10 8 13 83	96 54 18 15	37				
12		3 3 3 3	4 8 8 5	1425 3333	7 7 7 6	10 22 25 12	12				
13		5 3 1 4	6 4 4 4	3345 4322	11 7 3 8	14 10 10 10	9				
14		4 5 4 7	9 8 4 9	6452 3323	8 12 8 17	33 21 10 27	17				
15		7 8 10 8	7 5 3 5	3433 4232	19 21 37 24	18 11 7 12	19				
16		6 6 6 4	4 4 7 8	2514 6424	16 15 14 8	8 9 20 21	14				
17		2 2 2 1	5 5 8 9	5454 5433	4 5 5 3	12 12 25 33	12				
18		6 9 7 7	8 8 8 5	3225 3353	14 27 19 20	26 22 21 13	20				
19		6 9 8 6	7 5 5 5	3334 2343	15 35 22 16	18 12 12 11	17				
20		8 6 5 4	7 5 8 7	3134 2342	22 14 13 10	20 13 21 20	17				
21		5 5 6 5	6 7 9 8	3213 1433	13 11 14 12	16 17 27 24	17				
22		6 6 8 10	9 9 9 10	4133 4313	15 16 24 38	33 27 30 37	28				
23		8 7 8 5	7 10 10 12	2332 2223	21 20 21 12	17 37 35 60	28				
24		14 16 7 4	2 6 9 9	4957 3744	71 107 20 9	4 15 32 28	36				
25		6 5 5 7	5 4 5 9	4262 3524	16 12 11 17	11 10 11 28	15				
26		8 11 12 10	8 8 4 1	4323 4552	22 47 51 35	25 26 9 2	27				
27		1 1 8 10	16 15 10 13	3233 4322	3 3 22 35	109 90 40 62	46				
28		11 11 11 9	14 9 11 9	5253 3433	45 48 50 30	79 33 43 30	45				
29		7 8 16 17	13 13 12 14	5354 3353	20 25 117 127	68 62 51 76	68				
30		11 8 11 15	14 11 11 8	5323 3433	45 23 50 99	86 50 45 21	52 26.8				

JUNE 1959		3 Ks				σs	as				As
1		9 6 7 4	2 3 3 5	4543 2112	32 15 18 9	5 6 6 12	13				
2		6 8 8 8	8 9 8 11	0211 2415	15 22 23 23	21 27 23 46	25				
3		10 10 7 8	5 8 5 6	1432 3512	34 35 20 22	13 21 13 16	22				
4		11 10 11 11	6 7 8 11	1433 0121	49 37 41 45	15 17 25 49	35				
5		12 10 6 5	5 5 5 4	5402 4123	59 37 15 12	13 12 11 10	21				
6		4 4 7 7	6 5 8 9	3113 1123	9 8 17 19	16 12 21 28	16				
7		6 8 5 4	3 3 4 3	2313 2031	16 24 12 10	7 6 10 7	12				
8		3 3 8 7	2 6 5 8	1124 1244	7 7 22 17	5 16 12 23	14				
9		7 8 9 11	9 4 4 5	1121 1331	17 23 29 45	32 10 10 13	22				
10		10 12 7 5	5 7 0 3	3641 1110	38 51 18 13	13 17 1 6	20				
11		3 4 5 12	8 9 3 2	1312 3423	7 9 12 53	24 29 6 5	18				
12		2 1 0 0	1 1 4 2	3310 1212	5 2 1 0	2 2 8 4	3				
13		2 1 0 1	0 1 1 2	3313 1333	5 2 1 2	1 2 2 4	2				
14		1 3 0 3	7 4 1 6	3110 1432	2 7 1 6	17 9 3 16	8				
15		4 5 10 7	3 1 1 0	3334 2331	9 12 40 19	6 2 2 1	11				
16		5 6 4 3	1 0 3 3	2611 2132	11 14 8 6	3 1 6 7	7				
17		0 1 0 0	1 1 2 8	0311 1343	0 3 1 1	2 3 5 24	5				
18		4 7 8 4	5 4 3 4	3432 4303	10 18 21 10	13 10 6 10	12				
19		3 9 7 4	2 1 1 2	0541 3223	6 31 17 8	5 2 2 5	10				
20		7 5 3 2	3 1 3 6	4102 2312	18 12 6 5	7 3 6 15	9				
21		4 2 5 2	2 1 5 3	4171 3241	8 5 12 5	4 2 12 6	7				
22		7 7 8 8	9 5 4 6	4431 1310	17 17 21 26	32 11 8 15	18				
23		7 5 4 3	4 8 10 11	3112 1431	20 13 9 7	8 26 39 49	21				
24		14 13 6 2	0 6 8 8	4542 0243	74 65 15 4	0 15 23 24	28				
25		7 5 2 4	1 2 1 8	4214 3331	20 11 5 10	2 5 2 26	10				
26		7 9 10 10	7 6 3 0	4444 3421	18 32 37 39	19 14 7 1	21				
27		2 3 5 8	11 12 10 11	3432 2254	5 6 12 22	47 57 34 48	29				
28		12 12 12 12	12 9 9 10	3646 2426	51 56 59 51	56 29 32 37	46				
29		8 10 15 15	10 8 11 14	3432 2335	24 35 87 92	40 26 44 72	53				
30		12 8 11 14	12 11 10 9	5222 4414	59 22 43 75	56 45 37 27	46 18.7				

JULY 1959		3 Km					Σ Km	am					Am	Am2
1		4 4 5 2	3 2 3 7	10.0	9 9 12 4	7 5 6 17	9	9 9 12 4	7 5 6 17	9	23			
2		9 11 10 6	6 5 2 2	17.0	27 45 35 15	15 12 4 4	20	27 45 35 15	15 12 4 4	20	14			
3		4 4 5 3	4 3 4 3	10.0	10 8 12 6	9 7 8 6	0	10 8 12 6	9 7 8 6	0	9			
4		3 2 4 8	9 9 10 10	18.0	6 4 8 25	22 29 34 40	21	6 4 8 25	22 29 34 40	21	22			
5		9 11 10 10	9 6 8 6	23.0	32 44 40 40	31 16 22 15	30	32 44 40 40	31 16 22 15	30	27			
6		4 6 6 8	8 8 7 7	18.0	8 15 16 24	26 21 17 18	18	8 15 16 24	26 21 17 18	18	21			
7		7 9 9 10	8 8 5 4	20.0	20 28 30 35	21 23 11 10	22	20 28 30 35	21 23 11 10	22	23			
8		6 8 10 9	9 8 8 6	21.3	14 24 39 32	30 23 23 16	23	14 24 39 32	30 23 23 16	23	23			
9		4 10 10 8	9 9 8 8	22.0	9 36 36 24	30 29 23 23	26	9 36 36 24	30 29 23 23	26	27			
10		11 11 9 7	4 4 4 4	18.0	43 44 32 17	9 9 9 10	22	43 44 32 17	9 9 9 10	22	25			
11		10 10 9 5	7 17 12 15	28.3	35 36 33 13	20 140 60 100	53	35 36 33 13	20 140 60 100	53	41			
12		17 7 6 9	11 7 4 7	22.7	125 17 16 27	41 19 8 17	34	125 17 16 27	41 19 8 17	34	41			
13		6 6 8 4	8 7 4 8	17.0	14 15 22 10	24 18 9 21	17	14 15 22 10	24 18 9 21	17	21			
14		7 10 9 10	10 7 6 5	21.3	17 40 32 34	37 19 15 13	26	17 40 32 34	37 19 15 13	26	70			
15		11 11 23 24	23 26 25 22	55.0	42 48 351 392	347 538 455 295	309	42 48 351 392	347 538 455 295	309	179			
16		19 13 10 7	8 7 10 11	28.3	188 62 39 18	23 20 36 46	54	188 62 39 18	23 20 36 46	54	137			
17		9 10 8 9	9 21 21 21	36.0	27 40 25 30	29 275 276 285	123	27 40 25 30	29 275 276 285	123	109			
18		21 17 18 14	11 16 10 14	40.3	248 129 171 85	42 110 38 71	112	248 129 171 85	42 110 38 71	112	121			
19		14 11 9 9	9 11 8 9	26.7	74 43 29 32	31 42 24 29	38	74 43 29 32	31 42 24 29	38	43			
20		9 8 9 9	7 8 7 10	22.3	31 23 33 31	18 25 19 40	28	31 23 33 31	18 25 19 40	28	28			
21		10 8 8 7	10 8 9 8	22.7	39 25 21 19	34 23 30 21	27	39 25 21 19	34 23 30 21	27	25			
22		8 7 9 6	6 7 5 11	19.7	26 19 28 15	16 19 11 45	22	26 19 28 15	16 19 11 45	22	25			
23		11 9 9 6	7 2 7 8	19.7	42 29 29 14	17 5 20 22	22	42 29 29 14	17 5 20 22	22	24			
24		9 6 8 12	9 9 12 13	26.0	28 14 23 56	29 32 53 69	38	28 14 23 56	29 32 53 69	38	33			
25		12 11 10 12	11 10 13 12	30.3	54 41 36 56	42 40 61 59	47	54 41 36 56	42 40 61 59	47	46			
26		11 11 10 10	9 10 12 12	28.3	42 48 35 37	32 36 54 57	43	42 48 35 37	32 36 54 57	43	46			
27		12 9 11 11	8 8 11 12	27.3	58 33 45 50	23 22 43 55	41	58 33 45 50	23 22 43 55	41	38			
28		10 8 8 8	8 6 6 7	20.3	38 21 23 24	21 15 16 20	22	38 21 23 24	21 15 16 20	22	26			
29		8 11 8 6	5 4 4 4	16.7	21 41 25 15	12 8 8 9	17	21 41 25 15	12 8 8 9	17	15			
30		4 3 1 3	2 2 4 3	7.3	9 6 3 6	4 5 9 7	0	9 6 3 6	4 5 9 7	0	12			
31		5 10 8 9	8 6 7 11	21.3	12 37 22 30	26 14 20 44	26	12 37 22 30	26 14 20 44	26	23			
							42.2							

AUG. 1959		3 Km					Σ Km	am					Am	Am2
1		9 9 12 8	9 8 8 6	23.0	29 33 51 26	30 25 21 16	29	29 33 51 26	30 25 21 16	29	29			
2		11 11 10 5	5 6 9 5	20.7	41 41 37 13	12 15 33 11	25	41 41 37 13	12 15 33 11	25	26			
3		9 10 13 8	9 9 8 4	23.3	29 35 70 26	27 27 23 8	31	29 35 70 26	27 27 23 8	31	26			
4		5 8 6 11	10 9 6 8	21.0	13 23 14 47	40 32 16 25	26	13 23 14 47	40 32 16 25	26	21			
5		5 4 6 4	6 8 6 6	15.0	12 8 16 9	16 26 16 16	15	12 8 16 9	16 26 16 16	15	21			
6		5 10 8 9	10 10 11 10	24.3	11 35 22 29	38 40 42 35	32	11 35 22 29	38 40 42 35	32	28			
7		10 9 9 8	7 9 8 7	22.3	40 30 28 21	18 29 25 19	26	40 30 28 21	18 29 25 19	26	28			
8		6 6 8 9	9 9 3 8	19.3	15 16 24 32	31 28 6 25	22	15 16 24 32	31 28 6 25	22	24			
9		10 5 9 11	11 11 11 7	25.0	36 12 29 44	45 45 49 19	35	36 12 29 44	45 45 49 19	35	29			
10		8 11 5 5	7 7 9 6	19.3	26 42 13 12	20 20 31 16	23	26 42 13 12	20 20 31 16	23	25			
11		8 8 5 4	5 8 2 4	14.7	21 22 11 10	13 24 4 9	14	21 22 11 10	13 24 4 9	14	15			
12		4 5 5 3	5 3 3 5	11.0	9 12 13 7	11 7 6 13	10	9 12 13 7	11 7 6 13	10	12			
13		6 7 6 5	5 4 6 4	14.3	14 18 14 11	11 9 14 10	13	14 18 14 11	11 9 14 10	13	13			
14		6 7 5 6	4 5 5 4	14.0	15 20 13 14	9 11 11 8	13	15 20 13 14	9 11 11 8	13	14			
15		8 7 5 9	10 11 11 13	24.7	24 20 12 30	34 45 45 67	35	24 20 12 30	34 45 45 67	35	47			
16		11 11 18 19	20 18 16 17	43.3	49 46 160 186	210 156 113 130	131	49 46 160 186	210 156 113 130	131	117			
17		19 20 17 16	14 15 12 12	41.7	179 207 123 114	73 101 56 58	114	179 207 123 114	73 101 56 58	114	106			
18		9 13 13 9	9 10 11 9	27.7	29 61 63 30	33 37 41 29	40	29 61 63 30	33 37 41 29	40	49			
19		11 12 11 8	6 7 11 8	24.7	43 57 48 21	14 17 41 22	33	43 57 48 21	14 17 41 22	33	43			
20		7 16 15 12	9 7 13 11	30.0	17 117 101 57	32 18 64 44	56	17 117 101 57	32 18 64 44	56	45			
21		12 10 10 12	8 9 11 12	28.0	52 36 40 53	25 32 50 55	43	52 36 40 53	25 32 50 55	43	41			
22		11 9 11 7	8 11 12 12	27.0	49 33 47 19	23 42 51 54	40	49 33 47 19	23 42 51 54	40	39			
23		10 10 10 9	11 11 10 12	27.7	38 39 35 31	41 44 35 55	40	38 39 35 31	41 44 35 55	40	42			
24		11 12 12 8	5 8 5 9	23.3	44 52 54 26	13 24 13 27	32	44 52 54 26	13 24 13 27	32	34			
25		8 9 8 9	8 8 4 9	21.0	24 32 25 27	23 25 8 31	24	24 32 25 27	23 25 8 31	24	22			
26		8 5 8 5	1 4 5 4	13.3	26 13 22 11	3 10 12 10	13	26 13 22 11	3 10 12 10	13	15			
27		8 3 5 2	3 2 2 2	9.0	23 6 12 5	6 4 4 5	8	23 6 12 5	6 4 4 5	8	8			
28		2 4 3 1	2 2 2 3	6.3	4 8 7 2	4 4 4 7	5	4 8 7 2	4 4 4 7	5	7			
29		8 5 4 6	6 10 6 7	17.3	23 12 10 15	15 36 16 20	18	23 12 10 15	15 36 16 20	18	15			
30		7 6 5 7	6 7 7 5	16.7	19 16 12 19	16 18 17 12	16	19 16 12 19	16 18 17 12	16	18			
31		5 6 6 8	7 7 8 7	18.0	13 15 15 24	19 20 22 17	16	13 15 15 24	19 20 22 17	16	21			
							31.6							

SEP. 1959						am				Am	Am2									
	3 Km				Σ Km															
1	9	8	9	10	8	9	11	8	24.0	32	22	33	36	21	32	47	21	31	35	
2	11	13	14	13	6	7	9	12	28.3	45	61	72	62	14	19	32	52	45	37	
3	8	8	9	9	9	11	11	19	28.0	26	26	28	32	29	46	44	196	53	67	
4	16	18	18	16	15	16	13	14	42.0	116	147	152	112	91	106	61	80	106	83	
5	12	9	9	8	9	8	10	14	26.3	26	28	32	26	33	26	38	86	41	50	
6	14	8	8	6	6	6	3	3	18.0	80	26	23	15	15	15	6	6	23	25	
7	4	3	4	5	5	7	5	5	12.7	10	6	10	11	12	20	12	12	12	13	
8	5	6	8	9	7	9	3	7	18.0	11	15	23	27	17	27	7	20	18	15	
9	5	4	3	5	3	5	3	6	11.3	11	10	6	13	7	11	6	16	10	12	
10	5	5	4	4	4	4	4	9	13.0	12	12	10	9	9	10	9	29	13	15	
11	6	9	8	9	8	5	5	8	19.3	15	33	24	29	26	12	13	26	22	21	
12	11	8	7	7	6	8	6	5	19.3	44	23	18	17	14	24	15	12	21	19	
13	8	4	5	5	3	3	5	14	15.7	25	9	12	11	7	6	12	76	20	23	
14	10	9	11	9	9	8	5	9	23.3	36	32	44	28	33	24	13	30	30	27	
15	6	5	9	8	9	9	11	11	22.7	16	13	31	23	28	30	50	42	29	27	
16	11	11	5	4	6	7	7	5	18.7	44	41	12	9	14	20	19	13	22	25	
17	6	6	6	9	8	10	13	14	24.0	14	15	15	28	24	37	66	72	34	28	
18	9	6	8	11	10	9	12	13	26.0	32	15	21	43	37	28	58	69	38	46	
19	14	14	9	12	10	5	7	8	26.3	80	71	27	51	37	13	19	25	40	46	
20	10	12	13	13	17	14	16	13	36.0	36	56	69	67	125	71	110	70	76	68	
21	14	16	17	12	14	16	14	13	38.7	84	117	138	56	80	118	86	68	93	100	
22	17	17	14	14	14	11	11	7	36.0	137	136	125	73	80	41	50	19	83	70	
23	8	8	9	9	7	11	11	12	25.0	21	26	30	30	18	47	44	52	34	36	
24	9	9	9	8	12	10	9	9	25.0	28	31	32	24	60	37	32	30	34	38	
25	12	10	10	10	11	13	9	12	29.0	57	40	39	36	44	61	31	56	46	42	
26	11	8	9	10	11	9	9	11	26.0	50	24	31	36	47	30	31	43	37	38	
27	8	8	9	11	9	11	8	9	24.3	26	26	32	43	31	48	26	30	33	34	
28	11	7	11	8	7	6	10	8	22.7	43	18	43	25	20	16	40	23	29	27	
29	6	3	5	9	7	4	3	7	14.7	15	7	12	31	18	8	6	19	15	19	
30	6	4	6	10	9	7	10	7	19.7	15	10	16	40	33	20	34	17	23	30	
																		37.0		

OCT. 1959						am				Am	Am2									
	3 Km				Σ Km															
1	9	12	14	14	11	11	10	13	31.3	32	52	85	75	47	41	38	62	54	46	
2	8	14	13	10	6	6	6	5	22.7	21	73	69	35	14	15	16	12	32	34	
3	3	6	12	8	10	13	15	16	27.7	7	15	54	25	37	67	92	120	52	49	
4	11	17	14	12	16	8	11	9	32.7	50	134	81	52	105	25	50	32	66	61	
5	12	10	7	7	11	12	14	13	28.7	56	37	18	16	46	55	85	67	48	56	
6	13	13	14	15	12	13	13	12	35.0	62	65	77	92	55	62	68	54	67	56	
7	9	9	6	10	7	4	7	11	21.0	29	32	16	35	20	9	17	41	25	32	
8	8	7	4	8	4	7	2	3	14.7	22	20	10	22	9	17	7	7	14	15	
9	5	3	5	4	2	4	2	2	11.0	13	7	11	8	5	10	24	5	10	9	
10	3	3	3	2	2	8	5	3	9.7	7	7	7	4	5	21	11	7	9	8	
11	3	2	2	1	0	1	6	4	6.3	7	4	5	3	1	2	14	9	6	7	
12	2	1	1	2	5	7	8	7	11.0	5	3	3	4	12	18	25	19	11	9	
13	4	1	4	5	4	4	2	5	9.7	9	3	8	11	9	10	5	11	8	14	
14	5	6	7	11	10	7	10	9	21.7	13	14	18	44	36	19	34	27	26	21	
15	8	9	7	8	8	8	10	10	22.7	26	29	19	21	25	21	35	34	26	22	
16	5	3	2	1	1	4	5	3	8.0	13	7	4	3	2	9	13	6	7	17	
17	4	6	8	12	9	9	10	10	22.7	10	15	26	56	33	27	37	39	30	31	
18	13	10	12	13	11	12	10	11	30.7	66	39	52	68	46	55	37	46	51	40	
19	9	9	6	8	5	5	8	9	19.7	29	31	14	24	12	13	24	30	22	28	
20	10	6	8	6	4	2	1	0	12.3	35	14	26	15	9	5	3	1	14	13	
21	2	3	2	3	4	8	6	9	12.3	5	7	4	6	9	22	14	32	12	16	
22	10	11	9	9	9	12	8	8	25.3	35	50	28	28	30	51	21	22	33	27	
23	9	5	8	9	4	0	2	0	12.3	29	12	21	33	10	1	4	1	14	17	
24	1	2	5	6	8	6	5	7	13.3	3	5	13	14	23	14	13	17	13	16	
25	7	10	8	12	9	8	7	10	23.7	17	36	26	58	32	26	19	34	31	30	
26	9	9	11	12	14	11	8	10	28.0	27	30	49	51	73	50	26	34	43	36	
27	7	8	10	10	7	7	3	3	18.3	17	26	35	39	17	20	7	7	21	24	
28	3	3	7	4	5	2	0	0	8.0	6	7	17	8	12	4	1	1	7	8	
29	2	3	3	3	5	2	1	12	10.3	5	7	7	7	13	5	3	52	12	18	
30	14	11	9	7	9	9	13	15	29.0	79	48	30	20	31	32	67	91	50	40	
31	10	7	8	15	14	13	14	16	32.3	35	20	26	88	80	70	78	107	63	61	
																		28.3		

OCT. 1959		3 Kn	gn	an	An	
1	9 13 15 14	11 11 11 12	7673 7343	32 64 103 86	45 41 43 60	59
2	7 13 14 10	7 7 7 6	3343 4231	19 70 71 40	17 19 20 15	34
3	3 6 11 8	9 13 13 16	5253 3566	7 16 47 22	29 68 69 114	47
4	12 17 15 12	17 8 12 10	3764 5241	57 131 92 56	125 25 51 35	72
5	11 10 7 8	11 12 13 13	5754 6376	48 36 19 21	48 52 70 68	45
6	14 13 13 14	12 14 14 12	2545 4664	76 63 63 86	57 71 72 51	67
7	8 9 7 10	7 5 7 10	5545 3325	26 32 17 40	20 13 19 39	26
8	7 7 5 8	5 8 4 3	4422 2621	20 19 11 25	11 22 8 7	15
9	7 3 5 4	2 5 8 3	6332 2654	17 6 13 10	5 13 26 6	12
10	3 3 3 2	3 8 5 4	1243 1672	7 7 7 4	6 24 11 8	9
11	3 1 3 1	1 1 6 5	4343 2353	7 3 6 3	2 3 15 11	6
12	2 1 1 1	5 8 8 8	3344 2236	4 2 3 3	13 23 26 21	12
13	4 1 4 5	4 5 2 4	2322 3322	9 3 8 11	9 12 5 10	8
14	5 5 6 10	10 8 9 8	2223 3324	12 12 16 39	35 22 33 25	24
15	7 9 7 8	9 9 9 9	2122 2255	17 28 18 22	28 27 29 29	25
16	5 3 3 1	2 5 6 3	2374 3331	13 6 6 3	4 12 14 7	8
17	3 5 7 12	10 9 10 11	1224 3233	6 13 20 54	36 32 37 43	30
18	13 10 11 12	11 13 10 12	4322 2255	61 37 48 58	49 62 36 52	50
19	9 10 6 9	6 6 8 9	4511 2443	31 37 16 27	14 14 25 28	24
20	10 5 10 6	5 3 2 0	6153 2132	34 13 36 15	12 7 4 1	15
21	2 4 2 4	5 8 5 9	4342 2211	5 9 5 8	11 25 13 30	13
22	9 11 9 9	9 13 8 8	2344 5532	27 43 29 31	28 67 25 22	34
23	9 6 8 9	4 1 2 0	6432 2242	30 16 21 31	10 3 5 1	15
24	1 2 5 6	8 7 6 6	2443 3211	2 5 13 14	22 17 14 14	13
25	7 10 8 13	10 9 7 11	2424 4225	18 38 26 62	35 33 17 45	34
26	9 8 11 12	14 11 8 10	4235 3225	30 23 41 57	71 47 25 34	41
27	6 9 10 10	8 8 4 4	1423 3521	14 32 38 38	24 26 9 8	24
28	2 3 7 4	6 2 1 1	2232 6322	4 6 19 10	15 5 2 3	8
29	2 4 4 4	6 3 1 11	2522 4432	4 9 8 9	16 7 3 42	12
30	15 10 9 6	10 10 12 14	3212 1544	88 40 29 16	34 36 58 81	48
31	10 7 10 16	14 14 13 14	5235 4557	36 19 34 106	81 77 68 83	63
						28.6

OCT. 1959		3 Ks	Gs	as	As	
1	9 11 13 13	11 10 10 13	5341 3653	31 41 67 65	49 40 34 64	49
2	8 14 13 9	5 4 5 4	3232 4323	24 75 66 29	11 10 11 10	30
3	4 5 13 9	11 13 16 17	4163 3958	8 13 61 27	44 66 116 126	58
4	11 17 13 11	14 8 11 9	6841 3940	43 137 70 49	85 24 48 29	61
5	13 10 6 6	11 12 15 13	5410 3796	65 38 16 15	44 57 101 66	50
6	11 13 15 15	12 12 13 12	1314 2532	49 66 91 98	53 52 64 57	66
7	9 9 6 9	7 2 6 11	4525 4124	32 33 14 29	20 5 15 42	24
8	8 6 4 7	4 5 3 3	4543 1312	24 22 10 20	8 12 6 6	14
9	4 4 4 3	2 3 8 2	3331 1123	10 9 9 6	5 7 21 4	9
10	3 3 3 1	2 7 4 3	1212 2544	7 6 7 3	4 17 10 6	8
11	4 2 2 2	0 0 5 4	4322 1141	8 5 4 4	1 1 13 8	6
12	3 1 1 2	5 5 8 7	2332 1134	7 3 3 4	12 13 24 17	10
13	4 2 3 4	4 3 2 5	3452 1131	9 4 7 10	8 7 5 12	8
14	6 6 7 11	10 6 10 9	4131 4110	14 16 20 49	38 16 34 29	27
15	10 9 7 8	8 6 11 10	4043 2443	35 29 19 21	21 16 42 40	28
16	5 3 1 1	0 3 5 3	1123 0112	13 7 2 2	0 6 12 6	6
17	5 7 9 12	9 8 10 10	1112 0231	13 17 32 57	29 22 38 34	30
18	14 10 12 14	11 11 10 10	3243 2433	71 40 56 78	42 49 37 40	52
19	8 6 5 8	5 5 8 9	1112 2112	26 26 13 21	11 12 23 32	21
20	10 6 7 6	3 1 0 0	5212 1310	37 15 17 15	6 2 1 0	12
21	3 3 1 2	3 7 6 10	1121 2154	6 6 3 5	7 18 15 35	12
22	11 12 8 8	9 10 6 8	4213 2522	43 56 26 26	32 35 16 22	32
23	9 4 7 10	4 0 1 0	0333 3031	29 9 20 34	9 0 2 1	13
24	2 2 5 6	8 5 5 7	3310 3214	5 5 13 15	24 11 12 19	13
25	7 10 8 12	9 7 7 8	1154 0334	17 34 26 54	29 19 20 23	28
26	8 10 12 11	14 12 8 9	4453 6414	24 37 56 46	76 52 26 33	44
27	7 7 9 10	4 6 3 3	5323 2412	20 20 31 40	10 14 6 6	18
28	4 4 6 3	4 1 0 0	5521 1210	8 8 15 6	8 3 1 0	6
29	3 2 3 3	5 1 1 13	1311 3334	6 5 6 6	11 2 3 63	13
30	14 12 9 8	9 9 14 15	3512 4244	71 56 32 25	29 29 76 101	52
31	10 8 7 14	14 13 15 17	1216 3657	34 22 18 71	80 63 87 131	63
						27.7

MAR. 1960		3 Kn	gn	an	An	
1	8 8 9 8	8 9 12 9	2222 2152	24 25 27 26	23 30 53 27	29
2	10 8 11 11	10 9 9 10	5233 2333	36 23 47 42	37 28 30 36	35
3	7 10 10 10	10 10 9 9	4133 4443	18 35 39 38	40 39 33 32	34
4	6 6 6 7	13 12 9 10	5144 5533	15 14 15 18	65 58 33 39	32
5	5 7 10 6	10 9 10 8	2342 3344	13 20 38 16	37 28 34 25	26
6	8 11 6 9	7 7 8 6	2613 4443	25 46 15 31	18 16 24 14	24
7	1 4 2 4	4 4 4 2	3233 3422	3 8 5 10	10 8 9 4	7
8	2 7 12 10	8 9 7 9	2463 3431	4 20 51 36	24 31 19 27	27
9	6 7 8 9	9 9 6 7	1321 1222	16 18 23 30	27 32 16 18	23
10	4 6 12 14	8 11 11 6	3542 3341	10 14 60 21	22 49 48 15	37
11	8 10 9 16	14 13 12 8	4323 3343	24 38 31 111	74 69 56 21	53
12	6 4 6 8	10 8 5 6	3333 5331	14 10 14 22	39 21 12 15	16
13	5 3 5 2	3 7 6 5	2234 2443	12 7 11 4	6 17 16 11	11
14	4 5 5 9	5 9 4 6	2343 2132	8 11 13 29	13 33 9 14	16
15	6 1 5 4	10 11 12 14	1332 3243	16 3 12 8	34 41 57 71	30
16	16 16 14 11	9 11 14 12	4284 3573	108 105 82 45	30 50 86 60	71
17	9 10 11 9	8 10 10 7	2321 2353	27 35 48 31	24 34 38 20	32
18	7 12 12 8	7 4 1 4	4542 3224	17 54 51 21	16 8 3 26	25
19	5 4 6 9	9 8 4 4	3311 1233	13 10 16 28	31 22 8 9	17
20	3 5 3 3	4 5 1 3	3243 2232	6 11 7 7	8 12 3 7	6
21	2 4 7 6	11 6 3 3	2253 3311	4 8 18 14	48 15 6 6	15
22	3 5 6 3	9 4 4 6	2225 2224	7 11 14 7	27 10 8 14	12
23	5 4 2 4	3 3 2 6	5542 3332	11 5 5 9	6 6 5 16	8
24	9 8 6 7	7 12 10 9	7212 2331	32 22 16 17	19 52 40 32	29
25	3 4 5 5	5 2 6 8	1225 2315	6 8 12 11	12 5 15 26	12
26	8 3 7 8	5 4 3 4	3123 2312	25 7 18 26	13 10 7 8	14
27	5 7 7 8	5 2 1 3	2343 2322	11 20 20 21	13 2 4 6	12
28	1 5 9 12	10 12 11 11	3345 5152	3 11 31 54	37 52 48 44	35
29	10 10 13 10	4 7 5 9	7453 2233	40 34 62 37	9 17 13 28	30
30	9 7 7 8	7 12 10 12	4222 2325	30 19 17 22	20 52 35 52	31
31	10 11 12 19	18 20 20 22	3562 2254	37 42 57 176	148 218 204 323	151
						29.2

MAR. 1960		3 Ks	Gs	as	As	
1	8 9 8 10	6 8 12 8	2012 1183	25 29 26 37	16 26 58 21	30
2	10 9 11 10	11 6 8 10	4033 3013	35 29 46 38	42 15 26 36	33
3	8 9 10 11	12 10 7 8	2432 5512	21 33 38 41	56 34 17 25	33
4	6 6 4 7	12 10 8 10	1034 4113	16 15 10 17	52 34 26 36	26
5	5 7 10 7	11 8 9 8	2453 3153	11 18 34 20	49 26 31 24	27
6	9 11 6 8	8 5 7 5	0103 7232	29 49 15 24	24 11 19 12	23
7	3 6 1 4	4 2 7 1	1033 3553	7 15 2 9	9 5 17 3	8
8	2 6 11 9	8 7 7 8	2075 3331	4 15 47 31	26 20 20 26	24
9	5 8 8 10	8 7 5 6	3123 3310	12 26 21 36	24 20 13 15	21
10	5 8 10 13	7 8 11 5	3333 3123	12 24 38 66	20 26 47 13	31
11	8 9 8 16	12 11 10 5	2035 1631	22 29 25 109	53 48 40 13	42
12	5 4 5 8	7 5 4 4	3323 1244	12 9 11 24	17 12 9 9	13
13	5 4 5 3	3 6 6 5	3325 5004	12 10 11 7	7 15 15 11	11
14	4 3 5 8	4 7 2 5	1133 2421	8 7 12 22	10 17 5 13	12
15	6 5 4 3	8 11 13 12	1611 2731	16 12 8 6	25 47 69 53	30
16	17 14 14 10	9 10 11 12	8123 5315	136 86 74 36	27 36 49 56	63
17	8 8 9 10	6 7 7 6	2345 4131	22 21 29 34	16 17 20 16	22
18	5 9 9 6	5 2 2 7	3101 2324	12 32 29 16	12 5 4 17	16
19	5 4 5 9	7 5 3 3	1320 5401	13 10 12 29	19 12 6 6	13
20	3 5 4 3	1 3 0 2	2240 2012	6 11 8 6	2 6 1 4	6
21	2 4 5 5	10 3 0 0	2412 2211	4 10 13 12	37 7 1 1	11
22	3 4 3 2	7 1 2 5	2312 5222	6 9 6 5	19 2 5 11	8
23	4 3 2 3	1 0 2 5	3511 2112	10 7 5 6	2 1 5 12	6
24	9 8 5 7	3 9 9 6	6111 2422	31 23 12 17	7 32 32 16	21
25	2 3 4 3	3 0 3 6	1212 2101	5 7 8 7	7 1 6 16	7
26	5 1 6 6	3 4 3 1	1220 2112	12 3 15 15	7 8 6 2	9
27	5 7 7 8	4 0 0 0	2542 1001	11 19 18 22	8 0 0 1	10
28	0 4 7 10	7 10 10 10	1434 1331	1 9 20 39	18 39 39 34	25
29	12 8 13 9	3 3 3 12	6141 1208	56 26 63 32	6 7 6 53	31
30	12 5 6 8	8 9 10 14	7123 4468	54 13 14 21	23 32 36 75	34
31	11 10 12 19	16 20 19 23	4461 3463	43 35 56 175	117 214 192 364	150
						25.5

JUNE 1960		3 Kn				σn		an				An
1	9 14 12 13	11 7 7 6	4413 3231	33 78 52 62	50 18 20 14	41						
2	7 4 4 5	7 5 5 4	2633 3232	18 10 10 13	17 12 13 8	13						
3	2 0 4 7	5 8 9 9	4225 2625	4 1 8 17	12 21 27 30	15						
4	14 17 16 14	12 11 10 15	3344 2334	83 124 119 71	56 49 40 89	79						
5	13 12 15 11	11 8 10 9	4364 2441	67 55 93 48	46 25 34 28	50						
6	11 13 11 12	9 8 6 5	2331 3243	46 66 49 57	28 25 14 12	37						
7	9 8 6 11	8 5 8 8	1533 3322	31 23 26 45	24 11 25 21	26						
8	8 11 11 11	8 8 11 11	2244 3352	26 48 42 42	25 24 42 46	37						
9	11 12 11 9	8 6 9 4	2235 3363	41 56 44 29	26 26 32 10	33						
10	6 5 5 5	4 7 6 7	4434 2212	15 13 11 13	8 18 16 17	14						
11	8 4 5 5	4 3 3 3	3246 6342	23 9 13 13	8 6 6 7	11						
12	5 5 6 7	5 7 7 3	4423 2424	12 13 14 17	11 17 18 7	14						
13	5 5 6 5	5 7 5 5	6313 2332	13 13 14 12	11 20 13 12	14						
14	6 6 8 11	12 8 6 5	2523 4343	15 15 25 44	51 21 14 11	25						
15	7 4 10 9	6 7 7 5	2233 3323	20 8 37 29	25 19 20 13	21						
16	8 8 7 3	4 5 4 5	3234 2222	21 24 18 6	8 12 8 11	14						
17	7 4 3 3	6 9 7 4	1436 2442	18 8 6 7	16 30 19 10	14						
18	8 7 8 10	9 9 8 7	3423 3132	26 17 22 37	30 30 25 18	28						
19	9 10 9 11	9 7 8 7	3345 1444	30 35 32 44	30 18 23 18	29						
20	9 7 6 7	8 7 3 6	4545 3331	27 18 16 17	21 19 7 14	17						
21	8 12 8 9	8 9 9 8	4122 3342	25 54 24 30	25 27 26 25	30						
22	8 10 7 8	5 5 8 9	4732 3334	21 34 18 26	13 13 22 28	22						
23	9 9 6 6	7 9 6 8	4514 2332	33 29 15 16	18 31 16 21	22						
24	7 9 9 8	8 7 10 8	2542 2252	18 28 31 25	23 19 30 25	20						
25	10 7 7 9	9 12 11 12	4324 1223	37 20 17 29	33 56 43 56	36						
26	13 12 11 8	7 8 8 9	2243 2423	64 60 46 24	18 26 23 29	30						
27	16 17 13 12	7 13 14 14	2532 4342	105 131 70 51	18 65 71 76	73						
28	11 14 14 16	11 9 9 9	3433 4444	44 74 78 117	47 31 30 31	57						
29	9 13 13 8	7 9 14 16	6332 2422	33 67 68 22	17 29 73 117	53						
30	17 14 9 10	9 13 15 10	5245 3644	124 81 33 40	27 65 97 39	83 31.5						

JUNE 1960		3 Ks				σs		as				As
1	10 14 13 13	11 3 3 1	4443 1252	38 74 63 66	49 7 7 3	38						
2	5 0 1 4	2 0 1 0	3023 3121	12 0 3 9	4 1 3 1	4						
3	0 0 1 1	1 2 5 7	1122 2414	1 1 2 3	3 4 13 17	6						
4	11 14 16 13	8 7 6 11	1334 4122	45 80 113 67	24 18 16 43	51						
5	13 12 13 16	11 6 9 6	5534 2350	65 59 66 106	43 14 27 15	50						
6	12 13 10 11	8 6 4 4	5435 3013	55 61 38 47	24 15 6 10	33						
7	8 8 8 8	7 1 8 4	1211 5261	26 22 23 26	17 3 21 8	18						
8	7 12 10 9	3 3 8 11	5632 4342	17 51 38 29	7 6 22 47	27						
9	10 12 9 8	4 3 7 1	3522 3262	40 54 32 22	10 7 20 2	23						
10	4 4 2 1	3 3 5 6	3421 2142	10 8 5 2	6 6 11 16	8						
11	8 4 3 1	0 0 0 0	4312 0011	23 10 7 3	0 0 1 1	6						
12	2 3 2 1	1 2 2 0	2022 3521	4 6 4 3	3 5 5 1	4						
13	2 2 3 2	1 3 1 1	2103 1421	5 5 6 4	2 6 3 2	4						
14	3 3 8 8	9 2 5 2	1131 1163	7 6 21 26	32 5 12 4	14						
15	5 1 10 8	7 4 4 2	2251 3113	11 2 37 23	18 8 9 4	14						
16	4 6 7 0	0 0 0 0	1541 0101	9 15 18 1	0 1 0 1	6						
17	5 1 0 0	0 5 1 3	1310 1434	13 2 1 0	1 13 2 6	5						
18	7 5 5 9	6 5 5 3	5312 1111	18 12 13 29	16 12 12 7	15						
19	8 8 10 11	6 4 8 8	2252 0231	22 22 36 42	15 10 24 26	25						
20	9 7 7 4	5 3 4 7	6543 4545	31 19 17 9	12 7 8 17	15						
21	7 11 8 11	8 8 5 7	3357 3314	20 45 26 46	24 24 13 17	27						
22	11 11 7 4	3 2 5 6	9843 2243	45 49 17 9	6 4 11 14	19						
23	10 9 8 3	3 7 3 4	3672 1114	40 28 25 7	7 18 7 9	18						
24	6 5 8 7	4 3 9 8	5144 1522	15 12 24 19	8 7 31 22	17						
25	10 7 4 4	9 10 11 13	3411 4646	38 18 9 9	30 36 49 62	31						
26	13 13 11 7	4 3 5 10	4431 2126	62 67 47 17	10 6 12 40	33						
27	15 16 13 11	4 10 11 14	2434 3338	98 108 68 45	9 39 49 74	61						
28	14 11 11 14	9 8 10 10	9133 2454	73 49 44 78	31 24 38 34	46						
29	10 12 11 5	2 3 10 14	6112 3234	34 53 49 13	4 7 36 74	34						
30	14 15 7 9	6 9 11 10	2344 3546	82 89 20 30	14 31 49 37	44 23.2						

JULY 1960		3 Kn				σn				an				An
1	12 11 12 9	11 8 11 8	4421 3532	57 50 51 33	43 22 45 25	41								
2	9 9 11 10	9 5 6 6	2122 2211	33 31 42 36	33 12 16 14	27								
3	6 8 7 9	7 9 10 9	1221 2331	16 22 18 30	20 27 35 30	25								
4	12 10 12 11	8 9 9 8	1244 2245	52 37 59 42	25 33 28 26	36								
5	9 8 10 12	9 6 8 8	1331 3233	31 26 40 52	26 14 25 23	30								
6	10 7 6 10	8 6 5 5	2333 4112	35 20 16 38	25 16 13 11	22								
7	3 3 6 6	3 5 3 5	4121 4332	6 7 15 14	7 12 6 11	10								
8	5 4 3 4	3 2 2 3	4445 4431	12 10 7 9	6 4 4 6	7								
9	2 2 6 6	3 2 4 5	3432 4522	5 5 14 16	7 5 8 12	9								
10	7 7 7 4	5 7 8 7	4243 3242	19 18 19 9	11 17 21 17	16								
11	8 8 7 9	7 9 8 9	3321 2322	23 24 17 28	17 27 25 26	24								
12	9 8 9 8	9 5 6 7	2332 3412	28 24 30 21	27 11 14 17	22								
13	8 9 8 8	6 9 8 6	2223 1223	26 31 23 21	16 33 22 15	23								
14	4 12 11 11	9 15 13 15	2343 2434	9 53 41 45	33 103 61 102	56								
15	10 11 11 14	14 16 15 19	3334 4242	37 42 41 72	76 113 102 178	83								
16	22 15 16 14	13 13 10 9	7085 6134	289 102 105 79	64 62 39 28	96								
17	12 12 13 9	6 9 8 9	4564 1522	58 55 69 32	16 29 23 33	39								
18	9 9 9 8	9 11 6 6	6413 5541	33 28 30 22	31 49 16 14	28								
19	3 9 15 17	11 10 11 11	4154 3355	6 27 89 123	43 39 48 50	53								
20	11 5 8 13	13 10 10 11	6225 2353	47 12 22 64	63 39 38 49	42								
21	8 11 7 6	9 6 6 6	3432 3464	23 50 20 14	30 16 14 15	23								
22	7 8 8 7	7 6 5 8	2452 2132	19 24 22 19	19 15 13 22	19								
23	12 7 6 4	4 4 4 5	3212 2242	53 19 15 8	9 9 9 12	17								
24	6 8 9 8	8 8 6 6	4433 4311	16 21 27 23	26 22 16 16	21								
25	4 5 5 2	3 4 4 5	2454 3222	8 13 11 4	6 9 10 11	9								
26	5 5 5 4	7 6 7 11	2323 2232	11 13 11 10	18 14 19 48	18								
27	5 6 8 5	6 5 4 4	5333 2215	21 15 24 13	15 12 8 8	15								
28	3 5 5 8	9 4 6 7	4232 3212	6 12 13 22	27 10 15 17	15								
29	12 10 10 8	9 14 12 11	4234 3513	54 39 39 22	31 78 56 45	46								
30	12 10 10 11	12 8 8 8	4543 2322	59 40 35 46	60 22 25 22	39								
31	14 11 15 12	10 10 8 9	3251 3323	78 46 93 54	40 40 25 27	50								
						31.0								

JULY 1960		3 Ks				σs				as				As
1	12 12 10 9	7 6 7 6	6514 1232	56 59 34 32	18 14 20 15	31								
2	8 10 8 8	8 3 3 3	1511 2012	26 36 26 26	21 7 7 7	20								
3	5 8 7 8	4 4 8 8	2342 1236	11 21 18 22	8 10 21 25	17								
4	13 10 10 9	5 6 3 6	4444 3012	61 34 37 32	13 15 6 15	27								
5	8 7 9 8	7 5 6 5	1342 4431	26 20 32 22	19 11 14 13	20								
6	7 5 4 11	4 4 2 0	4135 3411	19 12 10 41	9 8 5 1	13								
7	1 1 2 3	0 2 0 1	2221 1303	2 2 4 7	1 4 0 2	3								
8	2 3 0 1	0 0 0 0	1013 0001	5 6 1 3	0 0 0 1	2								
9	1 1 1 3	0 0 0 1	1221 0101	2 2 2 7	0 1 0 2	2								
10	6 4 5 3	3 1 4 5	5320 1283	16 10 11 6	6 3 10 12	9								
11	7 6 5 5	4 3 3 7	3113 1024	20 16 12 12	8 6 7 17	12								
12	7 7 7 7	5 2 3 4	4434 3311	18 18 20 18	12 5 7 8	13								
13	5 8 7 5	4 5 7 7	2141 1455	11 26 19 13	8 13 19 17	16								
14	2 10 9 11	8 11 10 13	3353 3431	4 40 29 46	26 49 39 61	37								
15	6 10 10 16	14 17 17 18	1436 4342	16 39 40 105	85 132 143 156	90								
16	21 14 14 15	11 12 8 9	7324 1514	256 78 74 93	49 56 26 32	83								
17	15 10 12 11	6 9 4 11	9327 1455	89 40 53 49	16 32 8 41	41								
18	10 8 10 5	4 8 4 4	5134 2631	37 26 38 12	10 24 10 8	21								
19	1 7 13 16	10 8 11 13	3154 1367	2 17 67 119	34 26 45 67	47								
20	13 7 5 12	10 8 10 13	5515 6633	63 17 13 51	37 26 39 64	39								
21	6 12 7 1	6 5 4 5	0242 5463	15 57 18 3	16 12 8 12	16								
22	6 8 7 5	6 3 5 9	2551 5243	15 26 20 13	15 7 11 28	17								
23	13 6 4 0	1 1 3 1	4230 2213	67 14 10 0	2 3 6 3	13								
24	8 7 6 5	3 3 3 2	3423 4404	21 18 14 12	6 7 6 5	11								
25	1 4 1 0	0 0 2 4	3311 0041	2 9 2 1	0 0 4 8	3								
26	3 3 1 2	5 3 3 11	2223 4224	6 7 3 4	13 7 7 42	11								
27	7 3 5 3	1 1 0 0	5111 2310	17 7 13 6	3 2 1 0	6								
28	1 3 3 4	7 0 3 4	3211 1125	2 6 6 9	18 1 6 9	7								
29	12 10 9 5	8 12 10 9	6441 3833	51 35 32 13	22 58 36 28	34								
30	12 10 7 10	10 4 5 5	3342 5242	51 38 19 37	35 10 12 11	27								
31	16 13 13 11	8 9 7 9	6441 3415	107 61 70 45	26 29 17 31	48								
						23.8								

JULY 1960		3 Km	Σ Km	am				Am	Am2				
1	12 12 11 9	9 7 9 7	25.3	56	54	43	33	31	18	32	20	36	37
2	9 9 10 9	9 4 5 5	20.0	30	33	34	31	27	9	12	11	23	23
3	6 8 7 8	6 7 9 9	20.0	14	22	18	26	14	18	28	27	21	25
4	12 10 11 10	7 8 7 7	24.0	56	35	48	37	19	24	17	20	32	29
5	9 8 10 10	8 5 7 7	21.3	29	23	36	37	24	12	19	18	25	23
6	9 6 5 10	7 5 4 3	16.3	27	16	13	40	17	12	9	6	16	15
7	2 2 4 5	2 4 1 3	7.7	4	4	9	11	4	8	3	6	6	8
8	4 4 2 3	1 1 1 1	5.7	9	8	4	6	3	2	2	3	5	5
9	1 1 4 5	2 1 2 3	6.3	3	3	8	11	4	3	4	7	5	7
10	7 6 6 4	4 4 6 6	14.3	17	14	15	8	8	10	16	14	13	12
11	8 7 6 7	5 6 6 8	17.7	21	20	14	20	12	16	16	23	16	17
12	8 8 8 7	7 4 5 5	17.3	23	21	25	19	19	6	11	13	17	16
13	7 9 8 7	5 8 7 6	19.0	19	29	21	17	12	23	20	16	20	21
14	3 11 10 11	9 14 11 14	27.7	7	46	35	46	30	76	50	81	46	40
15	8 11 11 15	14 17 17 18	37.0	26	41	41	89	80	122	123	167	86	91
16	21 15 15 14	12 12 9 9	35.7	272	90	89	86	56	59	33	30	69	89
17	14 11 13 10	6 9 6 10	26.3	74	47	61	40	16	30	16	37	40	38
18	10 9 10 7	8 10 5 5	21.3	35	27	34	17	21	36	13	11	24	32
19	2 8 14 17	10 9 11 12	27.7	4	22	78	121	39	33	46	58	50	39
20	12 6 7 12	11 9 10 12	26.3	55	15	18	57	50	33	36	57	40	36
21	7 12 7 4	8 6 5 5	18.0	19	54	19	9	23	14	11	13	20	26
22	7 8 8 6	7 5 5 8	18.0	17	25	21	16	17	11	12	25	16	19
23	12 7 5 2	2 3 4 3	12.7	60	17	12	4	5	6	8	7	15	16
24	7 7 8 7	6 6 5 5	17.0	19	20	21	17	16	14	11	11	16	11
25	2 5 3 1	1 2 3 4	7.0	5	11	6	2	3	5	7	9	6	6
26	4 4 3 3	6 5 5 11	13.7	9	10	7	7	15	11	13	45	15	12
27	7 5 7 4	4 3 2 2	11.3	19	11	15	9	9	7	4	4	10	13
28	2 4 4 6	8 3 5 5	12.3	4	9	9	15	23	6	11	13	11	16
29	12 10 10 7	9 13 11 10	27.3	53	37	35	18	27	68	46	36	40	34
30	12 10 9 11	11 6 7 7	24.3	55	39	27	42	46	16	18	17	33	45
31	15 12 14 11	9 10 8 9	29.3	92	53	81	50	33	34	21	29	49	38

AUG. 1960		3 Km	Σ Km	am				Am	Am2				
1	8 10 8 9	10 4 5 7	20.3	23	35	21	30	39	10	11	16	23	26
2	7 11 8 8	6 6 7 10	21.0	20	45	25	26	14	16	20	36	25	21
3	7 4 4 5	4 6 4 5	13.0	17	8	10	13	9	15	9	13	12	17
4	8 7 6 10	4 3 2 2	14.0	23	20	15	39	8	6	5	4	15	12
5	3 3 3 2	3 2 3 0	6.3	6	6	6	5	6	4	6	1	5	7
6	3 3 7 7	4 4 5 6	13.0	7	6	18	19	9	8	11	15	12	11
7	9 6 4 6	5 8 3 1	14.0	32	16	10	14	12	24	6	2	15	15
8	2 6 10 8	8 10 9 11	21.3	5	15	39	24	21	35	27	47	27	30
9	9 14 14 11	8 5 5 5	23.7	32	75	72	50	22	13	13	11	36	33
10	7 6 10 10	7 8 7 5	20.0	17	16	39	38	19	22	20	11	23	25
11	8 12 9 11	9 9 8 5	23.7	21	60	29	43	30	28	21	13	31	33
12	9 12 13 12	9 8 5 5	24.3	31	52	61	60	33	25	12	13	36	27
13	5 7 4 6	7 4 5 4	14.0	13	18	10	16	18	10	11	10	13	16
14	6 7 6 5	6 10 9 8	19.0	16	20	14	12	15	39	33	26	22	19
15	9 8 6 6	3 4 3 2	13.7	28	24	15	16	6	9	6	4	14	16
16	5 2 4 5	14 17 15 15	25.7	11	5	8	11	72	127	102	101	55	60
17	18 18 16 15	11 16 14 14	40.7	147	155	110	68	44	107	86	79	102	87
18	11 8 11 12	7 6 4 3	20.7	43	23	46	58	18	15	10	7	26	38
19	7 2 7 9	6 11 11 15	22.7	17	5	17	28	16	49	47	68	33	32
20	7 12 15 8	8 7 9 9	25.0	18	53	98	24	25	18	33	33	38	42
21	12 10 11 11	8 9 11 9	27.0	52	34	44	44	24	28	44	32	38	33
22	13 8 4 5	4 5 9 8	18.7	70	22	10	13	9	13	30	26	24	24
23	7 7 5 4	2 7 8 2	14.0	18	17	13	8	5	17	22	4	13	14
24	5 3 5 7	3 5 5 2	11.7	11	6	12	20	7	12	11	5	11	10
25	3 3 2 2	2 3 3 2	6.7	6	7	5	4	5	7	6	5	6	7
26	1 4 4 3	2 2 4 6	8.7	3	8	8	6	5	5	8	14	7	10
27	9 7 6 6	6 11 12 9	22.0	28	20	15	16	14	42	58	30	26	24
28	8 11 11 4	8 8 2 3	18.3	25	48	45	8	24	22	5	7	23	41
29	14 18 14 9	11 11 10 13	33.3	79	148	71	29	49	43	39	67	66	61
30	14 16 17 13	10 11 9 5	31.7	83	114	127	68	37	41	33	12	64	52
31	8 10 10 9	7 5 4 7	20.0	25	37	36	27	18	12	8	19	23	20

AUG. 1960		3 Kn				σn		an				An
1	7 9 8 9	12 5 5 8	4222 3333	18 32 22 32	52 13 13 21	25						
2	8 12 9 9	7 7 8 10	2421 2433	22 55 27 30	18 19 24 39	29						
3	7 4 5 7	5 7 5 6	3221 3322	18 8 12 17	12 17 11 15	14						
4	8 7 7 11	4 4 4 3	2324 3221	22 20 19 49	10 10 9 7	18						
5	4 3 4 4	4 4 3 1	3432 2212	10 7 8 8	8 8 7 2	7						
6	4 3 8 8	5 6 7 8	3254 2442	9 6 24 24	13 14 17 21	16						
7	9 7 5 7	7 10 4 1	4223 3423	31 17 13 19	18 35 10 3	18						
8	3 6 11 8	0 11 8 10	3124 3334	7 15 48 26	25 45 25 35	28						
9	10 14 13 12	8 7 7 6	4221 2221	37 71 64 55	25 18 18 14	38						
10	7 6 10 10	8 9 9 6	4123 5331	19 16 38 34	21 36 27 14	25						
11	8 14 10 12	10 10 9 6	3231 2241	25 73 35 52	38 35 30 16	38						
12	9 11 13 12	10 9 7 7	4231 2533	32 49 66 57	36 31 17 18	38						
13	6 7 4 8	8 5 6 5	1322 3322	15 18 10 21	23 13 14 12	16						
14	7 8 6 6	7 12 11 9	4224 2454	17 24 16 16	17 52 41 32	27						
15	9 9 6 7	4 6 5 3	5422 2322	33 27 15 18	10 14 11 7	17						
16	6 3 5 6	15 17 14 15	5332 4334	14 6 11 16	95 127 86 101	57						
17	17 17 14 14	12 16 14 14	2233 3437	144 144 121 84	55 104 76 74	100						
18	10 7 11 12	6 7 6 5	4344 2522	35 20 50 58	16 18 14 11	28						
19	8 3 8 9	8 13 12 13	3432 2432	22 7 21 32	23 64 55 65	36						
20	7 12 15 8	9 8 9 9	1122 2311	17 57 100 25	30 21 33 30	39						
21	11 10 12 12	9 9 11 9	3332 4351	46 38 51 56	31 29 50 30	41						
22	11 8 6 7	0 8 10 7	4344 5333	49 22 14 19	14 22 35 20	24						
23	6 7 7 4	4 7 8 4	4423 2533	16 19 17 9	8 19 25 9	15						
24	5 3 6 8	4 6 6 3	3334 5445	13 6 18 25	9 14 14 7	13						
25	4 4 4 2	4 5 4 4	3667 4353	9 8 8 5	9 13 8 8	9						
26	2 4 5 4	4 4 4 6	5554 2244	4 9 12 10	8 9 10 16	10						
27	9 7 6 7	6 11 14 9	6444 3342	30 19 15 20	16 50 72 33	32						
28	9 12 11 5	8 9 3 4	4543 3433	28 53 50 12	25 28 6 10	27						
29	14 17 13 10	13 12 10 14	3232 4332	84 141 70 35	64 51 40 76	70						
30	14 17 16 13	11 12 10 6	2964 3543	84 123 112 62	45 51 36 14	66						
31	8 10 11 9	7 6 4 8	4235 2665	25 40 44 30	20 14 8 22	25						
						30.6						

AUG. 1960		3 Ks				σs		as				As
1	9 10 7 9	8 4 4 6	6345 4432	28 38 19 28	26 8 9 16	22						
2	7 10 8 8	4 5 7 9	4422 1112	18 35 22 22	9 13 17 32	21						
3	6 3 4 4	2 5 3 5	1143 4302	16 7 9 9	5 12 6 11	9						
4	8 8 5 9	3 0 1 1	3324 2122	24 21 11 30	7 1 2 2	12						
5	0 2 2 1	2 0 2 0	1212 2041	1 4 5 2	4 0 4 1	3						
6	2 2 5 6	3 0 2 4	1334 1111	5 5 12 15	6 1 5 9	7						
7	9 6 3 4	3 5 1 0	5203 2130	33 15 6 9	7 13 2 0	11						
8	1 6 9 8	7 8 9 12	3102 1757	3 16 29 21	17 25 28 59	25						
9	9 14 14 11	7 3 4 4	3183 1214	28 79 81 46	18 7 9 8	35						
10	6 6 10 11	7 6 5 4	0144 5441	15 16 39 43	17 14 13 8	21						
11	7 11 8 10	8 8 5 5	1211 3232	17 47 23 34	22 21 12 11	23						
12	9 12 12 13	9 7 3 3	2525 2512	31 56 56 64	31 18 7 7	34						
13	5 7 4 4	5 3 3 3	2432 4122	11 18 10 10	13 7 7 7	10						
14	6 7 5 4	5 8 8 7	5135 3163	16 17 12 8	13 26 26 20	17						
15	8 8 6 5	1 1 0 1	2321 2211	22 21 14 13	2 3 1 2	10						
16	3 2 3 3	11 17 16 15	5314 1834	7 4 6 6	49 126 117 101	52						
17	18 18 15 15	10 16 15 14	3221 1356	151 165 98 91	34 110 96 83	104						
18	12 8 11 12	7 5 3 1	6125 3302	51 26 43 59	20 12 6 2	27						
19	5 2 5 8	4 10 10 16	4333 3556	11 4 13 24	10 35 40 112	31						
20	7 11 15 8	7 6 10 10	1353 3313	18 49 96 24	20 14 34 36	36						
21	12 9 10 9	7 8 10 9	1424 1334	57 30 37 32	17 26 39 33	34						
22	15 8 3 3	2 1 8 9	8212 2245	91 22 7 6	4 3 24 33	24						
23	8 6 4 3	1 6 7 0	3010 2410	21 15 8 6	2 14 18 0	11						
24	4 3 4 6	3 4 4 2	3114 1312	9 6 8 14	6 9 8 4	8						
25	1 2 1 1	1 1 2 1	2332 2333	3 5 2 2	2 2 4 2	3						
26	1 3 2 1	0 0 3 5	2232 1152	2 7 4 2	1 1 7 12	5						
27	8 8 6 5	5 10 11 8	1323 1641	26 21 14 13	12 35 43 26	24						
28	8 11 10 1	8 7 2 2	2232 3143	22 42 40 3	22 17 4 4	19						
29	14 18 14 8	10 10 10 12	2133 1155	75 154 71 24	34 34 38 58	61						
30	14 16 17 14	9 9 9 5	7473 0422	83 104 142 74	29 32 29 11	63						
31	8 10 9 8	6 5 4 7	3421 1444	24 34 29 23	16 11 8 17	20						
						25.2						

SEP. 1960		3 Kn				gn		an				An
1	3 2 2 3	4 2 1 3	5543 3322	6 5 5 6	10 4 2 7	6						
2	2 7 6 6	9 9 12 15	3521 4424	5 20 15 14	33 33 51 69	33						
3	14 13 17 8	11 7 8 6	3433 2331	79 63 133 22	41 19 21 14	49						
4	11 13 17 15	16 15 16 19	3332 2346	42 66 131 89	113 98 111 182	104						
5	18 18 20 19	15 15 15 13	7854 5444	169 156 235 186	98 99 100 70	139						
6	14 12 11 6	7 7 8 12	4421 3454	75 58 50 16	19 18 23 58	40						
7	8 8 9 9	15 10 12 11	2342 3252	23 23 28 27	91 35 52 42	40						
8	9 7 11 10	9 9 8 5	6435 3434	32 18 45 38	27 32 21 11	28						
9	10 10 10 8	9 5 7 8	5463 3334	40 34 35 22	27 11 20 25	27						
10	5 8 8 8	6 10 8 7	3342 2334	13 21 22 25	22 39 25 19	23						
11	11 8 8 4	6 8 8 9	4323 1224	42 21 25 10	15 22 25 32	24						
12	9 8 8 8	3 7 4 6	4324 4343	30 21 25 23	7 19 10 16	19						
13	10 11 11 10	8 3 7 10	7573 4443	34 41 42 40	22 7 19 37	30						
14	12 11 6 7	4 5 2 3	4323 2224	54 47 16 19	9 11 4 6	21						
15	2 6 6 4	4 5 4 1	4432 2623	5 14 14 9	8 11 8 3	9						
16	4 1 2 3	4 5 4 3	2464 2341	9 2 5 7	10 13 9 6	8						
17	4 6 2 3	5 5 9 10	3155 2435	9 14 4 7	11 12 33 34	16						
18	12 10 7 10	7 6 5 4	6323 2424	57 38 17 35	19 14 12 8	25						
19	4 3 6 4	5 2 3 3	2246 2431	9 7 14 9	11 5 7 6	9						
20	3 2 5 5	2 4 6 8	2334 3512	7 4 12 11	5 8 15 23	11						
21	6 3 5 7	8 8 7 8	6442 3563	15 6 13 18	21 22 20 22	17						
22	6 7 6 3	8 7 9 7	6335 2232	16 18 15 7	24 20 32 18	19						
23	8 7 11 11	4 5 5 9	3433 1224	22 19 44 47	8 12 12 28	24						
24	12 11 12 13	10 12 8 6	6236 7554	55 42 58 68	36 52 26 14	44						
25	4 4 3 4	2 4 7 4	3442 3222	9 8 7 8	4 9 19 9	9						
26	8 4 8 6	4 5 8 9	2333 3233	22 10 23 14	9 12 23 33	18						
27	11 11 10 8	5 3 7 5	5832 1123	47 41 37 21	13 7 18 11	24						
28	4 5 5 9	6 6 4 3	4354 4121	9 11 11 32	16 15 8 7	14						
29	3 2 8 8	11 9 8 10	5434 2324	7 5 26 22	43 31 24 34	24						
30	11 9 9 8	12 11 13 11	5431 2343	45 30 29 26	51 41 63 48	42 29.8						

SEP. 1960		3 Ks				Gs		gs				As
1	1 1 1 0	2 1 0 1	2321 3203	2 3 2 1	4 2 0 2	2						
2	1 6 6 6	8 8 10 13	3654 3333	2 15 14 14	26 23 39 69	25						
3	15 11 14 8	8 3 6 5	5212 3221	101 43 84 21	22 7 15 13	38						
4	9 12 16 15	14 12 17 20	0215 4577	29 53 106 97	79 56 139 216	97						
5	18 19 19 19	13 13 13 14	5634 6634	162 179 178 178	70 67 69 74	122						
6	13 13 14 5	5 4 8 14	4132 3245	61 62 71 12	11 10 22 82	41						
7	8 5 4 7	14 8 11 11	2123 6441	25 12 10 20	71 26 43 45	32						
8	9 6 9 8	7 7 5 1	2243 1112	29 16 30 26	17 18 13 3	19						
9	7 8 9 6	7 2 4 7	4272 1321	20 22 31 16	17 5 10 17	17						
10	5 7 8 7	4 8 8 5	1131 1424	13 17 25 17	8 26 21 11	17						
11	10 8 6 1	4 4 8 8	4321 4324	38 25 15 2	9 9 21 22	18						
12	8 6 7 8	2 4 3 1	7155 1622	26 16 19 26	5 9 7 3	14						
13	8 11 11 10	6 0 5 9	5371 2144	22 41 46 34	15 1 12 27	25						
14	13 10 8 6	4 1 0 1	6330 1212	69 37 21 15	8 2 1 2	19						
15	1 4 4 3	2 1 3 0	2444 1221	2 9 10 6	5 3 6 1	5						
16	2 2 0 1	2 2 1 1	1212 1112	5 4 1 3	5 5 2 2	3						
17	4 5 1 2	4 3 8 9	1233 4023	9 11 2 4	8 6 25 28	12						
18	12 11 7 9	7 3 3 4	6131 5324	51 49 20 32	19 7 7 8	24						
19	3 2 4 1	3 1 1 0	0342 1220	6 4 9 3	6 2 2 0	4						
20	0 2 3 2	1 3 4 7	1223 3114	1 4 6 5	2 6 8 18	6						
21	7 3 4 4	7 5 6 8	5214 4674	18 7 8 10	17 12 14 23	14						
22	4 7 5 1	6 5 7 6	3441 0112	10 17 11 2	15 13 17 15	13						
23	8 5 11 11	1 1 3 9	3123 1204	21 13 42 41	2 2 6 27	19						
24	15 14 11 13	6 10 7 3	6315 2542	97 71 49 64	16 36 17 7	45						
25	2 3 3 1	0 1 4 3	1213 1321	5 6 6 3	1 2 10 6	5						
26	8 5 6 3	2 3 8 9	3321 2163	21 12 14 7	5 6 21 28	14						
27	11 9 10 6	3 2 6 4	5566 1251	41 31 34 14	6 4 15 8	19						
28	3 4 4 9	3 3 2 3	1132 5520	6 8 10 29	7 6 5 6	10						
29	2 2 7 5	10 5 6 11	3351 1325	5 5 19 13	37 13 15 41	19						
30	11 8 8 8	10 10 13 9	5123 2164	46 26 22 24	37 34 66 33	36 24.4						

SEP. 1960		3 Km				Σ Km	am				Am	Am2								
1	2	2	1	1	3	1	0	2	4.0	4	4	3	3	7	3	1	5	4	9	
2	2	7	6	6	9	9	11	14	21.3	4	17	14	14	30	28	45	79	29	33	
3	15	12	16	8	9	5	7	6	26.0	90	53	108	22	31	13	18	14	44	52	
4	10	12	16	15	15	14	17	19	39.3	36	59	119	93	96	77	125	199	101	100	
5	18	18	20	19	14	14	14	14	43.7	166	168	207	182	84	83	84	72	131	109	
6	13	12	13	6	6	6	8	13	25.7	68	60	61	14	15	14	22	70	41	46	
7	8	7	7	8	14	9	11	11	25.0	24	18	19	23	81	31	48	43	36	33	
8	9	7	10	9	8	8	7	3	20.3	50	17	37	32	22	25	17	7	23	31	
9	9	9	9	7	8	4	6	8	20.0	50	28	33	19	22	8	15	21	22	20	
10	5	7	8	8	6	9	8	6	19.0	13	19	24	21	15	32	23	15	20	20	
11	10	8	7	3	5	6	8	9	18.7	40	23	20	6	12	15	23	27	21	21	
12	9	7	8	8	3	6	4	4	16.3	28	18	22	24	6	14	8	10	16	22	
13	9	11	11	10	7	2	6	9	21.7	28	41	44	37	19	4	15	32	28	25	
14	13	11	7	7	4	3	1	2	16.0	61	42	19	17	9	7	2	4	20	17	
15	1	5	5	3	3	3	3	1	8.0	3	12	12	7	7	7	7	2	7	6	
16	3	1	1	2	3	4	2	2	6.0	7	3	3	5	7	9	5	4	5	6	
17	4	5	1	2	4	4	9	9	12.7	9	13	3	5	9	9	29	31	14	18	
18	12	11	7	9	7	5	4	4	19.7	54	43	18	33	19	11	10	8	23	19	
19	4	3	5	3	4	1	2	1	7.7	8	6	11	6	8	3	4	3	6	6	
20	2	2	4	4	2	3	5	8	10.0	4	4	9	8	4	7	12	21	9	8	
21	6	3	4	6	7	7	7	8	16.0	16	6	10	14	19	17	17	22	15	13	
22	5	7	5	2	7	7	8	6	15.7	13	17	13	4	19	17	24	16	15	20	
23	8	6	11	11	2	3	4	9	18.0	21	16	43	44	5	7	9	28	22	31	
24	14	12	12	13	8	11	6	4	27.3	78	56	53	66	26	44	21	10	44	27	
25	3	3	3	3	1	2	6	3	8.0	7	7	6	6	2	5	15	7	7	14	
26	8	5	7	5	3	4	8	9	16.3	22	11	19	11	7	9	22	31	17	18	
27	11	10	10	7	4	3	6	4	18.3	44	36	36	18	10	6	16	9	22	19	
28	3	4	4	9	5	5	3	3	12.0	7	10	10	30	12	11	6	7	12	12	
29	3	2	8	7	10	8	7	10	18.3	6	5	22	18	40	22	19	37	21	21	
30	11	9	8	8	11	10	13	11	27.0	46	28	25	25	44	37	64	41	39	42	
																		27.1		

OCT. 1960		3 Km				Σ Km	am				Am	Am2								
1	10	12	14	13	14	10	11	14	32.7	39	59	78	68	76	39	44	82	61	58	
2	11	9	14	15	15	14	11	9	32.7	46	33	79	92	93	72	47	27	61	53	
3	7	5	7	13	8	7	4	5	18.7	19	12	19	63	23	20	9	13	22	29	
4	3	2	6	7	9	15	17	15	24.7	7	5	15	19	33	92	146	103	53	40	
5	11	11	11	9	9	9	8	15	27.7	45	41	41	27	29	31	22	100	42	86	
6	17	19	17	20	20	21	21	24	53.0	142	188	139	227	201	249	274	402	228	182	
7	23	20	18	19	17	16	15	12	46.7	367	214	151	174	142	119	87	58	164	164	
8	13	10	9	13	10	8	11	10	28.0	66	35	27	63	34	21	43	35	41	57	
9	9	13	12	9	12	9	11	14	29.7	29	65	51	33	54	33	44	71	48	38	
10	10	10	3	3	1	4	6	7	14.7	39	35	7	6	2	8	14	19	16	30	
11	9	9	12	9	8	5	4	6	20.7	27	28	53	32	21	11	10	15	25	17	
12	2	3	3	4	2	3	5	8	10.0	4	7	6	10	5	7	13	26	10	11	
13	3	6	4	2	4	3	2	8	10.7	7	14	9	5	9	6	5	25	10	11	
14	5	3	2	5	1	1	0	3	6.7	13	7	5	12	2	2	1	6	6	11	
15	4	8	6	9	9	13	12	9	23.3	10	21	16	31	32	65	53	30	32	19	
16	5	5	4	2	7	2	1	5	10.3	11	13	10	5	20	5	2	13	10	19	
17	7	3	5	4	7	5	5	7	14.3	18	7	12	10	18	11	12	17	13	18	
18	10	8	11	9	9	10	13	10	26.7	38	25	42	31	32	34	68	37	38	27	
19	4	8	7	6	5	7	5	9	17.0	10	21	17	14	13	19	12	28	17	23	
20	3	7	6	8	5	8	5	8	16.7	6	17	15	22	11	24	12	24	16	16	
21	5	3	8	6	3	3	5	8	13.7	13	7	21	15	7	6	13	22	13	12	
22	1	2	3	1	1	2	2	0	4.0	3	4	6	2	2	4	5	1	3	6	
23	1	1	2	2	3	3	5	4	7.0	2	2	4	5	6	7	11	8	6	6	
24	2	4	3	5	12	17	12	7	20.7	5	8	7	13	54	125	51	19	35	33	
25	7	9	15	14	17	20	18	14	38.0	20	28	91	72	122	208	161	75	97	84	
26	15	13	14	15	15	12	11	11	35.3	90	66	81	88	92	55	46	48	71	80	
27	10	11	7	12	14	12	12	14	30.7	35	41	19	54	71	58	60	74	52	56	
28	11	12	11	15	14	14	12	8	32.3	50	53	49	89	73	85	56	22	60	60	
29	14	9	10	14	14	15	11	9	32.0	79	29	37	76	76	88	45	30	58	55	
30	9	9	11	13	14	11	10	13	30.0	32	28	50	70	73	46	36	65	50	50	
31	12	8	10	10	10	11	12	8	27.0	57	23	38	38	35	50	55	24	40	39	
																		45.0		

OCT. 1960		3 Kn				σn		an				An
1	10 13 15 14	14 11 11 15	5333 4244	40 70 99 75	86 44 46 96	70						
2	12 11 14 15	16 14 12 9	6436 3643	51 42 83 92	108 76 57 28	67						
3	7 5 8 14	9 8 4 6	4233 4424	18 11 23 73	31 26 10 15	26						
4	4 2 6 8	11 15 18 14	4343 6343	8 5 16 23	42 91 153 80	52						
5	11 11 11 10	10 10 8 15	2353 5220	46 45 50 34	40 35 23 102	47						
6	17 19 17 20	19 21 22 24	3444 1862	133 186 143 231	178 272 322 415	235						
7	23 20 18 18	18 17 13 13	6841 4365	385 208 147 173	150 130 69 63	166						
8	13 10 9 14	11 9 12 11	5423 5255	63 39 32 78	42 27 53 41	47						
9	10 14 12 10	13 11 12 13	7832 4585	35 80 56 40	70 47 54 63	56						
10	11 10 4 3	1 4 7 8	5655 3264	49 34 9 6	2 9 18 23	19						
11	9 9 13 10	8 5 5 7	7144 5356	32 27 67 39	21 11 13 17	28						
12	2 3 3 5	3 4 7 9	3144 1245	4 6 7 12	7 10 17 29	12						
13	3 6 4 3	5 3 3 9	4423 2143	6 14 8 6	11 7 6 27	11						
14	5 3 1 5	2 1 1 3	1233 3222	13 7 5 13	4 3 2 6	6						
15	5 7 5 10	10 14 12 9	3423 3642	11 19 13 34	36 73 55 31	34						
16	5 6 5 4	6 3 1 6	2422 2223	12 16 12 8	23 7 2 14	12						
17	8 3 5 4	8 6 6 10	2352 3441	21 5 11 10	21 14 14 15	14						
18	11 8 11 9	10 11 13 10	6544 3265	46 26 42 32	39 43 61 36	41						
19	5 8 7 5	6 8 7 10	2623 1856	11 25 14 13	15 24 17 36	20						
20	3 8 8 8	5 9 5 6	5646 3325	7 24 21 26	12 29 12 26	20						
21	5 3 9 8	4 3 7 9	2364 3456	12 7 29 21	9 7 17 28	16						
22	2 3 4 1	1 2 4 0	4453 2322	4 6 9 2	2 5 8 1	5						
23	1 1 2 3	3 3 5 4	2654 1357	2 3 5 6	7 6 13 9	6						
24	3 3 3 5	12 16 12 7	5223 4452	6 7 7 13	60 120 55 17	36						
25	6 7 15 13	16 20 17 13	1213 5432	14 19 91 65	114 235 130 69	92						
26	15 14 15 14	16 14 12 11	6454 6262	94 79 95 85	107 75 51 46	79						
27	11 11 8 13	14 13 12 13	5753 3466	41 49 23 68	80 64 55 67	56						
28	12 12 13 15	14 14 13 7	3435 5252	54 59 61 92	84 82 70 18	65						
29	14 9 11 15	15 16 11 10	3431 3545	71 33 44 91	94 104 46 35	65						
30	10 10 12 14	14 11 11 13	3453 3545	40 35 58 76	84 49 42 61	56						
31	12 9 11 11	11 13 13 8	6332 3355	53 28 47 47	45 65 66 23	47						
						46.5						

OCT. 1960		3 Ks				σs		as				As
1	10 11 12 13	14 10 11 13	3121 2123	38 49 56 61	71 34 41 69	52						
2	11 8 14 15	14 13 10 8	3124 3611	41 23 74 93	78 67 37 26	55						
3	7 5 6 12	6 5 4 5	4104 2412	20 13 15 54	15 13 8 11	19						
4	3 3 5 6	8 15 17 17	0111 4268	6 6 13 16	24 93 140 126	53						
5	11 10 9 8	7 9 8 15	3312 1332	45 38 32 21	18 28 21 98	38						
6	18 19 17 20	20 20 20 24	3334 4663	151 190 136 223	223 227 227 388	221						
7	23 20 18 19	17 16 16 12	3311 7642	349 220 154 175	134 108 104 54	162						
8	13 9 8 11	8 6 10 9	6223 4453	70 32 21 49	26 16 34 28	35						
9	6 11 11 8	10 7 10 14	1131 5366	23 50 46 26	39 20 35 79	40						
10	9 10 3 3	1 3 4 6	2511 2022	29 37 6 6	2 6 10 15	14						
11	8 9 10 8	8 4 3 5	4231 6224	23 29 38 26	21 10 7 13	21						
12	1 3 3 4	1 2 4 8	3311 2134	3 7 6 8	3 5 10 23	8						
13	4 5 4 1	3 3 2 8	1142 2111	8 13 10 3	7 6 5 23	9						
14	5 3 3 5	0 0 0 3	1221 1102	13 7 6 12	1 1 0 6	6						
15	4 8 7 9	9 12 11 9	4144 2452	10 23 19 29	29 56 50 29	31						
16	4 5 4 1	7 2 1 5	3212 5221	10 11 8 2	18 4 2 12	8						
17	6 3 5 4	6 4 5 7	2113 2325	16 7 13 10	14 9 11 19	12						
18	9 8 11 9	8 8 14 10	5364 4145	31 24 43 30	26 26 76 38	37						
19	4 7 6 6	5 6 3 7	2400 2443	10 18 15 15	11 14 6 20	14						
20	2 4 4 7	4 7 5 8	1334 2534	5 10 9 18	10 19 12 22	13						
21	6 3 5 4	3 3 4 6	0234 1112	15 6 12 10	6 6 8 16	10						
22	1 1 1 1	1 1 0 0	3321 1211	2 2 3 2	2 2 1 1	2						
23	1 1 1 2	2 4 4 3	3222 1140	2 2 3 4	5 8 8 6	5						
24	2 4 3 5	11 17 11 8	3323 4964	4 9 6 13	48 131 47 21	35						
25	8 10 15 14	17 19 19 14	3121 6652	25 37 92 79	130 180 193 82	102						
26	14 12 13 15	14 10 11 11	4124 6544	85 53 66 91	76 36 41 49	62						
27	9 9 6 10	13 12 13 14	2212 1535	29 32 16 40	62 52 64 82	47						
28	11 11 10 14	13 15 11 8	2211 1722	47 47 37 86	62 88 41 25	54						
29	14 8 9 13	12 14 11 8	1301 1545	86 24 29 62	57 71 43 25	50						
30	8 8 11 13	13 11 9 13	1221 1426	23 21 42 65	62 43 29 69	44						
31	13 7 9 9	8 10 11 8	4100 4143	61 18 29 29	26 34 43 24	33						
						41.6						

NOV. 1960		3 Kn	gn	an	An	
1	6 9 8 7	7 6 4 8	1535 5366	16 29 21 20	20 14 10 26	20
2	8 6 10 9	9 4 8 10	2432 1233	23 15 34 28	31 9 26 36	25
3	11 5 7 10	8 7 10 12	6344 2364	48 13 17 40	21 18 34 54	31
4	14 13 14 11	13 14 9 11	6481 3555	76 63 73 49	66 71 33 43	59
5	7 10 6 6	9 2 1 1	5314 4232	20 39 15 16	32 4 3 3	17
6	1 3 6 6	7 1 8 5	3331 3334	2 6 16 14	18 3 21 12	12
7	7 6 6 5	3 2 0 0	7343 1312	19 14 15 11	7 4 0 1	9
8	0 1 5 4	4 3 3 3	1322 3114	1 2 11 8	8 6 6 7	6
9	4 6 7 6	4 1 0 2	5532 3315	8 14 17 14	8 3 1 5	9
10	0 0 8 5	8 8 4 3	0223 2223	0 1 22 12	22 21 8 6	12
11	7 9 9 15	10 7 9 8	3215 3216	18 27 30 87	35 17 32 22	34
12	5 3 6 5	14 18 20 20	5313 2522	12 7 14 13	83 169 208 235	93
13	23 22 26 26	24 22 21 16	3422 4532	337 305 547 547	409 304 256 107	352
14	16 12 12 10	9 13 14 10	4552 5155	106 53 53 35	32 62 71 35	56
15	13 11 11 7	16 15 15 20	5522 4232	68 49 47 19	111 99 92 219	88
16	22 20 14 14	15 12 9 10	1342 5432	290 221 79 76	95 56 29 34	110
17	9 7 9 8	8 10 10 8	4315 4656	30 20 28 25	26 38 40 25	29
18	8 5 3 3	4 3 0 0	3621 4122	24 11 7 7	8 6 1 1	8
19	1 6 4 9	9 3 3 6	3231 2111	2 14 9 27	27 7 5 15	13
20	6 6 7 8	9 8 4 5	1132 1323	15 16 19 26	31 21 9 13	19
21	4 9 14 13	12 15 15 11	3334 1443	10 30 71 70	57 95 91 46	59
22	14 13 11 10	9 8 6 9	6533 3233	76 66 47 38	31 24 16 29	41
23	7 8 9 8	8 4 5 5	4613 4343	17 21 30 21	23 9 11 13	18
24	9 6 8 4	6 8 8 13	5343 1234	27 15 26 10	16 21 25 70	26
25	9 12 14 15	13 13 12 12	4434 3514	32 58 73 87	68 65 54 52	61
26	7 11 10 9	10 4 9 7	4432 4225	18 45 37 28	34 9 33 20	28
27	7 7 9 9	11 12 13 9	2441 3434	19 20 32 27	41 57 69 28	37
28	12 11 9 10	11 5 5 3	7314 3214	56 47 28 36	45 13 13 7	31
29	8 7 4 9	7 4 5 7	5534 5255	22 18 10 29	18 8 12 20	17
30	3 8 4 4	5 8 12 14	4222 2622	7 25 10 9	12 23 51 76	27
						44.8

NOV. 1960		3 Ks	gs	as	As	
1	7 7 5 7	5 6 5 8	1445 4223	17 19 11 18	12 15 11 24	16
2	6 6 9 8	9 3 8 8	0233 2233	15 15 27 25	31 7 21 24	21
3	10 6 5 10	9 6 8 12	4031 3125	38 15 12 37	28 16 25 56	28
4	13 11 14 14	12 11 10 12	6133 7656	62 49 74 71	51 43 40 56	56
5	8 8 6 4	7 1 2 1	2303 5223	22 24 15 10	17 3 4 3	12
6	1 3 7 5	6 1 7 5	2233 2341	3 6 20 12	15 3 18 13	11
7	7 6 5 5	2 1 0 0	5223 1201	19 14 11 12	5 2 0 1	8
8	1 1 8 6	2 3 2 3	2325 4111	2 3 21 14	4 6 5 6	8
9	1 4 7 6	4 1 0 1	2440 3314	2 8 17 15	9 2 1 3	7
10	2 1 7 7	8 5 3 4	3231 2113	4 3 20 17	21 13 6 9	12
11	9 10 12 14	10 6 10 8	0243 5243	29 40 58 78	40 15 38 24	40
12	6 2 8 8	14 16 21 23	2322 3523	16 5 21 22	78 104 274 364	111
13	23 23 26 26	23 21 22 17	1232 3566	383 332 507 533	364 277 301 140	355
14	17 11 12 11	8 11 14 11	1454 2242	145 48 51 49	21 41 85 47	61
15	12 10 11 8	17 14 16 22	2134 3631	56 37 42 24	132 76 110 288	96
16	21 21 13 12	17 12 11 10	1215 2634	255 259 62 60	123 59 41 34	112
17	9 8 9 8	6 9 11 9	2324 4238	29 25 29 24	14 31 44 30	28
18	8 5 3 3	2 3 0 0	1341 3111	23 13 7 6	5 6 1 1	8
19	1 8 4 9	10 3 3 8	4322 1103	3 22 10 32	34 6 6 21	17
20	9 8 8 8	7 8 6 7	3411 3354	27 24 23 26	20 21 15 19	22
21	5 11 14 14	14 15 15 13	1315 2554	13 41 79 71	72 91 96 63	66
22	11 11 12 8	8 8 7 9	1443 2347	49 49 53 26	21 21 18 29	33
23	6 6 9 6	5 3 5 7	2402 3233	14 15 29 15	13 7 12 20	16
24	10 6 7 4	7 5 11 13	4433 1234	34 14 18 10	17 12 41 67	27
25	9 11 12 12	12 9 13 13	2241 1834	31 42 59 57	53 33 69 61	51
26	6 8 7 7	7 4 8 7	0321 3325	15 22 19 17	20 9 25 17	18
27	6 8 9 8	7 11 11 8	1302 1214	16 21 29 21	18 43 45 26	27
28	10 11 6 9	8 5 5 3	1325 3421	34 41 15 29	26 13 11 6	22
29	6 5 5 6	5 4 7 6	3142 3146	14 12 12 15	12 8 20 16	14
30	5 8 3 6	4 7 13 15	1312 1142	13 24 7 14	8 17 63 93	30
						44.3

MAR. 1961		3 Kn					gn		an					An
1	4 7 7 5	9 3 7 7	2252 1144	8 17 17 11	30 6 17 19	16								
2	5 9 7 4	2 2 4 5	5323 4365	12 29 18 9	5 5 10 12	13								
3	7 4 4 2	3 4 3 1	7213 1322	17 9 8 5	7 10 6 2	8								
4	0 3 2 3	7 4 0 2	2335 5212	1 6 4 6	20 10 0 4	6								
5	2 5 3 4	4 6 11 15	3214 2332	5 12 6 8	9 15 47 90	24								
6	15 13 10 10	14 4 4 2	6453 6223	101 70 38 36	74 10 8 4	43								
7	1 2 1 1	3 4 6 6	3422 1334	3 5 3 3	7 10 15 14	8								
8	4 4 4 3	3 4 5 7	4331 1532	8 8 8 6	6 8 11 20	9								
9	4 6 7 3	9 9 9 11	4633 1152	9 14 20 6	31 28 31 44	23								
10	11 11 15 19	15 10 5 3	3354 4433	46 46 97 174	87 35 12 7	63								
11	1 4 4 5	6 6 8 5	2222 1123	3 10 9 12	15 14 23 11	12								
12	8 1 2 6	5 3 2 6	5331 2121	25 3 5 14	11 6 5 15	11								
13	8 4 9 7	8 8 6 6	3244 4211	25 10 32 18	21 23 14 15	20								
14	12 13 11 11	9 12 10 7	1344 2554	57 68 49 48	27 57 40 19	46								
15	5 11 7 14	15 7 8 12	2444 5244	12 46 20 75	89 18 25 59	43								
16	13 9 15 9	10 7 3 2	5341 3212	61 29 98 30	38 20 7 4	36								
17	6 5 12 11	8 5 4 4	2323 3323	16 13 58 42	21 13 9 9	23								
18	6 3 4 1	8 12 10 10	4233 3342	15 7 9 3	24 52 40 35	23								
19	5 13 14 9	12 14 12 9	2521 2454	11 63 76 30	60 81 52 33	51								
20	10 8 8 11	10 7 10 6	4322 2263	37 22 25 50	38 18 34 15	30								
21	8 8 6 7	5 9 8 3	3211 3241	23 24 15 17	12 32 25 7	19								
22	8 10 11 9	8 6 3 2	2421 2342	23 40 48 31	22 15 6 4	24								
23	4 7 8 7	11 8 5 5	2322 4433	8 16 25 17	48 21 12 12	20								
24	4 7 7 9	8 8 4 7	3552 3423	10 18 19 33	22 21 8 20	19								
25	5 3 5 4	7 5 3 5	6543 2212	11 6 11 9	17 11 7 11	10								
26	4 7 8 8	7 4 4 9	3333 2232	9 18 24 22	17 10 9 28	17								
27	5 6 7 7	8 15 12 6	2131 2131	12 15 20 17	22 97 59 15	32								
28	10 11 10 8	7 10 7 4	2452 2533	40 49 36 22	20 34 20 10	29								
29	2 4 4 5	8 5 8 5	3342 3262	5 10 10 12	21 12 21 11	13								
30	7 9 11 8	6 4 5 2	4134 1323	20 33 41 24	16 9 13 4	20								
31	2 4 3 5	6 10 7 5	4352 2232	4 9 6 11	14 40 18 13	14								
						23.3								

MAR. 1961		3 Ks					Gs		as					As
1	5 5 4 5	7 1 5 7	2142 3344	11 13 9 11	20 2 13 18	12								
2	6 8 7 4	0 0 4 5	0213 1134	15 22 17 10	1 1 10 11	11								
3	5 3 3 0	4 3 3 1	4220 4113	13 6 6 0	8 6 6 3	6								
4	0 3 1 2	5 3 0 0	1112 1500	1 6 2 5	13 6 0 0	4								
5	3 4 1 1	1 5 11 13	0322 2245	6 9 3 2	3 12 43 68	18								
6	15 11 10 11	12 4 3 2	6232 1123	97 47 40 42	57 8 6 5	38								
7	3 3 3 1	3 2 4 5	1412 1134	6 6 6 3	6 5 9 13	7								
8	3 4 2 1	2 3 5 7	2333 3141	7 10 5 3	4 7 11 17	8								
9	5 5 8 1	9 6 10 11	1122 1212	13 13 22 3	29 16 34 47	22								
10	11 10 16 20	15 9 5 4	1341 4123	45 40 106 222	92 29 11 9	69								
11	2 4 4 5	7 5 8 4	3322 1243	5 10 10 12	17 11 23 9	12								
12	8 2 3 4	3 0 1 5	3403 0031	21 4 6 10	6 0 3 13	8								
13	6 5 8 5	4 6 4 5	0323 2131	15 12 22 13	10 16 10 12	14								
14	11 13 10 11	8 9 10 5	1333 2233	45 66 40 46	21 31 36 12	37								
15	7 9 8 11	12 7 6 10	3533 1124	18 29 21 42	53 17 15 38	29								
16	13 9 12 8	8 4 2 1	5512 3213	65 31 53 22	24 10 5 2	27								
17	5 5 13 8	5 3 2 4	1141 3013	13 12 62 23	12 6 5 9	18								
18	7 4 3 0	7 9 7 8	4401 5433	17 9 6 1	19 29 20 21	15								
19	4 13 13 9	12 12 9 9	3430 1645	9 61 66 29	53 59 32 33	43								
20	11 7 6 10	10 5 9 5	3111 1123	41 18 16 34	34 13 29 13	25								
21	8 9 4 6	3 7 8 3	2530 1120	22 31 10 15	6 18 25 6	17								
22	8 9 10 8	7 3 1 1	2322 1132	22 27 40 25	17 7 3 2	18								
23	4 6 8 5	10 7 3 3	4131 1521	9 16 21 13	34 19 7 7	16								
24	4 5 4 8	5 5 3 8	1331 3314	8 13 10 23	12 12 6 23	13								
25	3 2 2 3	6 1 1 3	1112 2332	6 5 5 7	14 3 2 7	6								
26	4 7 7 8	5 2 2 8	4342 1112	9 20 18 21	12 5 5 22	14								
27	5 6 7 7	8 15 11 5	1251 2541	13 14 20 17	22 91 49 12	30								
28	12 13 11 7	6 6 6 3	1421 2421	53 61 42 17	16 16 16 6	28								
29	1 5 3 6	5 3 7 4	3310 1163	2 11 7 15	13 6 20 10	11								
30	9 9 9 7	3 2 1 1	5441 2123	31 32 32 17	7 5 2 3	16								
31	1 2 2 1	3 8 4 5	3312 2215	2 4 5 3	7 22 8 12	8								
						19.3								

APR. 1961		3 Kn	gn	an	An	
1	12 10 11 10	7 6 8 8	6436 3332	53 39 41 34	19 15 21 25	31
2	5 9 11 9	10 6 9 7	2564 5142	11 31 46 28	36 16 30 20	27
3	10 15 11 11	7 7 8 8	6645 2243	37 91 49 49	19 19 25 21	39
4	6 3 8 2	3 1 4 2	5333 2222	23 6 25 4	7 3 8 5	10
5	6 6 4 4	3 3 2 0	6453 4321	15 15 8 10	7 6 4 1	8
6	3 2 2 3	4 6 9 11	3535 3563	7 5 4 7	10 16 33 44	16
7	10 6 3 7	4 3 4 4	5513 2433	35 23 7 19	9 7 9 10	15
8	3 3 7 7	4 3 6 6	1233 3124	7 7 20 19	8 7 14 14	12
9	5 6 9 16	14 9 8 8	6123 3332	12 15 27 120	74 30 25 25	41
10	9 10 9 10	10 9 9 8	4313 4342	33 35 30 38	35 28 30 25	32
11	10 12 8 9	9 13 9 6	6651 1641	36 59 23 30	31 65 27 14	36
12	4 5 10 6	9 8 7 6	4241 1455	10 12 36 15	31 22 17 14	20
13	4 5 4 4	11 13 9 7	4222 3323	9 11 10 3	42 61 39 16	44
14	8 7 9 11	12 13 16 17	3222 1442	23 19 27 41	55 67 114 145	61
15	18 16 15 9	8 10 9 8	6531 2325	147 111 89 27	23 40 33 24	62
16	8 7 5 7	9 8 8 9	3432 1334	21 17 13 17	30 22 24 33	22
17	3 4 5 5	5 4 4 0	3433 3332	7 9 11 11	12 10 8 1	9
18	3 4 8 8	4 6 1 2	1224 3522	7 10 23 21	10 16 2 5	12
19	5 6 7 5	3 8 9 8	2424 4423	11 16 19 12	6 24 27 25	16
20	8 6 9 4	3 3 4 4	6333 3132	23 15 27 10	6 7 9 8	13
21	1 2 2 1	5 2 4 5	2253 3232	2 4 4 3	11 5 9 11	6
22	1 1 4 5	8 8 9 9	2223 2233	2 2 8 12	27 21 30 33	17
23	2 5 7 7	8 5 7 8	3333 3442	5 12 20 19	24 12 16 22	17
24	8 5 4 5	6 7 8 9	3323 1223	23 13 8 13	15 17 23 30	18
25	9 5 5 5	4 5 4 4	6333 2433	30 13 11 11	9 10 13 10	13
26	7 9 8 5	9 9 10 4	4522 4225	17 31 21 13	28 33 35 8	23
27	4 10 10 10	10 7 6 6	4333 3442	9 38 39 37	40 19 19 16	27
28	8 8 7 4	3 2 5 3	3222 2334	24 25 17 9	7 5 13 6	13
29	7 1 1 5	3 5 5 8	2343 3224	17 2 2 13	6 12 11 23	11
30	5 5 5 5	8 8 6 9	3232 2343	13 11 11 11	24 24 15 28	17 22.3

APR. 1961		3 Ks	gs	as	As	
1	11 10 8 9	5 4 6 8	1354 3324	49 40 26 32	12 9 16 23	26
2	4 9 12 8	9 5 9 9	4476 4122	10 32 56 23	33 13 31 29	28
3	11 14 12 12	7 9 8 7	7854 5443	46 79 56 54	17 29 26 19	41
4	11 4 7 1	1 0 2 0	5451 2021	41 9 19 2	2 0 4 1	10
5	8 7 4 5	2 0 0 1	5442 3112	22 18 8 11	5 1 1 2	9
6	3 3 2 3	3 4 8 10	5522 2634	7 7 4 7	6 9 24 38	13
7	8 9 3 4	4 1 2 2	1611 1111	26 27 6 8	8 2 5 5	11
8	4 4 7 6	1 1 3 3	1342 1111	8 10 17 15	2 2 6 7	8
9	5 5 8 16	11 6 8 5	7213 1021	13 11 26 106	45 15 22 13	31
10	8 9 8 10	8 7 8 5	2414 3122	25 30 23 35	24 17 21 11	23
11	10 11 9 8	9 13 7 3	4453 4641	34 43 29 25	32 63 17 7	31
12	1 4 10 5	7 6 4 3	3153 1132	2 8 34 11	18 16 10 7	13
13	4 4 4 1	9 11 5 5	4442 1111	8 8 9 3	32 45 12 12	16
14	6 7 8 11	12 13 16 19	1311 1636	16 20 23 45	53 67 110 179	64
15	20 14 13 8	6 10 8 8	7211 1112	216 82 62 26	16 34 26 25	61
16	7 7 4 6	7 8 8 12	4530 3436	20 17 9 15	20 23 24 56	23
17	3 3 3 3	1 0 1 1	1510 2122	6 7 6 6	3 1 3 2	4
18	2 4 6 5	3 4 0 2	2351 1113	4 10 16 12	7 8 1 4	8
19	4 5 5 2	1 7 7 7	4211 2514	8 11 12 5	2 17 18 18	11
20	7 5 6 1	0 1 2 2	4202 0243	17 11 15 3	0 2 4 5	7
21	0 1 1 0	1 1 1 3	1210 2222	1 2 2 0	3 2 2 7	2
22	1 0 2 5	7 8 9 10	2133 3624	2 1 4 12	20 23 29 38	16
23	2 5 7 6	7 2 7 8	3152 3345	5 12 19 14	18 4 20 22	14
24	10 7 2 3	4 5 7 8	5334 3614	37 20 4 6	9 11 17 23	16
25	12 7 4 4	1 2 4 3	6444 2331	51 18 8 8	2 5 9 6	13
26	9 11 7 2	6 6 5 3	6844 2121	28 44 18 5	15 16 12 6	18
27	4 11 9 8	10 4 4 8	4202 5236	8 42 29 21	35 10 9 21	22
28	9 8 7 2	1 1 6 3	6254 1231	31 22 19 4	2 2 14 6	13
29	5 1 1 3	0 1 2 8	1334 1232	13 2 3 6	1 2 4 25	7
30	5 4 3 5	6 6 5 7	2304 4434	12 10 6 12	14 16 12 20	13 19.1

MAY 1961		3 Kn				σn		an				An
1	10 9 5 9	9 10 3 9	4321 2413	40 30 12 30	28 34 6 27	26						
2	14 12 8 6	5 5 4 1	4632 3322	65 60 22 25	13 13 9 3	29						
3	1 4 6 5	2 3 4 2	2444 2123	3 9 14 11	5 7 9 9	8						
4	1 1 3 4	2 5 8 12	3442 3434	2 3 7 9	5 13 25 56	15						
5	8 8 10 8	6 14 10 10	2232 1333	22 22 37 21	15 75 38 39	34						
6	9 14 13 12	13 7 9 10	3424 3355	29 84 64 60	61 18 33 36	48						
7	9 9 12 10	9 9 8 9	5112 1425	33 28 54 36	28 28 21 27	32						
8	6 7 9 8	5 8 10 9	1333 3333	16 20 30 21	13 21 35 27	23						
9	3 8 11 12	9 8 5 6	3543 4523	6 23 49 63	31 24 11 16	28						
10	7 4 5 7	6 4 6 11	4333 3313	17 10 11 18	15 10 15 44	18						
11	10 9 9 9	10 9 11 9	3241 2322	37 26 31 27	35 30 44 28	33						
12	9 10 9 9	6 7 8 9	4422 1231	29 37 31 28	15 18 23 30	25						
13	13 12 8 9	9 8 6 5	4422 2243	69 54 26 30	28 23 16 13	32						
14	9 9 8 9	5 4 4 2	3421 3413	28 33 25 30	11 8 6 5	19						
15	2 2 2 4	3 3 5 6	5455 4444	4 4 5 9	7 7 11 14	8						
16	11 12 13 11	12 12 8 8	2423 2523	41 55 63 41	60 55 23 21	45						
17	8 6 5 7	7 8 3 4	5231 2412	22 15 13 17	20 23 7 18	16						
18	3 3 4 3	2 1 2 2	3534 3233	7 6 9 7	5 3 4 4	6						
19	5 7 6 7	7 7 7 9	2333 1235	11 19 16 18	17 18 20 32	19						
20	9 12 10 7	8 8 8 3	3233 2444	31 52 38 20	24 22 23 7	27						
21	4 5 4 5	4 5 8 6	5623 4534	9 11 10 11	9 11 24 15	13						
22	8 9 8 7	6 9 10 7	2121 1123	24 29 22 17	15 30 35 18	24						
23	8 12 7 8	10 10 7 5	2212 2342	22 51 17 22	39 37 18 12	27						
24	9 7 7 5	5 6 5 8	3353 4532	30 18 17 12	12 14 11 23	17						
25	10 14 14 10	11 9 11 5	2234 2461	40 83 61 38	47 30 44 13	47						
26	10 5 7 4	7 5 4 4	3434 2242	38 11 19 8	19 11 6 10	16						
27	7 8 8 4	5 5 2 3	2344 6434	20 22 25 10	13 11 5 7	14						
28	5 4 6 6	10 10 9 9	3351 2634	11 10 15 16	35 36 33 32	24						
29	5 8 6 2	4 3 4 3	3433 2133	11 25 15 5	8 7 10 7	11						
30	4 6 8 9	8 7 6 7	4141 3323	8 14 22 30	25 20 14 20	19						
31	10 10 10 12	10 11 8 10	2336 4432	40 37 35 55	38 42 25 35	38 23.5						

MAY 1961		3 Ks				σs		as				As
1	11 10 5 9	9 5 1 8	1314 3133	45 38 13 33	27 13 3 21	24						
2	13 12 6 5	3 3 1 1	4523 4032	63 54 15 13	6 6 2 2	20						
3	1 3 2 2	0 0 1 0	3533 0121	3 7 5 5	0 1 2 1	3						
4	1 1 2 3	1 1 8 11	3231 3143	2 2 5 6	3 2 22 44	11						
5	8 5 8 5	4 12 10 8	3133 2312	21 13 25 12	10 51 34 22	24						
6	9 14 14 13	12 5 8 9	0132 2244	29 84 72 66	57 12 22 27	46						
7	9 8 11 10	8 8 4 8	5332 1132	33 21 47 37	26 26 9 25	28						
8	5 5 9 6	3 5 10 8	1152 4613	12 12 31 15	6 11 34 24	18						
9	3 8 10 12	7 8 3 4	2442 5223	7 21 39 56	19 21 7 10	23						
10	7 3 7 7	4 0 4 8	3044 2113	20 6 17 18	10 1 6 21	13						
11	11 8 7 6	7 8 10 5	3341 1231	41 25 19 16	16 21 39 13	24						
12	12 10 8 7	3 7 5 8	6343 1534	51 38 24 20	7 17 12 23	24						
13	13 10 6 8	7 4 6 3	4401 1221	63 38 15 26	17 10 16 7	24						
14	8 9 6 8	4 2 0 1	2513 3312	22 31 16 25	9 5 1 2	14						
15	0 0 0 2	1 2 5 6	1104 2445	1 1 0 4	2 4 11 16	5						
16	11 11 13 10	10 10 7 5	3131 1211	41 45 66 34	37 40 17 13	37						
17	9 5 5 5	7 6 1 1	6111 3822	28 13 12 13	16 16 2 3	13						
18	2 1 1 1	1 0 0 1	2222 2013	4 2 3 2	2 0 1 3	2						
19	3 6 4 7	4 3 4 10	5543 3417	7 16 10 20	10 6 9 34	14						
20	8 13 12 7	6 6 7 3	1464 0452	26 62 51 19	15 16 20 6	27						
21	6 3 3 2	1 1 7 4	6545 3211	14 7 6 5	3 2 18 8	8						
22	7 6 6 3	1 6 8 5	3100 1441	20 16 15 6	2 14 24 13	14						
23	5 10 4 5	6 7 4 3	3331 2122	12 34 10 13	14 17 10 6	15						
24	8 6 3 3	4 1 3 4	2521 3213	22 16 7 6	9 3 6 10	10						
25	9 15 15 12	11 11 11 5	0464 3344	29 101 90 59	42 44 49 12	53						
26	12 3 5 2	4 3 0 3	6433 3112	51 7 12 4	9 6 1 7	12						
27	8 7 6 1	6 1 1 3	4563 5214	23 17 16 3	15 3 2 7	11						
28	5 4 3 5	6 9 8 8	7413 0822	13 8 6 13	15 31 21 25	17						
29	2 9 5 0	0 0 1 1	4671 0022	5 29 13 1	0 0 3 2	7						
30	4 4 6 5	4 3 1 4	5141 2223	8 8 15 12	10 7 3 9	9						
31	8 8 10 11	7 8 8 8	1344 3422	26 25 35 43	19 23 22 22	27 18.5						

MAY 1961																				
1	3 Km			Σ Km	am								Am	Am2						
	11	10	5		9	9	8	2	8	20.7	42	34			12	31	28	24	4	24
2	14	12	7	7	4	4	2	1	17.0	74	57	19	19	9	10	5	3	25	19	
3	1	4	4	4	1	2	3	1	6.7	3	8	10	8	2	4	6	3	6	6	
4	1	1	3	3	2	3	8	11	10.7	2	2	6	7	4	7	23	50	13	13	
5	8	7	9	7	5	13	10	9	22.7	22	18	31	17	13	63	36	30	29	35	
6	9	14	13	13	12	6	9	9	28.3	29	84	68	63	59	15	27	31	47	41	
7	9	8	11	10	9	9	6	8	23.3	33	25	50	37	27	27	15	26	30	28	
8	6	6	9	7	4	6	10	8	18.7	14	16	30	18	9	16	35	25	20	24	
9	3	8	11	12	8	8	4	5	19.7	6	22	44	58	25	23	9	13	25	21	
10	7	4	6	7	5	2	5	9	15.0	18	8	14	18	13	5	12	32	15	19	
11	10	9	8	8	9	8	11	7	23.3	39	27	25	21	27	26	41	20	26	26	
12	10	10	9	8	5	7	7	8	21.3	40	37	27	24	11	18	17	26	25	30	
13	13	11	7	9	8	7	6	4	21.7	64	46	20	28	23	17	16	10	28	25	
14	8	9	8	9	4	3	2	1	14.7	25	32	21	27	10	6	4	3	16	13	
15	1	1	1	3	2	3	5	6	7.3	2	2	3	7	4	6	11	15	6	17	
16	11	11	13	10	11	11	7	7	27.0	41	50	65	38	48	47	20	17	41	27	
17	8	6	5	6	7	7	2	3	14.7	25	14	12	15	11	20	4	7	15	17	
18	2	2	3	2	1	1	1	1	4.3	5	4	6	4	3	2	2	3	4	9	
19	4	7	5	7	5	5	6	9	16.0	9	17	13	19	13	12	14	33	16	18	
20	9	12	11	7	7	7	8	3	21.3	29	57	45	20	19	19	21	7	27	20	
21	5	4	4	4	3	3	8	5	12.0	11	9	8	8	6	7	21	12	10	14	
22	8	8	7	5	4	8	9	6	18.3	22	22	18	12	8	22	29	15	19	18	
23	7	11	5	7	9	9	6	4	19.3	17	42	13	18	27	27	14	9	21	19	
24	8	7	5	4	5	4	4	7	14.7	26	17	12	9	11	8	8	17	14	28	
25	10	15	14	11	11	10	11	5	29.0	35	92	65	49	44	37	46	13	50	33	
26	11	4	6	3	6	4	2	4	13.3	45	9	16	6	14	8	4	9	14	20	
27	8	7	8	3	6	3	1	3	13.0	21	20	21	7	14	7	3	7	13	11	
28	5	4	4	6	8	10	9	9	18.3	12	9	10	15	25	34	27	28	20	15	
29	4	9	6	1	2	2	3	2	9.7	8	27	14	3	4	4	7	4	9	15	
30	4	5	7	8	7	5	4	6	15.3	8	11	18	21	18	13	8	15	14	17	
31	9	9	10	11	9	9	8	9	24.7	33	31	35	49	26	32	24	29	33	27	
																		21.1		

JUNE 1961																				
1	3 Km			Σ Km	am								Am	Am2						
	9	7	8		12	13	12	8	8	25.7	27	19			22	56	70	51	24	22
2	10	7	9	12	11	13	10	3	25.0	36	19	32	56	48	62	37	6	37	36	
3	7	10	10	8	4	3	1	4	15.7	19	37	34	26	8	7	3	9	18	23	
4	5	7	8	7	8	4	3	3	15.0	11	19	21	20	25	9	7	7	15	14	
5	4	8	7	7	3	5	6	5	15.0	8	25	19	20	7	11	16	12	15	14	
6	5	5	8	6	7	12	10	8	20.3	11	12	24	15	18	56	34	26	25	22	
7	5	8	11	11	11	10	9	8	24.3	11	22	41	42	50	37	33	26	33	33	
8	11	9	10	8	8	8	8	7	23.0	45	32	36	26	24	21	21	18	28	26	
9	2	3	7	6	5	5	5	5	12.7	5	7	18	16	11	13	12	12	12	14	
10	5	4	5	5	5	1	0	0	8.3	11	9	11	13	11	3	1	0	7	8	
11	1	2	2	2	3	1	2	1	4.7	3	4	4	4	6	3	4	2	4	9	
12	3	11	9	7	6	6	1	1	14.7	6	49	33	17	15	15	3	3	18	11	
13	1	2	3	3	3	2	2	3	6.3	3	4	6	6	6	4	5	6	5	6	
14	3	0	3	3	1	1	1	9	7.0	7	1	6	7	2	3	3	30	7	9	
15	5	6	5	9	7	7	6	5	16.7	12	14	12	27	18	18	16	13	16	15	
16	10	6	4	5	4	7	6	6	16.0	37	15	10	12	8	20	14	14	16	14	
17	4	5	1	3	5	2	5	6	10.3	10	13	3	7	12	5	11	15	10	13	
18	5	5	6	9	7	8	8	11	19.7	11	12	15	30	17	21	25	43	22	19	
19	8	9	5	6	2	2	5	5	14.0	21	31	13	15	5	4	13	12	14	18	
20	5	9	7	5	1	4	8	10	16.3	12	27	19	13	3	9	23	39	18	29	
21	14	12	13	14	14	11	11	17	35.3	81	51	68	77	77	43	47	127	71	64	
22	18	15	13	14	11	12	13	11	35.7	149	92	65	79	44	55	64	48	75	59	
23	9	5	4	1	4	5	5	6	13.0	30	12	10	3	8	12	11	16	13	23	
24	8	7	3	3	4	2	4	3	11.3	21	20	7	7	8	5	8	7	10	12	
25	5	5	4	8	5	5	5	8	15.0	11	13	10	25	12	12	12	26	15	11	
26	4	3	2	1	6	7	5	2	10.0	9	6	4	3	16	17	12	4	9	13	
27	2	5	9	8	6	4	1	1	12.0	4	13	32	26	15	8	2	3	13	12	
28	1	5	4	6	5	2	2	3	9.3	2	11	10	14	11	5	4	7	8	20	
29	9	16	12	10	6	6	5	4	22.7	31	106	56	35	15	15	12	8	35	21	
30	6	4	3	1	1	1	2	2	6.7	15	9	6	3	3	2	5	5	6	12	
																		20.3		

JUNE 1961		3 Kn				σn		an				An	
1	9 8 8 13	14 13 9 9	3222 2524	27 23 23 64	86 63 27 30	43							
2	9 8 10 12	11 12 10 4	3323 3172	31 22 38 60	44 54 37 9	37							
3	7 10 9 9	5 5 7 5	4331 4232	20 38 32 28	13 11 5 11	20							
4	5 8 8 8	8 5 4 5	2343 5322	12 23 26 21	26 11 10 11	18							
5	5 8 7 8	4 6 7 6	3434 2221	11 22 20 25	8 16 19 15	17							
6	5 6 9 6	8 13 10 9	2341 2533	12 15 27 14	22 63 40 30	28							
7	6 8 11 12	12 9 9 9	1531 5453	15 23 41 51	56 31 31 28	33							
8	12 10 11 8	9 8 8 7	4442 2533	51 40 45 26	28 26 22 20	32							
9	4 3 7 8	6 6 7 5	2133 4453	9 7 20 22	14 15 17 14	15							
10	5 5 6 7	6 3 1 0	2342 4422	12 11 14 17	15 6 2 1	10							
11	2 3 4 4	5 2 4 1	2266 5533	4 6 6 8	11 5 6 3	7							
12	4 11 10 7	7 7 2 2	2142 2222	9 49 35 19	17 17 5 4	19							
13	2 3 5 5	4 4 3 4	4184 6243	4 6 11 11	10 8 7 10	8							
14	4 0 4 5	2 3 3 10	2265 4443	9 1 8 12	4 6 7 39	11							
15	6 6 6 10	9 8 7 6	1222 3331	15 16 16 35	27 21 20 14	21							
16	10 7 6 7	5 8 7 6	3243 3334	40 19 14 19	12 25 20 15	21							
17	5 6 2 4	7 5 5 7	3142 5241	12 15 5 9	17 11 13 18	13							
18	5 5 7 9	8 9 9 11	3334 3443	12 15 18 32	25 30 30 50	27							
19	8 9 6 6	3 4 6 5	4112 4245	21 28 15 16	7 6 16 13	16							
20	6 8 8 7	2 6 9 10	3342 3433	15 26 25 17	5 15 28 40	21							
21	13 12 15 15	16 11 11 16	4142 2433	66 57 96 101	104 47 46 115	79							
22	17 14 13 14	11 13 14 13	8254 2363	126 76 64 77	42 65 73 64	73							
23	9 6 6 2	5 7 6 7	2454 4412	33 14 14 5	12 17 14 19	16							
24	8 7 4 4	5 4 5 5	3534 4222	22 20 9 8	12 10 11 12	13							
25	5 6 5 9	7 5 6 9	3131 2221	13 16 11 30	17 12 15 31	18							
26	5 3 3 2	9 7 6 3	1164 4343	13 7 7 5	28 19 14 7	13							
27	3 7 9 8	7 5 2 3	2212 3422	7 17 31 24	19 11 5 6	15							
28	1 4 5 6	5 4 4 4	4334 3324	3 10 12 16	11 10 8 9	10							
29	10 15 11 10	8 8 6 5	4143 3312	39 97 48 38	22 21 15 13	37							
30	7 5 4 2	2 2 4 4	2334 4322	18 11 9 5	5 4 9 9	9							
						23.2							

JUNE 1961		3 Ks				σS		as				As	
1	8 6 8 11	12 10 8 6	1021 5330	26 15 22 49	54 39 21 15	30							
2	11 6 8 12	12 14 10 1	3112 1233	41 16 26 53	53 71 36 2	37							
3	7 10 10 8	1 2 0 4	4554 2304	17 36 36 24	2 4 0 8	16							
4	5 6 6 7	8 3 1 2	2555 3122	11 16 16 19	25 7 3 4	13							
5	3 9 7 6	3 3 5 4	1664 0411	6 28 19 15	6 7 13 8	13							
6	4 4 8 6	6 11 9 8	3446 2312	10 10 21 15	14 49 29 21	21							
7	4 7 10 10	11 11 10 8	1331 1213	8 20 40 34	45 42 34 24	31							
8	10 8 9 9	7 7 7 6	3333 3132	38 25 27 27	20 17 19 16	24							
9	1 3 6 4	3 4 3 5	2153 1323	2 7 16 10	7 10 7 12	9							
10	4 4 4 4	3 0 0 0	3444 4000	9 8 9 10	6 0 0 0	5							
11	1 0 0 0	0 0 0 0	2110 0000	2 1 1 0	0 0 0 0	1							
12	2 11 9 6	5 5 1 1	2162 3322	4 49 32 15	13 13 2 2	16							
13	1 1 1 1	1 0 1 1	2222 2032	2 2 2 2	2 0 2 2	2							
14	2 1 2 1	0 0 0 8	3222 0102	5 2 4 2	0 1 0 22	5							
15	4 5 3 7	4 6 5 5	1113 2423	9 12 7 20	10 14 11 12	12							
16	10 5 3 3	1 6 4 5	4211 2435	35 11 6 6	3 14 9 12	12							
17	4 4 1 3	3 0 4 5	4321 4052	8 10 2 6	6 0 8 12	7							
18	4 4 5 9	4 5 7 10	3413 3363	10 8 12 27	9 12 20 36	17							
19	8 10 5 5	2 0 4 5	3423 2133	21 34 11 13	4 1 10 12	13							
20	4 9 5 4	0 2 7 10	4633 1353	9 28 13 9	1 4 18 38	15							
21	15 11 10 12	11 10 11 17	6122 3336	97 45 40 53	50 39 49 140	64							
22	18 16 13 14	11 11 12 9	6643 3352	173 107 67 80	46 44 56 32	76							
23	8 4 3 0	1 4 3 5	1301 3112	26 10 6 1	3 8 7 12	9							
24	7 8 2 3	2 0 2 1	3310 2042	20 21 5 6	4 0 5 2	8							
25	4 4 4 8	3 5 4 8	4334 1313	10 10 9 21	7 12 9 21	12							
26	2 3 0 0	2 6 4 0	1111 3231	5 6 1 1	4 15 10 1	5							
27	0 4 9 9	4 2 0 0	1445 2301	1 9 32 29	10 5 0 1	11							
28	0 5 4 5	4 0 0 3	1834 6103	1 12 9 11	10 1 0 6	6							
29	8 16 13 9	4 4 4 1	4452 1112	24 115 64 32	9 9 9 3	33							
30	5 3 2 0	0 0 0 1	1231 0012	12 7 4 1	0 0 1 2	3							
						17.5							

JULY 1961		3 Km					Σ Km	am					Am	Am2
1	7 8 9 9	6 5 1 2	15.7	18 21 28 31	14 13 3 5	17	13							
2	3 6 9 6	4 9 8 8	17.7	7 16 27 15	10 27 26 23	19	18							
3	6 5 9 11	9 10 6 3	19.7	14 13 29 43	33 35 15 7	24	21							
4	6 4 5 7	7 8 8 14	19.7	16 9 13 19	18 21 22 73	24	33							
5	14 14 11 12	12 11 7 11	30.7	77 72 46 52	52 42 20 48	51	40							
6	8 11 7 7	6 11 7 6	21.0	23 42 16 19	15 45 17 15	24	30							
7	10 8 9 8	8 7 6 2	19.3	38 23 33 24	25 18 14 4	22	22							
8	6 8 8 8	7 6 5 7	18.3	15 22 21 22	17 14 13 20	18	19							
9	7 8 10 7	4 7 1 1	15.0	20 24 36 19	8 17 3 2	16	20							
10	7 11 10 9	8 8 4 6	21.0	17 41 36 31	21 23 8 15	24	17							
11	7 6 4 5	4 4 4 4	12.7	19 16 10 12	9 10 9 10	12	15							
12	5 4 9 9	2 1 2 1	11.0	11 8 28 32	4 3 5 3	12	18							
13	1 2 2 17	20 19 17 16	31.3	3 5 4 137	215 186 143 104	100	75							
14	12 8 16 20	17 15 14 10	37.3	56 25 104 202	136 96 85 34	92	95							
15	8 12 9 9	11 5 10 12	25.3	26 54 28 30	46 11 40 51	36	50							
16	14 11 8 6	8 8 9 6	23.3	80 46 24 14	25 23 28 16	32	32							
17	8 8 8 10	9 5 15 15	26.0	22 25 21 35	33 13 100 89	42	50							
18	13 16 15 14	18 15 13 14	39.3	70 118 103 72	170 91 67 63	97	72							
19	14 12 3 1	3 2 2 3	13.3	79 52 7 3	6 4 4 6	20	42							
20	6 9 10 5	5 8 9 14	22.0	15 31 34 13	12 21 32 76	29	32							
21	14 14 14 9	8 11 10 6	28.7	76 74 86 29	26 41 34 16	48	41							
22	8 8 11 10	8 6 1 2	18.0	22 23 45 38	21 15 3 5	22	22							
23	3 2 5 9	9 11 8 8	18.3	6 5 13 32	30 45 25 22	22	21							
24	7 10 9 10	9 5 4 6	20.0	17 34 27 38	27 12 8 15	24	27							
25	10 10 9 9	7 5 5 6	20.3	35 38 31 29	18 13 11 14	24	22							
26	10 10 5 7	6 4 12 13	22.3	37 37 11 17	15 8 59 66	31	53							
27	11 11 19 21	14 13 16 18	41.0	41 45 183 266	82 64 109 156	118	78							
28	11 10 9 9	7 8 9 7	23.3	50 38 32 32	17 25 30 17	30	45							
29	4 9 7 5	6 5 4 4	14.7	9 31 19 13	15 11 8 10	15	17							
30	6 5 8 7	4 2 7 5	14.7	15 13 25 18	9 5 19 12	15	12							
31	4 3 3 5	6 4 7 4	12.0	8 7 7 11	15 8 19 9	11	12							

AUG. 1961		3 Km					Σ Km	am					Am	Am2
1	8 8 4 3	3 2 4 7	13.0	25 22 9 7	6 5 10 15	13	31							
2	14 16 14 13	10 11 8 8	31.3	82 118 83 63	39 48 26 26	61	41							
3	8 10 10 9	9 6 9 9	23.3	22 37 37 28	32 14 28 33	29	32							
4	11 10 9 9	8 7 7 6	22.3	50 34 29 27	21 19 17 15	27	25							
5	4 7 7 9	6 5 5 6	16.3	10 17 18 31	14 11 13 16	16	15							
6	6 3 5 4	7 4 4 6	13.0	16 7 11 10	19 9 9 15	12	10							
7	1 1 2 2	4 3 3 5	7.0	2 2 4 4	10 7 7 11	6	14							
8	2 7 12 12	8 7 11 4	21.0	5 17 51 52	23 19 47 10	28	19							
9	5 7 5 1	3 3 1 1	8.7	11 17 11 3	6 6 3 3	8	17							
10	6 8 10 9	11 6 5 4	19.7	15 24 36 30	41 16 13 9	23	21							
11	9 12 8 8	12 9 10 11	26.3	30 55 21 25	54 29 37 43	37	26							
12	5 7 7 1	2 4 6 7	13.0	13 18 17 2	5 10 14 17	12	18							
13	7 5 2 1	0 0 1 1	5.7	18 11 4 2	1 1 3 3	5	7							
14	1 1 3 4	9 9 7 2	12.0	2 3 7 8	28 30 17 4	12	11							
15	4 5 10 4	5 5 5 6	14.7	9 12 38 10	11 12 11 14	15	16							
16	8 8 4 1	1 2 2 3	9.7	25 21 10 3	3 5 4 7	10	10							
17	3 4 3 6	4 2 6 3	10.3	6 9 7 15	8 5 14 6	9	7							
18	4 2 4 4	6 6 2 4	10.7	8 4 8 10	15 15 4 9	9	12							
19	5 9 9 8	7 3 1 4	15.3	11 29 28 23	18 6 2 8	16	12							
20	2 2 1 5	6 8 7 4	11.7	4 5 2 13	15 22 17 8	11	10							
21	5 4 4 4	4 3 3 1	9.3	11 10 9 8	9 7 7 3	8	9							
22	1 2 3 0	0 1 1 3	3.7	3 5 6 1	1 2 2 7	3	4							
23	1 2 2 2	3 2 1 3	5.3	2 5 5 4	6 5 3 6	3	4							
24	1 1 1 2	3 6 7 5	8.7	2 2 3 4	7 16 20 13	8	10							
25	6 6 7 7	9 5 5 8	17.7	15 15 18 19	27 12 13 23	18	17							
26	6 8 7 8	6 3 8 9	18.3	14 25 18 23	14 7 25 32	20	20							
27	9 5 10 4	2 4 3 3	13.3	31 11 37 10	4 8 7 7	14	15							
28	7 6 3 3	3 1 2 4	9.7	17 15 7 6	6 2 5 10	9	7							
29	3 2 2 4	3 9 13 12	16.0	6 4 4 8	7 32 65 59	23	23							
30	13 9 6 11	15 12 8 11	28.3	62 28 16 49	99 57 25 44	48	46							
31	12 12 12 8	9 10 9 11	27.7	52 52 58 26	27 34 33 45	41	47							

AUG. 1961		3 Kn				gn		an				An
1	8 8 5 4	4 4 5 8	6632 2222	24 26 12 10	9 8 12 21	15						
2	14 17 15 12	11 12 8 9	2352 3523	82 128 95 60	45 57 26 27	65						
3	8 10 10 10	9 7 9 9	3332 1242	21 37 37 36	33 17 32 33	31						
4	12 11 9 9	8 8 7 6	5543 3234	55 44 32 28	25 24 20 16	31						
5	5 7 7 9	7 5 6 6	2221 2234	11 17 19 31	18 12 16 16	18						
6	7 4 5 6	8 5 4 6	6233 2335	20 9 12 14	24 13 10 16	15						
7	2 2 3 3	6 4 4 5	4313 1234	4 5 7 7	14 9 10 11	8						
8	4 7 12 12	9 8 12 5	2223 1312	8 19 53 57	27 21 54 13	32						
9	5 7 5 2	4 3 2 1	4633 4423	13 18 11 4	9 7 4 3	9						
10	7 7 11 9	11 6 6 5	4375 3342	16 20 43 28	45 14 16 11	24						
11	10 12 8 9	12 9 9 10	3533 1243	37 53 23 28	55 31 33 39	37						
12	6 7 7 1	3 5 7 8	4463 2345	15 17 20 2	7 13 19 21	14						
13	7 4 3 2	1 1 3 1	4352 3442	18 10 6 4	3 2 6 3	7						
14	1 1 4 5	10 11 8 3	3425 4333	3 3 8 11	34 41 21 7	16						
15	5 5 10 5	6 7 5 5	3232 4244	12 13 38 13	16 17 13 11	17						
16	8 8 4 2	3 4 3 4	2324 3412	24 22 9 5	6 8 7 9	11						
17	4 4 4 7	4 4 7 4	2233 2324	8 10 6 20	10 9 17 9	11						
18	5 3 4 6	7 8 3 5	2432 2312	11 7 9 14	17 23 7 11	12						
19	5 8 8 8	7 4 2 5	2233 2122	12 23 26 24	18 8 4 11	16						
20	2 3 1 6	7 9 7 4	3231 2422	5 6 3 15	17 30 19 10	13						
21	6 5 5 4	5 5 4 3	1242 1324	14 12 13 9	13 12 10 6	11						
22	2 3 4 1	1 2 1 3	2322 2323	5 6 8 2	3 4 2 7	5						
23	1 3 2 2	4 4 3 4	2132 4132	3 6 5 4	9 8 6 10	6						
24	1 1 2 3	4 8 9 7	3231 2332	3 3 5 6	9 22 27 19	12						
25	7 6 8 8	9 6 7 9	2132 3434	17 14 21 22	30 15 17 30	21						
26	6 7 8 9	7 5 8 10	1351 3233	16 20 21 30	19 12 26 37	23						
27	10 5 10 5	4 5 4 3	4232 1331	37 11 38 11	8 12 10 7	17						
28	7 6 4 4	4 2 3 5	4422 2342	17 16 8 9	8 4 7 12	10						
29	3 2 2 5	5 11 13 14	4343 2332	7 4 5 12	12 46 66 71	28						
30	13 9 7 11	15 13 9 11	5423 1333	61 33 17 49	99 66 28 44	50						
31	12 13 13 9	9 10 10 10	3643 1522	55 61 68 30	33 39 35 35	45 20.2						

AUG. 1961		3 Ks				Gs		as				As
1	9 7 3 1	1 1 4 6	8413 2160	27 18 6 3	3 2 8 15	10						
2	14 16 14 13	10 10 8 8	2434 1315	82 108 71 67	34 39 26 25	57						
3	8 10 10 8	9 5 8 10	2333 1146	22 38 38 21	32 12 24 34	26						
4	11 8 8 8	7 6 6 6	3133 1023	45 23 25 26	17 15 15 14	23						
5	4 7 7 9	4 4 4 6	3541 2336	9 17 17 32	10 10 10 15	15						
6	5 2 4 3	6 3 4 6	2330 4113	12 5 9 6	15 6 8 14	9						
7	0 0 1 0	3 2 1 5	1011 4224	1 0 2 1	6 4 3 11	4						
8	1 6 11 11	7 7 11 4	2515 1421	2 15 49 47	18 17 41 8	25						
9	4 6 4 0	2 2 1 1	4541 3422	9 15 10 1	4 5 2 2	6						
10	5 9 9 9	10 7 4 3	1664 2131	12 28 29 32	37 17 10 7	22						
11	8 12 7 8	12 9 10 11	1532 2355	23 56 18 22	53 28 40 46	36						
12	5 7 5 1	1 3 4 6	2471 2233	11 18 13 2	2 7 10 14	10						
13	7 5 1 0	0 0 0 1	4120 0012	18 12 2 0	0 0 1 2	4						
14	0 1 3 2	8 7 5 0	1323 2611	1 2 6 5	22 20 13 1	9						
15	3 4 10 3	3 4 4 6	1242 1516	6 10 37 7	6 8 8 16	12						
16	9 8 4 0	0 1 1 2	6330 1212	27 21 10 0	1 2 2 4	8						
17	2 3 3 4	3 0 5 1	1112 1042	5 7 6 10	6 0 11 3	6						
18	3 1 3 2	5 3 0 3	1221 2210	6 2 7 5	12 7 1 6	6						
19	4 10 9 8	7 1 0 2	3452 4312	10 35 29 22	16 3 1 5	15						
20	1 2 0 5	5 6 6 3	3113 1520	2 5 1 12	13 15 15 6	9						
21	3 4 3 3	2 1 2 0	2122 1210	7 8 6 7	5 2 5 0	5						
22	0 1 2 0	0 0 1 4	1210 0024	1 3 5 0	0 0 2 8	2						
23	0 2 3 2	1 1 0 1	1112 3113	1 5 6 4	2 2 1 2	3						
24	0 0 1 1	2 4 5 4	1111 2324	1 1 2 2	4 10 12 8	5						
25	5 6 6 6	8 4 4 6	1122 3232	12 16 15 16	24 10 10 16	15						
26	5 9 6 7	4 1 8 9	1551 1343	12 29 15 17	9 2 23 28	17						
27	8 5 10 4	0 2 1 3	2244 0321	25 11 35 9	0 4 3 6	12						
28	7 5 3 1	2 0 1 3	4712 3032	17 13 6 3	5 0 3 7	7						
29	2 2 1 2	1 7 13 11	1124 3132	5 5 3 5	2 18 64 47	19						
30	13 8 6 11	15 11 8 11	6413 1723	62 23 16 50	99 47 21 44	45						
31	11 11 11 8	8 9 9 12	1212 2027	49 43 49 21	21 29 31 54	37 15.4						

OCT. 1961		3 Kn					σn		an				An
1	22 20 18 18	12 5 5 6	2352 2223	321 236 153 161	60 11 11 15	121							
2	2 3 4 4	5 6 6 1	4222 3553	5 7 9 8	12 16 14 3	9							
3	3 1 2 3	8 5 5 3	2442 3343	7 2 5 7	23 13 12 6	9							
4	3 3 2 5	7 6 5 8	4243 2133	6 7 5 12	18 15 13 25	13							
5	6 3 4 5	2 2 4 0	4223 3342	14 7 8 11	4 4 8 1	7							
6	2 2 5 6	5 5 7 6	2432 3366	5 4 11 15	12 13 18 14	12							
7	8 6 4 5	6 0 2 3	5233 1221	23 16 10 13	14 1 4 6	11							
8	2 4 8 7	5 6 4 3	3333 3231	4 10 23 20	12 14 8 6	12							
9	4 6 4 2	2 1 1 0	3323 2331	9 15 6 5	5 3 2 1	6							
10	1 2 2 0	1 2 4 5	3432 2223	2 4 4 1	3 4 8 11	5							
11	4 5 8 9	10 6 8 7	2221 3132	8 13 22 30	36 16 25 18	21							
12	13 10 10 7	8 10 5 7	9643 2432	68 40 36 17	25 39 13 18	32							
13	6 9 9 9	4 8 5 8	4443 3536	16 31 28 29	10 26 11 26	22							
14	10 3 7 5	8 2 1 2	5142 5323	34 7 10 11	21 5 2 5	13							
15	1 1 1 3	2 3 5 2	2334 3122	3 3 3 7	4 7 11 4	5							
16	0 1 0 0	1 1 1 0	2321 2221	1 2 1 1	3 2 2 0	2							
17	0 1 1 0	0 0 1 7	1341 1122	1 2 2 0	1 0 3 19	4							
18	3 4 4 1	3 3 3 3	1332 1131	6 8 9 2	7 7 7 6	7							
19	5 5 4 3	4 1 5 8	3321 3223	12 12 8 6	8 3 11 22	10							
20	12 12 11 5	1 4 4 2	6652 2322	56 52 48 12	3 10 8 4	24							
21	6 1 2 6	8 7 6 9	4342 3444	14 2 5 14	24 18 16 28	15							
22	5 3 3 6	6 5 2 3	2122 3221	12 7 7 14	15 12 4 6	10							
23	1 2 4 4	2 5 6 8	2334 2336	2 5 9 9	4 11 15 26	10							
24	5 8 5 4	4 2 3 2	3332 2223	11 22 12 10	8 4 7 4	10							
25	3 3 4 3	8 9 9 9	2231 3555	7 7 9 7	24 33 31 29	18							
26	7 8 14 13	9 9 13 13	5236 3334	18 23 73 63	28 28 65 63	45							
27	10 14 9 11	10 9 13 12	3543 2464	38 85 27 44	37 33 61 57	48							
28	5 5 12 19	21 20 24 19	2215 5464	12 12 57 191	263 228 421 182	171							
29	13 14 15 11	5 3 3 7	5643 3125	65 71 87 49	13 7 7 18	40							
30	1 1 4 6	7 9 4 3	2325 2424	2 2 10 14	17 29 9 7	11							
31	2 3 8 4	5 2 1 2	2243 3222	5 7 25 9	12 4 3 4	9							
						23.5							

OCT. 1961		3 Ks				σs		as				As
1	21 20 18 17	14 4 4 6	2413 2110	274 223 154 144	71 8 8 15	112						
2	1 3 3 4	4 7 4 0	3223 1431	2 7 7 9	8 17 10 1	8						
3	3 3 3 3	7 3 3 2	1210 1223	7 6 6 6	17 7 7 4	8						
4	2 3 1 3	5 4 4 8	3525 4434	5 7 3 6	13 10 10 23	10						
5	7 3 3 4	1 0 2 1	4114 3032	18 7 6 8	3 0 4 2	6						
6	3 2 3 5	2 4 5 4	1321 4141	7 5 7 12	5 8 12 9	8						
7	8 6 4 4	5 1 1 2	4152 2232	23 16 9 10	11 2 2 4	10						
8	1 5 8 6	3 4 3 3	3142 5211	2 12 21 16	7 10 6 6	10						
9	5 7 4 2	0 0 0 0	1422 1000	13 18 9 5	1 0 0 0	6						
10	1 2 1 0	0 0 3 4	2220 0024	2 4 3 0	0 0 7 8	3						
11	2 6 8 9	9 4 8 8	3231 1121	5 15 25 32	32 8 22 23	20						
12	12 8 10 7	7 8 5 7	5141 3314	54 26 39 17	20 23 12 20	26						
13	5 9 8 7	3 8 3 8	2611 1204	11 32 26 17	6 21 6 23	18						
14	8 3 5 4	6 1 0 3	3021 4301	21 7 11 9	14 2 0 6	9						
15	1 2 0 3	1 2 4 1	2311 2312	3 4 1 7	2 4 8 3	4						
16	0 1 0 0	0 0 0 0	1110 1100	1 2 1 0	1 1 0 0	1						
17	0 0 1 0	0 0 1 6	1020 0021	1 0 2 0	0 0 3 16	3						
18	3 3 4 0	2 2 2 2	0141 1111	6 7 8 1	5 5 5 5	5						
19	4 6 3 3	2 0 5 8	3013 3024	10 15 6 6	4 0 11 23	9						
20	11 11 9 4	0 4 2 1	5323 1423	46 41 29 10	1 9 5 2	18						
21	6 3 2 6	8 7 7 8	5134 2342	16 6 4 16	21 19 18 22	15						
22	3 3 4 6	5 5 0 1	4241 4213	6 7 9 16	11 12 1 3	8						
23	1 2 2 3	1 4 6 8	3313 2133	2 5 5 6	2 9 14 21	8						
24	5 7 4 4	1 1 2 1	2411 2223	11 17 8 8	2 2 5 3	7						
25	3 3 1 3	7 8 8 7	1131 1234	7 6 2 6	18 21 23 17	13						
26	4 9 10 12	9 8 14 14	4526 0425	9 31 40 56	29 24 75 72	42						
27	12 11 8 11	8 9 11 10	2112 4541	54 49 23 42	23 28 43 37	37						
28	3 2 14 19	20 21 22 18	3325 4544	6 5 71 193	238 277 310 169	159						
29	11 12 15 11	6 2 3 6	3214 2213	45 54 91 49	15 5 6 14	35						
30	1 0 1 5	5 9 2 3	2042 1231	2 0 3 12	13 31 4 7	9						
31	2 2 7 4	2 1 0 2	1133 3312	5 5 20 9	4 3 1 4	6						
						20.4						

NOV. 1961		3 Kn				σn		an				An								
1		3	6	4	5	4	2	6	4	3533	2362	7	16	10	12	8	4	14	9	10
2		1	0	5	8	8	3	2	3	2244	4124	3	1	12	24	25	6	4	6	10
3		4	6	5	3	1	1	2	4	4531	2233	10	16	13	6	2	2	4	9	8
4		2	1	2	0	2	4	6	8	2232	2514	4	3	4	1	4	9	15	24	8
5		6	8	8	9	13	8	8	10	2444	3235	22	26	21	29	64	25	21	39	31
6		7	10	12	11	8	3	3	6	2433	4112	17	36	52	42	21	7	7	15	25
7		9	7	11	15	14	14	15	13	2335	4344	29	20	44	99	72	86	100	67	65
8		14	10	10	5	10	2	10	6	5342	5244	78	38	36	11	40	4	36	16	32
9		8	4	9	6	8	8	9	3	4232	3652	22	10	31	16	21	23	31	7	20
10		4	7	1	3	5	4	1	1	3521	3223	8	19	2	6	12	8	2	3	8
11		0	0	0	0	1	3	2	7	2221	2126	1	1	1	1	3	6	4	17	4
12		8	6	10	8	8	10	6	8	5473	4435	25	16	35	22	24	35	14	24	24
13		5	3	1	2	0	0	3	4	5333	1112	11	6	3	5	0	1	6	9	5
14		6	9	14	6	4	5	8	5	1252	2342	14	32	71	14	8	13	21	11	23
15		3	3	0	1	1	1	1	2	2122	2225	3	6	1	2	3	2	3	5	3
16		0	1	1	0	2	1	2	8	1231	2234	0	3	2	1	4	2	5	25	5
17		6	5	3	3	12	14	8	11	3211	4344	16	12	6	7	59	81	23	46	31
18		14	9	16	16	15	13	13	9	2545	5765	72	32	107	114	103	63	66	31	74
19		9	8	10	8	7	3	1	1	5343	3422	32	21	34	22	19	6	2	2	17
20		2	6	10	7	12	9	7	7	2433	4459	4	14	35	19	52	29	19	17	24
21		7	8	4	4	3	4	4	6	2231	1235	20	21	9	8	6	9	9	14	12
22		5	1	1	3	3	3	1	1	4321	2132	11	2	2	6	7	6	2	2	5
23		0	1	1	1	4	3	3	2	1332	3112	0	2	2	2	8	6	7	5	4
24		1	1	2	1	1	5	1	3	2232	2324	3	2	5	3	3	11	3	6	5
25		2	3	6	7	5	4	2	1	3123	1532	4	7	15	17	6	8	5	2	8
26		2	2	4	7	3	4	4	6	2332	2124	4	5	9	17	7	8	10	15	9
27		5	1	3	2	5	4	4	1	3323	3423	11	2	6	4	11	8	10	2	7
28		1	2	1	2	2	7	6	2	2322	3652	2	4	2	4	5	19	16	4	7
29		3	4	3	2	2	1	1	3	4513	2224	7	9	6	4	4	2	2	6	5
30		1	1	4	0	2	1	1	1	3242	2332	2	2	8	1	4	3	3	3	3

16.4

NOV. 1961		3 Ks				σs		as				As								
1		3	4	3	5	4	1	5	2	1323	1241	6	10	6	11	8	3	11	5	8
2		2	2	4	5	7	1	1	2	1334	3232	5	4	9	13	20	2	2	5	8
3		1	4	5	1	0	0	1	2	2322	0024	2	9	11	2	0	0	2	5	4
4		1	0	1	0	1	3	6	8	3110	3224	3	1	2	0	3	7	15	23	7
5		6	10	9	8	12	7	7	9	2344	4435	16	40	32	24	56	18	19	31	30
6		6	9	11	10	8	2	3	8	2521	3253	16	29	42	34	24	5	7	21	22
7		9	8	11	14	12	15	18	14	0231	4734	29	25	46	84	56	88	151	76	69
8		12	11	9	4	8	1	8	4	2124	3323	57	49	32	10	26	2	25	10	26
9		8	4	8	5	7	8	8	3	2342	4221	22	9	21	11	17	21	21	7	16
10		3	5	1	4	4	4	0	2	2231	3302	6	11	2	9	9	10	0	4	6
11		1	2	0	1	0	1	0	6	3212	1305	2	4	1	3	1	2	0	16	4
12		8	8	9	8	8	8	5	10	2362	2236	22	25	32	21	21	21	12	40	24
13		4	1	1	3	0	0	2	4	3311	0033	10	2	2	6	0	0	4	9	4
14		6	12	11	5	4	5	8	3	0014	3432	15	54	49	13	10	11	21	7	23
15		3	4	0	0	0	0	1	3	2311	0134	6	9	1	1	0	1	2	7	3
16		0	0	1	2	0	0	3	8	1112	1143	1	1	2	4	1	1	7	24	5
17		5	4	3	3	12	12	8	11	1312	4212	12	10	7	7	52	53	26	43	26
18		12	9	15	16	14	14	14	6	2221	3882	54	32	92	104	85	71	74	15	66
19		6	8	8	6	6	2	1	0	2310	0131	16	21	26	15	15	5	3	1	13
20		3	7	8	8	9	8	8	6	2523	1235	7	19	22	21	32	21	24	15	20
21		8	8	5	4	3	4	3	7	3221	1324	21	22	11	9	6	9	7	18	13
22		7	1	1	3	3	3	1	2	5322	1122	17	2	2	7	7	6	2	4	6
23		1	1	1	3	3	5	4	4	2222	2744	2	2	2	3	7	13	8	8	6
24		2	1	2	2	1	4	2	3	3221	3432	5	3	4	5	2	8	4	7	5
25		1	4	5	5	1	2	2	1	3111	2123	2	8	12	12	3	5	5	3	6
26		3	4	4	7	6	4	5	5	1364	6424	6	9	10	18	15	9	12	11	11
27		5	2	1	1	4	3	5	2	1223	1132	13	4	2	2	8	6	12	4	6
28		2	2	1	3	3	4	4	3	2312	1125	4	4	2	7	6	9	10	7	6
29		2	3	3	3	3	0	3	1	1215	5152	5	6	6	7	7	1	6	2	5
30		2	3	2	3	3	1	2	4	3225	5324	5	7	4	6	7	3	4	8	6

15.1

FEB. 1962		3 Kn	gn	an	An	
1	0 0 0 0	1 1 1 1	0222 2223	0 1 1 1	2 2 3 3	2
2	6 3 4 0	0 1 4 4	3132 1232	14 7 9 1	1 3 9 9	7
3	3 3 3 1	3 5 4 2	4232 1221	7 7 6 2	7 12 9 5	7
4	4 4 5 10	15 12 11 11	3132 4442	9 8 13 39	101 52 48 47	40
5	8 9 1 2	5 6 6 5	4432 2111	22 31 3 4	13 14 14 13	14
6	3 3 2 3	3 3 5 10	1231 1123	6 6 5 6	7 6 13 38	11
7	11 9 11 11	10 11 8 2	3164 5453	42 28 48 50	40 50 24 5	36
8	0 2 2 4	5 3 2 3	2223 2423	1 4 5 10	13 7 4 6	6
9	7 2 3 4	7 4 2 2	5232 7223	18 4 7 9	18 8 5 5	9
10	3 3 3 1	3 1 2 0	4513 1251	5 5 5 2	7 3 4 1	4
11	5 4 1 7	7 5 12 11	3322 4253	11 8 2 18	17 13 58 42	21
12	11 7 8 7	6 9 11 9	6233 1356	50 19 21 20	15 27 47 31	29
13	5 8 5 9	7 7 8 9	2431 2334	13 26 12 31	19 19 21 33	22
14	7 7 6 4	6 8 11 12	5573 3267	26 19 15 10	14 23 45 51	25
15	6 8 5 6	4 11 12 5	2221 3423	14 23 12 14	10 47 57 13	24
16	6 8 10 16	15 14 15 12	1363 4355	15 24 35 111	92 75 89 57	62
17	9 6 11 9	5 6 8 4	4433 4366	33 16 47 30	12 14 22 9	23
18	1 2 4 5	3 4 10 6	4343 1221	3 5 8 13	6 8 35 14	12
19	2 4 5 3	3 1 1 1	4331 1222	4 10 12 7	7 3 2 3	6
20	1 1 4 4	6 1 2 4	2422 1242	2 2 10 9	14 2 4 10	7
21	3 3 5 3	8 10 7 4	3313 2423	7 7 13 6	24 34 19 10	15
22	10 9 7 9	9 9 4 4	2331 2323	39 29 19 29	27 27 8 8	23
23	4 7 2 9	9 9 4 6	2531 4414	8 18 5 28	33 30 8 16	18
24	4 6 6 8	7 8 9 5	2143 2543	10 14 14 22	18 22 32 13	18
25	3 4 5 1	5 6 8 9	1323 3135	7 10 11 3	11 15 26 27	14
26	7 5 5 7	10 13 12 9	5322 2463	18 11 11 20	39 68 59 30	32
27	7 6 8 11	11 11 9 4	3133 3533	20 15 24 41	43 45 28 8	28
28	1 1 5 5	3 3 0 0	3332 1122	2 3 13 11	6 6 1 1	5 18.5

FEB. 1962		3 Ks	gs	as	As	
1	2 2 2 1	2 0 2 3	3333 1122	5 5 4 2	5 1 4 6	4
2	6 3 3 0	2 2 3 6	0221 2220	15 7 6 1	4 4 7 15	7
3	3 4 3 1	1 4 4 2	2312 2133	7 9 7 3	3 8 10 5	7
4	5 6 4 13	16 12 13 14	1024 5537	13 15 10 61	104 56 69 83	51
5	9 13 1 2	6 6 7 5	1324 3242	32 62 3 4	14 15 18 11	20
6	4 5 3 5	3 3 5 10	3222 1013	10 11 7 11	6 6 12 40	13
7	9 9 9 9	10 9 7 2	1101 1431	32 32 29 32	34 32 19 5	27
8	1 0 2 4	3 3 1 4	3031 0133	3 0 4 8	6 6 3 9	5
9	5 2 1 3	4 2 2 4	1332 6124	12 4 2 7	10 5 4 9	7
10	4 1 1 1	1 0 1 1	4323 3023	8 3 3 2	2 0 3 3	3
11	4 4 1 9	7 4 11 13	4530 1254	9 9 2 29	17 10 50 61	23
12	13 8 9 5	5 7 9 9	4201 1122	61 22 29 13	13 18 31 32	27
13	6 8 6 8	5 6 6 8	1103 1221	16 26 15 25	13 16 16 26	19
14	8 6 4 5	6 8 10 11	3143 2234	24 16 10 12	15 22 36 43	22
15	6 8 6 6	4 13 12 5	0222 1321	15 22 14 16	9 64 54 13	26
16	8 11 9 17	13 14 13 13	3342 3716	25 46 32 121	69 82 65 62	63
17	9 7 10 8	3 5 5 3	2432 2120	29 18 34 21	6 12 12 6	17
18	2 4 4 6	4 3 9 5	4510 3101	4 9 8 15	9 6 29 13	12
19	1 5 4 3	3 2 0 2	3332 0312	2 11 9 7	6 5 1 4	6
20	1 0 5 3	5 1 2 4	2171 3323	2 1 13 7	13 3 4 9	7
21	3 1 5 4	8 8 8 3	1213 3321	6 3 13 10	24 26 22 7	14
22	11 8 8 9	8 9 3 4	2122 2214	43 23 25 32	21 29 6 9	24
23	5 7 3 8	9 8 4 5	2313 1332	11 20 7 25	32 22 10 12	17
24	5 5 4 7	6 7 8 5	1343 0523	12 13 8 20	15 18 21 12	15
25	3 5 4 2	4 4 6 7	1232 3324	6 11 9 4	10 10 16 20	11
26	6 4 5 9	12 13 12 8	5345 5321	15 9 11 28	52 69 54 23	33
27	8 9 10 11	10 9 7 2	1112 1132	26 32 37 41	37 32 20 4	29
28	2 1 5 4	3 2 0 0	3313 0110	5 2 13 9	6 5 1 0	5 18.3

JUNE 1962		3 Kn					σn		an					An						
1		8	8	10	9	7	4	6	6	3441	1224	21	24	35	27	17	9	14	16	20
2		5	5	3	5	4	3	5	6	2212	5324	11	13	7	11	8	7	13	14	11
3		2	1	3	4	5	7	5	7	2244	3233	5	3	6	8	12	17	13	19	10
4		10	7	8	8	9	7	9	11	3233	3233	37	17	22	24	27	20	30	41	27
5		5	6	8	7	4	6	9	10	2232	3252	13	16	23	19	10	16	29	38	21
6		9	8	10	7	5	5	7	8	4344	3353	32	22	34	19	12	12	18	21	21
7		6	8	13	8	9	6	6	3	1333	3441	15	22	67	26	27	15	14	6	24
8		2	4	5	3	4	4	4	4	3323	4221	4	9	12	7	8	8	8	8	8
9		8	11	11	12	9	8	10	12	3232	4343	24	46	43	53	33	24	36	51	39
10		11	9	9	11	9	6	6	6	6442	4121	43	30	33	42	29	15	14	14	28
11		5	8	7	6	6	5	4	7	2431	1223	11	21	20	14	15	12	8	18	15
12		7	4	8	7	9	7	6	4	2243	3443	20	9	21	19	27	20	15	10	18
13		5	4	8	6	2	4	5	3	3224	3222	12	10	26	14	4	9	12	7	12
14		4	8	6	5	6	4	8	8	2223	1222	8	25	16	13	15	10	22	25	17
15		8	9	8	6	6	8	9	5	3534	4432	26	32	21	16	23	22	28	11	22
16		9	4	4	5	5	4	5	4	3324	4322	31	9	8	12	12	9	11	6	13
17		4	1	1	3	2	4	4	2	2245	4223	6	2	2	6	5	8	9	5	6
18		6	4	3	2	1	2	2	2	3454	3323	15	9	6	5	3	5	4	4	6
19		2	4	4	4	7	5	4	5	3353	4432	5	10	10	9	18	12	10	11	11
20		5	4	6	5	4	4	4	4	2242	2222	12	8	15	12	8	9	9	9	10
21		5	4	3	8	9	10	11	7	2254	7634	11	9	7	25	30	40	44	18	23
22		9	10	8	6	5	5	8	6	3244	4331	28	37	24	16	12	11	21	15	21
23		8	8	11	10	7	10	11	8	3544	2242	21	25	43	39	18	37	42	22	31
24		6	5	6	6	5	6	8	6	3221	2321	14	12	14	14	11	14	21	14	14
25		6	7	8	5	5	4	5	5	1332	3433	15	20	26	12	13	9	13	11	15
26		4	3	7	5	5	8	8	9	2133	3344	8	7	18	12	12	24	22	30	17
27		8	10	10	9	11	8	11	9	2432	2224	23	34	37	32	44	23	41	33	33
28		8	8	9	11	9	7	9	11	3323	3323	24	26	33	46	33	20	27	48	32
29		9	10	9	8	10	8	8	7	4322	2232	33	35	27	25	35	21	21	19	27
30		7	11	10	9	7	11	7	7	2331	2432	19	41	38	28	18	42	17	17	28 19.2

JUNE 1962		3 Ks					Gs		as					As						
1		9	7	8	8	5	3	5	5	5445	1511	31	19	24	26	12	7	13	13	18
2		4	4	2	3	1	2	5	5	4314	3234	8	9	5	6	3	4	12	13	8
3		1	2	1	2	2	7	3	8	2231	3113	2	4	3	5	4	17	6	21	8
4		12	7	7	8	8	6	8	11	5464	4223	59	18	18	21	24	15	25	44	28
5		5	6	8	5	3	5	10	12	1541	4214	13	15	21	12	6	11	37	59	22
6		9	7	8	8	8	4	5	6	3545	8433	28	17	21	26	24	8	12	14	19
7		5	8	10	6	5	3	5	2	3122	1243	12	23	37	14	13	7	11	4	15
8		0	2	3	1	2	0	0	1	1242	2111	1	4	6	2	4	1	1	2	3
9		7	10	8	9	7	5	9	13	4314	1224	18	38	26	32	16	11	31	61	29
10		13	11	10	11	8	3	3	2	4342	3011	67	45	39	42	21	6	6	5	29
11		1	6	6	4	5	2	3	4	3553	1313	3	16	16	10	12	5	6	10	10
12		6	4	7	5	6	4	3	2	5563	2112	15	8	18	12	14	8	6	4	11
13		2	4	5	4	0	1	1	1	3413	0211	5	8	13	9	0	2	2	2	5
14		1	8	6	4	2	2	5	6	3264	3340	3	22	15	8	5	5	12	15	11
15		9	10	5	5	7	4	8	3	6412	1242	27	35	13	11	17	10	23	6	18
16		10	2	2	3	1	2	1	1	4321	2123	35	5	4	6	3	5	3	3	8
17		1	0	2	0	1	1	1	0	2120	2321	2	1	4	0	2	3	2	1	2
18		5	2	0	0	0	0	0	0	1110	0001	13	5	1	0	0	0	0	1	3
19		3	4	3	3	4	3	1	1	2451	2122	6	9	7	6	10	6	3	2	6
20		3	3	5	2	1	3	3	0	1143	3121	6	6	11	5	2	6	7	1	6
21		3	3	0	5	6	8	8	7	1514	5224	6	7	1	13	16	21	21	18	13
22		8	10	9	3	0	2	3	7	3452	1224	21	35	31	7	1	4	7	18	18
23		7	9	9	8	6	7	11	8	4442	4314	18	32	30	21	15	20	49	23	46
24		7	5	5	6	3	3	5	7	4315	1235	18	12	12	14	6	7	13	19	13
25		7	8	9	6	4	2	5	1	4754	2242	17	22	31	15	10	4	11	3	14
26		1	3	5	3	3	6	5	6	3510	1222	2	7	13	6	6	15	12	16	10
27		7	10	11	10	9	5	10	7	4425	2164	20	35	42	38	31	12	35	20	29
28		5	8	9	11	7	5	8	11	1313	1222	12	21	34	46	17	11	21	47	26
29		10	10	8	8	9	5	7	8	4412	1145	38	38	23	22	32	12	17	22	26
30		7	10	9	9	6	8	4	5	4413	2342	18	39	32	27	14	26	9	11	22 15.0

JULY 1962		3 Kn				gn		an				As
1	6 7 7 9	8 7 5 6	3431 2321	15 19 20 31	24 19 13 14	19						
2	7 5 7 6	4 7 9 8	2221 3223	18 12 19 16	9 19 27 26	18						
3	7 4 7 6	8 9 7 5	4234 3352	19 9 19 16	21 27 18 13	18						
4	7 11 9 8	10 7 11 13	3413 2254	17 41 28 24	35 17 49 66	35						
5	8 13 11 9	6 7 9 9	3421 2532	21 61 46 30	25 18 28 26	32						
6	10 10 7 10	7 5 7 6	4432 1331	35 34 20 34	18 11 19 15	25						
7	3 3 3 8	5 7 8 9	2123 3231	7 7 7 21	12 18 25 31	16						
8	7 9 9 7	7 7 8 8	3325 1233	20 32 28 17	18 17 23 25	23						
9	7 8 8 5	4 4 4 5	2342 3232	19 22 22 11	9 8 9 11	14						
10	6 4 5 4	8 9 7 5	1234 3423	16 9 12 8	21 33 17 12	16						
11	6 5 7 7	8 7 8 8	1333 3223	15 13 20 20	24 19 23 22	20						
12	4 9 8 8	6 8 5 5	2334 3322	8 32 22 22	14 21 11 13	18						
13	8 5 6 4	7 8 8 9	5322 3323	21 11 15 8	20 25 22 26	19						
14	8 8 9 5	5 8 5 7	2232 3324	25 21 27 11	11 21 13 16	18						
15	6 3 3 4	3 5 6 6	5426 4333	21 7 7 8	7 13 15 14	12						
16	5 5 3 2	4 3 1 0	6223 2322	13 12 7 5	8 6 2 1	7						
17	1 2 2 3	2 2 2 3	3245 5441	3 4 5 6	5 5 4 7	5						
18	4 3 3 4	6 3 5 5	3423 3733	9 7 7 8	16 7 12 11	10						
19	5 7 7 9	6 5 9 8	2222 2242	12 17 18 33	22 12 30 21	21						
20	9 10 12 10	8 8 9 7	3534 2233	29 35 55 34	23 23 22 20	31						
21	8 8 5 8	6 9 9 8	3243 1442	24 25 13 22	16 28 33 25	23						
22	9 6 8 6	3 5 4 7	3423 3324	27 16 22 14	6 11 10 18	16						
23	4 7 9 8	6 6 9 5	2443 2357	9 19 30 24	14 15 29 13	19						
24	7 5 4 4	7 11 12 11	4344 3524	20 11 9 10	18 45 54 43	26						
25	11 10 9 8	6 2 5 8	3433 2532	50 37 29 25	16 5 11 23	25						
26	11 17 15 15	13 9 11 10	5124 2253	47 136 88 103	62 33 48 38	69						
27	13 11 10 8	11 13 8 10	3233 4523	70 46 39 23	44 63 22 40	45						
28	10 11 11 8	9 10 7 7	4333 2233	37 45 42 22	27 35 20 19	31						
29	11 6 9 6	4 8 5 5	3332 2333	42 15 30 16	8 21 11 12	19						
30	7 8 6 3	2 2 2 4	4346 4422	18 24 15 7	5 4 4 6	11						
31	3 5 6 6	4 7 12 12	1221 5423	7 13 15 15	8 20 31 37	23						

JULY 1962		3 Ks				gs		as				As
1	5 7 8 9	5 8 5 5	1523 2233	13 17 22 27	11 21 12 12	17						
2	7 3 7 5	1 7 8 7	3253 2343	20 6 20 13	3 20 24 20	16						
3	7 4 5 5	6 8 4 3	3421 1310	20 8 11 12	16 21 6 6	13						
4	4 8 8 7	6 5 12 14	3223 2123	9 22 22 18	15 13 57 70	29						
5	7 13 11 7	7 3 9 6	4431 1131	20 61 46 17	18 7 28 16	27						
6	10 9 9 9	4 3 6 5	4662 1212	34 31 26 31	8 7 16 11	21						
7	3 2 2 6	2 6 7 8	2332 1534	6 5 5 14	5 14 20 23	12						
8	5 9 6 4	5 4 3 8	3521 1412	12 33 15 8	12 6 7 25	15						
9	7 7 5 3	1 1 1 2	5432 1323	17 18 12 6	2 3 2 4	8						
10	4 3 3 3	5 5 4 4	1121 2111	9 7 6 6	15 13 8 8	9						
11	4 6 6 5	6 5 5 6	3521 2212	10 16 15 13	15 11 13 16	14						
12	1 8 7 4	4 5 5 3	2464 4111	3 24 19 10	10 13 13 7	12						
13	7 4 3 3	8 9 8 8	4322 4111	16 10 6 6	21 29 26 26	18						
14	8 6 8 5	4 7 3 7	3332 3123	21 25 25 11	9 17 6 19	17						
15	6 2 2 1	2 2 6 5	3313 3222	21 5 5 3	5 4 15 12	9						
16	4 6 2 1	2 1 1 0	3622 3221	9 15 4 2	5 2 2 1	5						
17	0 2 0 0	2 2 1 0	1311 2221	1 5 1 1	4 4 2 1	2						
18	4 2 2 1	4 3 3 2	4322 1123	8 5 4 3	8 6 7 5	6						
19	2 5 6 6	5 3 9 5	3212 3221	5 11 16 16	12 6 29 13	14						
20	9 10 11 9	5 8 7 5	0432 1242	29 37 46 31	12 21 17 11	26						
21	7 9 4 6	3 8 7 9	3712 0418	20 27 8 16	6 23 17 30	18						
22	9 5 7 5	2 4 7 7	5243 2335	30 11 19 13	4 10 10 19	15						
23	3 7 9 8	4 4 4 4	1853 3444	6 17 29 21	10 9 17 9	15						
24	5 4 2 2	5 9 10 8	1511 1524	13 6 5 5	23 31 40 23	19						
25	11 8 7 7	2 1 1 5	7346 3234	47 21 18 19	5 2 3 11	16						
26	9 16 17 17	10 9 10 12	2382 3455	31 106 133 127	40 32 38 59	71						
27	15 10 8 5	11 12 7 9	6431 1511	97 37 25 13	49 60 17 32	41						
28	10 10 11 6	8 10 8 8	4222 2133	35 37 42 14	21 37 21 24	29						
29	10 8 8 6	3 7 3 5	3311 2103	38 21 26 16	7 18 6 12	13						
30	8 9 5 0	0 0 0 4	2531 1014	22 31 12 1	1 0 1 8	10						
31	2 3 4 3	0 7 11 12	3212 1435	4 7 9 7	1 17 44 52	18						

AUG. 1962		3 Kn				gn		an				An
1	14 14 13 17	11 9 8 10	2544 3355	76 77 65 135	43 27 26 36	61						
2	9 9 4 7	8 8 7 6	3432 3352	28 32 10 19	21 21 19 14	21						
3	6 8 8 7	9 8 7 9	1322 3331	16 24 25 17	28 21 19 31	23						
4	4 6 7 7	5 6 6 4	3434 4442	9 16 20 18	12 15 14 8	14						
5	7 6 9 9	6 6 4 3	4151 1344	17 14 27 30	16 14 10 6	17						
6	8 10 11 9	9 9 8 9	2352 2431	23 38 48 27	33 30 22 30	31						
7	10 8 7 8	9 10 12 12	5333 2234	35 24 18 26	28 35 51 51	34						
8	13 12 14 12	11 11 8 11	4531 2433	61 54 83 57	46 42 25 49	52						
9	13 11 12 11	10 8 7 9	5352 3333	66 44 95 43	34 22 20 27	35						
10	8 8 10 9	8 8 5 3	2344 3431	25 23 36 30	24 22 11 7	22						
11	4 3 2 2	4 2 4 2	3335 3544	10 6 5 4	9 5 10 4	7						
12	2 5 4 4	5 3 2 3	3215 4133	4 11 8 10	12 7 5 6	8						
13	3 4 4 5	3 3 6 9	5234 1343	7 9 10 11	7 6 16 27	12						
14	9 8 5 6	7 5 8 9	1343 3343	28 22 13 15	19 13 25 33	21						
15	6 13 14 10	7 9 8 11	3332 2233	25 64 73 35	17 32 22 41	39						
16	11 9 14 5	6 6 9 11	6143 1142	50 28 72 12	15 15 32 48	34						
17	10 9 9 9	10 10 10 13	4312 4245	40 33 30 27	34 39 38 61	38						
18	8 13 12 9	9 11 7 9	2523 4321	26 63 60 27	33 49 17 28	38						
19	11 11 10 9	8 8 7 7	6632 4353	46 43 36 33	26 25 20 20	31						
20	5 4 5 5	6 4 4 6	4563 4264	13 8 11 11	16 10 8 14	11						
21	5 4 4 5	5 5 6 10	5534 2333	12 9 9 11	11 13 16 40	15						
22	12 12 14 6	9 8 11 12	5531 1245	59 34 86 16	30 22 50 58	47						
23	10 10 8 9	10 10 10 8	3323 2122	34 37 23 27	35 35 35 25	31						
24	10 9 13 10	14 9 7 11	4332 4222	34 30 60 38	71 33 18 44	42						
25	12 8 9 7	7 10 7 9	4322 3524	53 23 27 18	20 35 18 33	28						
26	7 8 8 8	7 4 4 5	1332 2323	18 24 25 24	18 9 9 11	17						
27	7 7 6 2	2 3 4 3	2344 4223	19 20 16 5	4 7 8 6	11						
28	5 6 3 5	6 5 3 2	3444 4412	11 15 6 12	16 13 6 4	10						
29	4 8 11 11	8 8 10 10	3332 3254	8 24 41 50	25 24 36 34	30						
30	7 8 7 6	12 9 9 7	5333 5344	16 23 20 15	51 27 32 18	26						
31	11 13 14 10	11 4 7 6	3433 5254	50 61 73 39	44 9 19 16	39						
											27.3	

AUG. 1962		3 Ks				gs		as				As
1	12 12 11 15	11 10 11 14	5515 3379	56 59 49 88	44 36 44 71	56						
2	10 9 4 8	7 6 7 4	3032 1144	36 29 9 21	17 16 17 10	19						
3	6 7 7 5	8 5 7 7	5441 5144	16 19 19 12	23 13 17 18	17						
4	4 6 5 5	4 3 2	1523 2113	8 15 11 12	7 9 7 4	9						
5	6 5 5 9	6 4 4 3	6215 4411	14 11 13 28	15 9 8 6	13						
6	6 10 9 6	9 6 6 7	5561 2124	16 34 29 16	31 16 16 17	22						
7	10 8 8 8	8 9 8 11	4233 2112	35 22 21 25	21 29 26 43	28						
8	13 9 11 9	8 9 6 9	3551 1122	66 31 47 32	26 32 15 32	35						
9	13 9 10 10	8 6 7 8	4221 2243	63 29 37 34	21 16 17 24	30						
10	10 8 9 8	6 7 3 3	5364 2124	37 24 32 24	15 17 7 7	20						
11	5 4 1 0	1 1 1 0	4341 3420	11 10 3 1	2 3 3 0	4						
12	0 3 3 1	3 1 2 1	1552 2232	1 7 6 3	6 2 4 3	4						
13	2 3 2 3	1 1 3 8	3232 3213	5 6 5 6	3 2 6 21	7						
14	5 8 3 3	3 3 5 9	3822 1124	12 26 6 7	6 6 12 27	13						
15	9 13 14 5	4 7 6 10	5493 4123	30 67 86 13	8 17 15 38	34						
16	12 8 12 3	2 6 9 12	6154 2223	51 26 59 7	5 15 29 51	30						
17	13 11 10 8	9 9 9 14	4744 4113	61 50 33 26	29 32 32 78	43						
18	10 11 12 9	8 8 8 8	4324 1123	35 46 54 30	26 26 25 21	33						
19	12 10 8 10	9 6 6 8	5433 1223	59 37 23 34	32 14 16 22	30						
20	4 3 2 3	5 3 1 5	3122 3024	10 6 4 6	11 6 3 13	7						
21	7 0 1 3	0 2 2 9	4135 1140	16 1 3 7	1 5 5 29	9						
22	15 12 12 5	8 7 12 11	8612 5122	92 51 53 11	26 17 57 47	44						
23	11 10 8 8	9 8 8 5	2431 1431	43 38 21 26	29 26 21 13	27						
24	8 8 12 10	12 10 7 9	1213 1130	23 25 57 34	57 34 20 29	35						
25	11 8 8 5	5 8 7 10	3221 2444	45 22 22 13	11 23 20 34	24						
26	8 7 5 7	5 4 2 2	3423 3311	21 18 11 20	12 9 5 5	13						
27	5 5 4 1	0 1 2 1	1243 0223	12 11 8 3	0 2 4 3	5						
28	4 6 2 2	4 3 1 0	4523 3420	9 16 4 4	9 6 2 0	6						
29	4 9 11 10	6 7 9 9	3211 2222	10 29 49 37	15 19 31 29	27						
30	7 6 7 5	11 7 8 7	5151 3143	19 16 20 13	45 18 23 20	22						
31	13 12 12 8	9 4 7 4	5553 3443	63 59 59 24	27 9 17 10	34						
											22.6	

SEP. 1962		3 Kn				σn		an				An
1	8 8 12 10	11 13 12 10	3232 3536	24 24 56 40	45 68 51 39	43						
2	9 12 12 11	14 11 12 9	3452 2232	32 58 60 42	76 46 60 33	51						
3	12 14 9 15	11 11 14 14	4543 3343	56 81 33 99	44 43 84 86	66						
4	12 14 11 12	11 12 9 8	1542 3452	51 83 47 53	41 54 29 23	48						
5	4 8 10 11	10 10 8 10	2233 4354	8 25 37 41	40 39 25 35	31						
6	9 10 12 11	9 7 9 9	4532 2465	33 35 51 49	26 18 32 27	34						
7	10 10 11 9	8 5 7 4	5221 2232	35 40 47 28	25 13 18 10	27						
8	10 10 11 8	6 6 5 6	2234 1421	36 40 45 26	14 15 12 14	25						
9	6 8 3 7	9 6 9 9	4533 4445	16 21 7 20	32 16 32 32	22						
10	8 11 8 8	5 4 3 4	2341 2413	25 42 25 26	13 8 6 10	19						
11	5 4 8 11	4 2 5 8	3232 1333	13 8 24 49	8 4 13 21	16						
12	6 8 18 12	9 12 14 14	2241 1254	15 22 166 55	32 57 83 73	63						
13	10 8 10 8	9 11 12 6	4332 1441	35 24 37 21	28 42 60 14	33						
14	8 9 12 5	4 6 7 6	2523 2334	23 31 51 13	9 16 17 16	22						
15	8 11 12 8	3 6 9 6	3233 1442	22 41 51 23	7 16 26 22	26						
16	6 5 3 6	6 7 9 11	4333 3356	14 13 7 14	14 20 29 42	19						
17	5 7 7 5	6 5 5 6	3326 3232	13 18 19 12	15 11 12 15	15						
18	4 4 3 4	3 3 5 8	3542 1323	9 9 7 8	7 6 11 23	10						
19	9 12 13 10	10 12 15 13	2452 3153	27 51 70 35	36 56 91 68	54						
20	12 8 7 9	6 3 4 3	4321 1232	56 23 18 31	16 7 10 7	21						
21	5 7 7 4	8 11 8 7	2323 2333	12 20 20 9	24 43 21 20	21						
22	9 8 8 11	11 9 9 6	4223 3451	30 23 25 50	45 32 29 15	31						
23	8 12 9 9	5 4 5 7	2613 2222	26 58 28 29	12 8 11 17	24						
24	6 7 3 2	2 3 6 5	3445 2343	14 19 7 4	5 6 15 13	10						
25	2 3 4 5	7 8 7 9	4143 4332	5 7 9 13	19 23 20 27	15						
26	14 14 9 8	9 14 10 8	2533 3453	76 76 29 22	29 83 40 21	47						
27	8 6 6 8	8 6 3 5	6313 3423	24 14 15 22	24 16 7 13	17						
28	7 4 2 4	7 10 5 9	4232 2533	19 8 5 8	18 35 13 27	17						
29	4 8 9 12	9 9 9 12	3536 4446	10 22 27 55	32 30 36 56	33						
30	10 8 8 8	9 7 5 5	5644 2243	38 25 25 26	29 18 12 11	23 29.5						

SEP. 1962		3 Ks				Gs		as				As
1	7 7 10 11	9 12 11 8	4432 2422	20 19 40 42	31 53 47 25	35						
2	9 11 11 11	13 10 11 8	5133 1111	31 45 46 41	62 37 49 26	42						
3	10 12 8 14	11 9 14 15	3135 2163	40 53 25 75	47 32 79 89	55						
4	13 12 11 12	10 11 10 10	1425 3143	62 59 42 54	40 49 38 38	48						
5	3 8 10 9	10 10 8 8	2232 1133	6 25 34 31	34 37 24 21	27						
6	10 9 12 10	7 6 8 9	3442 1221	38 32 59 40	18 16 25 32	33						
7	10 8 10 8	8 6 4 3	4111 3610	34 23 37 26	21 14 8 6	21						
8	10 10 11 10	4 4 4 5	3334 3331	37 40 46 35	16 9 10 13	25						
9	5 7 1 9	9 6 7 7	2325 0544	11 20 3 28	29 16 18 20	18						
10	8 9 10 9	6 2 2 2	2254 3321	22 29 37 32	14 4 4 5	18						
11	7 3 7 10	2 1 3 5	4016 1321	18 6 17 37	5 3 7 13	13						
12	7 10 17 14	10 13 15 13	1121 6455	17 37 139 86	37 61 91 63	66						
13	11 8 11 9	9 13 13 5	2146 4441	43 26 41 33	27 61 61 13	38						
14	9 8 10 3	2 4 4 7	6320 2314	28 21 40 6	4 9 8 18	17						
15	7 10 11 8	4 4 7 7	4342 4311	20 38 49 21	8 10 18 18	23						
16	7 6 0 5	7 5 8 11	4014 1123	18 15 1 13	16 12 25 41	18						
17	6 6 5 3	4 3 4 8	2234 3113	11 14 12 7	9 6 9 21	11						
18	5 1 2 1	1 0 3 6	2112 1112	11 2 5 3	2 1 7 16	6						
19	10 13 14 10	8 11 17 14	3451 1453	40 67 73 34	26 49 121 78	61						
20	13 8 6 9	5 3 3 1	5204 2113	65 22 15 29	11 6 6 2	20						
21	4 7 6 3	7 10 5 6	1402 5545	8 19 15 7	19 35 13 16	17						
22	10 10 8 11	10 10 10 7	3514 1351	40 34 23 45	34 39 37 17	34						
23	8 9 8 9	5 3 4 6	3242 2212	21 29 24 29	11 7 8 15	18						
24	5 7 2 0	0 0 5 7	1420 1124	13 17 4 0	1 1 12 18	8						
25	2 3 3 5	4 5 6 8	2123 2322	4 6 7 12	10 12 16 22	11						
26	13 11 8 8	7 11 9 7	4222 1224	67 43 22 21	18 47 29 18	33						
27	8 5 7 7	6 5 3 7	3453 2314	24 11 17 18	15 12 6 18	15						
28	6 6 2 4	6 8 5 8	5634 0221	16 15 5 8	15 21 11 26	15						
29	5 7 8 9	7 8 8 12	2545 3233	11 17 21 28	18 21 26 51	24						
30	8 8 5 7	7 5 4 4	1323 1333	26 21 12 20	18 13 10 10	16 26.1						

NOV. 1962		3 Kn	σn	an	An	
1	4 4 4 8	5 5 8 8	5453 4345	9 8 8 25	13 11 24 26	16
2	6 6 2 6	10 8 9 10	4431 3476	15 14 5 14	36 24 31 37	22
3	8 5 6 10	8 9 9 10	4214 3546	22 11 14 36	26 31 32 36	26
4	7 7 7 10	9 11 9 12	5345 2436	18 20 17 34	27 46 33 58	32
5	4 4 9 5	4 3 3 4	2242 1112	9 9 32 13	8 6 7 9	12
6	8 10 7 6	7 11 13 13	3231 2465	22 40 19 15	20 42 63 63	36
7	11 9 4 10	10 3 5 7	5523 4323	50 29 8 38	38 7 12 20	25
8	5 4 4 6	8 8 5 5	3232 3555	12 10 10 16	22 21 12 12	14
9	5 3 1 0	3 3 3 8	2322 1114	11 7 3 1	6 6 7 25	8
10	5 4 2 1	3 2 4 5	3332 1343	13 9 5 2	6 5 8 11	7
11	3 7 8 8	8 9 6 5	3333 2444	6 18 22 22	23 28 14 11	16
12	6 2 2 1	1 2 4 5	5332 2424	14 4 5 2	2 5 9 11	7
13	3 1 1 1	2 4 3 2	4343 2343	7 2 3 3	4 9 7 5	5
14	4 2 1 1	3 6 12 4	4233 3164	8 4 2 3	6 16 54 10	13
15	4 7 9 11	17 9 12 12	1313 3243	8 20 30 46	132 30 51 60	47
16	12 10 10 9	11 11 9 8	6231 3552	56 36 37 33	45 48 31 23	39
17	8 7 4 4	7 7 1 1	2322 5222	23 20 8 9	19 18 3 2	13
18	1 0 0 0	0 1 2 4	2222 1235	2 1 1 1	1 3 5 9	3
19	1 1 0 1	3 3 8 6	3322 2264	2 2 1 3	6 7 25 15	8
20	2 3 6 3	3 4 2 3	1221 0324	5 7 14 6	6 10 4 7	7
21	7 6 12 9	11 12 10 10	2121 5733	19 15 52 28	50 52 37 37	36
22	11 10 12 12	11 12 11 12	2323 2645	44 40 58 60	48 55 44 57	51
23	10 8 9 12	10 9 7 9	5515 3344	37 23 30 56	34 27 20 28	32
24	7 7 10 12	11 7 10 7	4243 4222	18 19 40 54	45 20 35 20	31
25	7 8 10 12	11 9 5 8	4632 3423	20 25 35 58	41 27 12 21	30
26	7 4 3 4	6 5 4 2	4221 1333	18 8 7 8	16 12 10 5	11
27	4 4 7 5	6 10 8 6	2443 5554	10 10 19 11	16 36 25 15	18
28	6 6 7 8	5 7 4 2	4553 3654	16 14 19 24	13 17 8 4	14
29	4 1 6 8	7 6 10 7	4323 2143	9 2 16 21	17 14 36 19	17
30	12 13 12 14	11 8 7 9	2644 3425	59 69 52 81	50 24 19 28	48 21.5

NOV. 1962		3 Ks	σs	as	As	
1	4 2 3 7	4 3 8 8	4255 1124	8 4 7 19	8 7 22 23	12
2	5 3 3 5	8 7 8 10	2111 1455	11 6 6 12	26 18 25 38	18
3	5 3 4 8	5 7 8 10	1034 4125	13 6 10 26	13 17 25 35	18
4	8 7 5 9	7 9 9 10	2512 5523	25 17 13 31	18 31 29 36	25
5	4 5 10 5	3 0 2 5	4212 1032	10 12 34 12	7 0 4 11	11
6	9 12 8 5	7 12 13 12	0131 4132	29 57 22 13	20 53 64 54	39
7	11 8 4 10	8 1 6 8	2342 4253	42 25 9 37	26 2 15 24	23
8	6 4 4 6	7 6 6 5	0212 1233	15 10 8 15	17 16 14 12	13
9	5 2 0 0	2 0 4 8	2110 2144	11 5 1 0	4 1 9 23	7
10	5 3 1 2	3 1 3 3	2122 1312	11 6 3 5	6 2 7 7	6
11	5 6 8 9	8 9 6 5	2030 1421	11 15 21 29	26 29 15 13	20
12	5 3 2 0	0 1 4 4	2221 0313	12 6 4 1	0 3 8 10	6
13	2 1 1 1	3 4 4 4	3223 3133	5 2 2 3	6 9 10 10	6
14	3 1 0 2	3 7 11 7	1212 1345	6 2 1 4	6 20 45 18	13
15	4 8 8 12	16 7 13 13	1131 3143	9 26 26 53	110 18 61 64	46
16	12 10 10 9	10 11 8 10	2130 1224	57 34 38 29	34 43 25 34	37
17	10 6 3 4	5 6 0 1	5211 4013	37 14 7 9	13 15 1 2	12
18	0 0 0 1	0 1 2 5	1103 0314	1 1 0 2	0 3 5 11	3
19	2 0 0 3	2 3 5 4	2101 2043	4 1 0 6	4 6 13 10	6
20	4 5 7 3	3 4 3 4	4411 0354	8 11 18 6	6 9 7 9	9
21	8 8 11 11	11 9 8 9	2132 3224	22 26 46 43	42 31 22 32	33
22	11 11 13 14	11 10 9 12	1233 1326	49 42 66 71	49 39 29 56	50
23	8 8 8 11	9 9 7 8	2133 2443	25 23 21 45	29 27 20 24	27
24	7 6 9 11	10 10 10 7	5133 3543	17 16 27 50	34 35 35 20	29
25	8 7 9 10	9 8 7 7	2134 2244	22 18 27 39	29 22 18 18	24
26	8 5 4 5	7 3 4 3	3211 5235	21 11 8 13	17 6 10 6	12
27	6 7 5 4	4 8 7 7	1524 3654	16 17 11 9	9 21 19 18	15
28	5 5 5 6	4 4 3 2	1542 4222	13 12 11 14	9 10 6 4	10
29	5 1 7 8	7 7 11 8	4313 1443	11 2 17 25	17 18 43 21	19
30	12 11 11 10	10 6 7 7	1333 1234	57 46 46 40	37 16 20 17	35 19.4

DEC. 1962		3 Kn					Gn					an					An
1	7 5 3 5	4 8 8 1	5544 3342	18 13 6 13	10 22 22 2	13											
2	0 2 3 5	5 4 4 4	2315 6551	1 4 6 13	11 9 8 8	8											
3	2 5 1 1	3 4 8 1	3342 1232	4 11 3 2	7 10 24 3	8											
4	1 10 11 11	12 11 9 7	2353 3342	2 34 48 42	55 49 27 18	34											
5	9 4 4 5	6 5 2 2	4122 3232	28 8 9 12	16 12 5 5	12											
6	4 3 3 3	4 2 4 1	2141 5342	10 7 7 6	8 4 8 3	7											
7	2 3 2 3	3 4 6 5	2231 1353	5 6 4 6	7 10 15 12	8											
8	4 2 7 7	8 5 4 7	2433 5224	8 5 16 20	22 12 9 19	14											
9	6 8 5 5	1 2 3 5	3332 2243	15 25 11 12	3 5 6 12	11											
10	4 5 6 2	1 6 6 9	2222 2654	9 12 14 4	3 14 14 28	12											
11	7 9 7 8	12 9 14 12	4733 4362	18 32 20 25	58 32 86 52	40											
12	8 7 3 4	2 8 11 10	2232 2232	25 20 6 9	4 22 41 39	21											
13	11 8 7 8	11 6 9 10	3223 4113	44 22 18 22	47 16 30 39	30											
14	7 9 5 8	10 8 9 7	4432 4464	19 28 12 25	38 25 28 18	24											
15	8 10 10 5	3 3 5 6	2453 1335	25 36 37 12	7 7 11 16	19											
16	2 3 3 3	7 5 5 4	3111 5244	5 7 7 7	9 2 2 8	6											
17	6 4 7 8	7 18 15 16	4232 2346	4 9 18 21	18 151 103 120	56											
18	16 13 7 9	14 13 14 13	2332 4532	118 61 20 27	82 63 82 68	65											
19	14 12 14 13	12 13 14 11	3625 5344	72 36 71 69	54 68 73 49	64											
20	9 13 11 11	12 13 13 13	5433 5635	32 68 44 41	60 66 69 61	55											
21	10 8 9 9	11 11 12 9	3324 3553	40 24 32 29	45 45 53 28	37											
22	7 5 7 8	7 9 8 7	2323 4434	19 13 17 26	20 27 21 18	20											
23	4 5 2 4	2 2 1 1	4223 2233	10 11 4 9	5 4 2 3	6											
24	1 0 4 4	6 6 4 3	3223 1434	3 1 9 9	16 16 10 7	9											
25	4 2 1 3	3 3 2 4	4233 1234	9 5 3 6	7 7 5 9	6											
26	4 5 7 10	14 11 8 11	2333 3433	9 11 16 39	81 45 25 42	34											
27	4 4 4 3	4 6 5 7	2331 3145	10 9 10 7	10 14 12 20	12											
28	2 1 1 3	7 6 5 5	2234 4154	4 2 2 6	17 15 12 12	9											
29	1 5 4 4	6 7 2 3	3322 1524	3 12 8 8	14 17 4 7	9											
30	2 1 1 3	2 2 4 7	2221 2425	5 2 3 7	4 5 9 20	7											
31	6 3 5 11	11 9 6 4	4132 4312	14 7 11 47	42 30 16 9	22											
						21.9											

DEC. 1962		3 Ks					Gs					as					As
1	7 3 3 4	3 7 8 2	5512 0133	17 7 6 10	6 17 21 5	11											
2	1 3 3 3	2 3 5 4	3411 3323	3 6 6 7	4 7 11 10	7											
3	3 5 3 3	4 3 7 2	0401 3112	6 11 6 6	10 6 18 4	8											
4	0 11 11 10	12 11 11 7	1232 2153	1 42 42 40	57 49 41 20	37											
5	10 4 5 6	7 5 3 5	3311 1252	38 9 12 16	18 11 7 11	15											
6	5 5 3 3	2 1 3 4	4321 3224	11 11 6 6	4 3 7 8	7											
7	3 4 1 4	3 4 6 5	2323 2121	6 9 3 9	7 8 15 13	9											
8	4 3 6 7	4 3 6 7	3223 4265	9 6 14 20	10 6 14 19	12											
9	5 7 4 6	1 2 4 7	1535 1244	13 17 10 16	2 4 8 18	11											
10	7 7 8 4	2 5 7 10	4324 1434	18 20 21 9	5 12 20 34	17											
11	6 8 10 10	10 10 15 11	2244 1361	16 22 35 35	34 39 93 49	40											
12	9 6 5 4	3 8 11 13	1112 1134	32 16 12 10	6 23 44 61	26											
13	11 8 7 5	9 7 10 10	3141 6441	41 26 17 13	32 19 38 34	28											
14	8 7 7 10	9 8 8 6	2145 2122	22 17 18 36	31 23 25 15	23											
15	8 10 8 5	3 4 7 5	1112 1332	23 34 26 11	6 10 20 12	18											
16	3 3 5 2	5 3 4 4	2133 4113	7 7 12 4	13 7 8 10	9											
17	7 6 5 8	6 16 15 17	3232 2315	20 15 13 21	16 110 91 121	51											
18	16 11 8 9	12 12 12 13	5430 4523	112 49 24 29	56 56 57 64	56											
19	13 9 10 10	9 11 12 11	1121 4422	61 32 40 34	29 49 57 43	43											
20	8 9 8 10	10 12 12 12	1232 1533	26 31 26 37	37 60 51 51	40											
21	11 8 9 8	10 10 11 8	5101 1142	41 26 29 23	37 34 42 25	32											
22	5 5 5 7	5 7 6 6	3233 3230	12 11 12 20	12 19 14 15	14											
23	5 3 4 5	3 1 0 4	2112 3305	11 7 9 12	6 2 0 8	7											
24	1 1 4 4	4 3 4 4	3311 3135	3 3 8 9	10 7 9 9	7											
25	4 3 1 3	4 4 4 4	3111 3434	10 7 2 6	10 9 10 9	8											
26	5 6 8 11	14 10 10 8	2222 2131	11 14 21 41	72 34 37 26	32											
27	5 4 5 5	4 5 5 8	3342 3124	13 9 13 11	9 12 11 23	13											
28	2 3 1 3	6 4 4 6	3432 4135	5 6 3 7	14 9 9 15	9											
29	3 5 2 3	6 5 2 3	2411 1111	6 11 5 7	16 13 5 6	9											
30	2 1 2 3	2 1 5 8	3231 3383	4 2 4 7	4 3 12 24	8											
31	5 5 7 11	10 9 6 6	3243 3556	12 12 19 42	40 29 16 15	23											
						20.3											

JAN. 1963		3 Kn	σ_n	an	An	
1	3 5 5 3	4 6 3 3	3321 3454	6 11 12 7	10 16 6 6	9
2	1 0 0 1	2 4 3 2	2212 2243	2 1 0 2	4 10 6 5	4
3	2 3 2 3	3 3 2 1	2122 1412	4 6 5 7	6 7 5 2	5
4	4 3 1 3	9 10 7 3	3233 4421	9 7 3 6	31 37 20 7	15
5	1 3 7 4	5 3 1 3	1152 3425	2 6 17 10	11 6 3 7	8
6	0 1 0 1	1 3 1 1	1222 2122	1 2 1 2	2 6 2 2	2
7	5 6 3 3	4 9 5 1	3513 3532	12 16 7 7	10 33 11 2	12
8	1 1 4 3	1 1 3 4	2232 2254	3 2 9 7	2 2 6 9	5
9	1 1 0 0	2 2 1 1	2222 3323	2 2 1 1	5 5 2 3	3
10	2 3 3 1	4 3 3 1	2123 2132	5 6 6 3	8 6 7 2	5
11	0 1 3 2	8 6 10 5	1212 4342	1 3 6 5	22 14 34 11	12
12	2 4 2 1	1 3 7 9	3232 2132	4 10 5 3	3 7 18 28	10
13	13 13 11 15	10 11 10 10	2455 3445	65 63 42 89	39 48 36 34	52
14	9 9 10 15	11 14 14 10	3235 3562	30 32 37 92	46 78 81 35	54
15	8 13 14 13	9 8 10 7	4475 2362	25 63 81 62	32 24 37 20	43
16	11 6 10 9	11 12 13 11	2234 5422	42 14 37 31	49 52 65 44	42
17	8 9 11 8	8 11 8 8	3333 3333	22 32 45 22	22 48 22 22	29
18	7 6 6 8	7 8 9 12	3112 4544	20 16 14 23	20 25 28 52	25
19	8 7 9 9	12 11 7 9	2412 3433	26 20 28 27	52 47 19 33	32
20	7 4 7 7	7 3 3 3	2322 4443	17 9 20 19	18 6 6 6	13
21	2 3 1 5	3 4 2 2	2122 1533	4 6 3 11	7 8 4 4	6
22	3 3 4 4	3 4 5 4	3232 2222	7 6 10 8	7 8 11 9	8
23	7 5 6 5	6 5 5 7	3252 1325	17 12 16 11	16 11 11 17	14
24	3 4 6 7	4 7 10 11	3352 2553	7 10 16 18	9 20 35 43	20
25	6 6 3 5	5 8 7 3	4412 3341	15 15 7 11	12 21 20 7	14
26	2 1 4 3	1 1 3 1	2221 2242	5 3 8 6	3 2 6 2	4
27	0 2 2 3	2 1 1 1	1321 3221	0 4 4 7	4 2 2 2	3
28	1 3 1 1	1 1 0 1	2133 3213	3 6 3 3	3 5 0 3	3
29	0 1 1 2	4 4 8 9	1223 5255	0 2 3 5	8 9 22 31	10
30	8 9 9 14	12 10 12 13	3415 2242	26 27 30 75	55 39 56 62	46
31	13 12 15 12	15 12 11 5	3523 1243	69 60 88 52	96 60 47 13	61
						18.3

JAN. 1963		3 Ks	σ_s	as	As	
1	3 5 5 5	4 5 3 2	1112 3222	7 13 12 12	9 11 6 4	9
2	1 2 1 2	2 4 4 2	2322 2442	2 4 2 4	5 9 8 4	5
3	3 4 4 5	4 2 4 3	1112 4341	6 8 9 11	8 5 8 6	8
4	5 4 3 5	8 8 7 4	2103 2333	11 8 6 12	21 24 20 10	14
5	2 4 4 4	5 4 1 3	2333 2430	4 9 9 10	11 9 3 6	8
6	3 1 3 3	0 2 2 1	1301 1223	6 2 6 6	1 4 4 3	4
7	5 5 4 6	7 11 4 1	2245 4333	11 11 9 16	17 44 10 2	15
8	2 2 4 3	1 0 4 3	2231 3132	4 4 9 6	3 1 9 7	5
9	1 0 3 1	3 1 2 2	3113 2223	2 1 6 3	7 2 4 5	4
10	4 3 3 3	4 2 2 1	1113 1213	8 7 7 6	8 5 5 2	6
11	2 3 4 4	8 8 10 7	4213 3214	4 6 8 9	24 22 34 19	16
12	3 5 4 3	2 4 7 10	1210 2443	7 11 9 6	5 8 18 37	13
13	12 13 11 13	11 10 9 11	2521 2115	56 64 42 61	41 34 29 41	46
14	8 9 9 12	10 11 10 8	2414 5331	22 30 32 54	36 42 39 26	35
15	8 10 10 10	9 6 8 6	2322 0112	21 40 37 37	29 16 26 15	28
16	11 6 8 9	9 10 10 9	2132 2131	43 16 26 32	31 37 40 29	32
17	6 8 11 7	7 9 8 6	0331 1531	15 25 42 17	17 28 21 16	23
18	6 7 6 7	7 7 6 11	0105 4304	15 17 15 17	17 20 15 42	20
19	8 5 8 8	10 9 8 8	1353 1412	26 13 23 26	34 29 26 25	25
20	4 4 6 6	4 2 2 4	1320 1211	8 9 14 15	9 4 5 8	9
21	3 4 3 5	3 2 3 4	2122 1314	7 8 7 11	6 5 6 10	8
22	3 3 5 4	3 3 7 5	1211 0143	7 7 13 8	6 6 17 12	10
23	6 6 6 7	7 4 5 6	2054 3322	15 15 18 20	20 9 11 16	15
24	5 5 4 6	4 6 9 11	3332 3224	11 12 9 16	9 16 31 42	18
25	5 3 4 4	4 4 6 2	1133 1122	13 7 10 9	9 9 16 4	10
26	3 2 3 2	0 1 4 1	1311 1343	6 5 6 5	1 2 8 3	5
27	0 3 3 3	1 1 0 1	1011 3313	1 6 6 6	3 2 1 3	4
28	4 2 1 2	2 0 1 1	1122 3132	8 5 2 4	4 1 2 2	4
29	0 0 0 4	4 4 8 9	0013 4343	0 0 1 9	8 10 23 28	10
30	8 10 9 12	11 10 13 14	1211 6534	26 37 32 53	47 35 64 85	47
31	12 10 14 12	14 13 10 6	2322 1530	54 36 71 56	86 62 36 15	52
						16.3

FEB. 1963		3 Kn				σn		an				An
1	2 2 7 9	12 7 9 11	2435 2155	5 5 20 33	53 18 29 43	26						
2	2 2 1 1	2 1 6 1	3333 3252	5 5 3 3	5 3 15 2	5						
3	3 3 2 3	7 5 3 1	1444 5232	6 7 4 6	17 11 7 2	8						
4	1 1 1 0	3 5 8 4	3232 2243	2 2 2 1	6 12 24 9	7						
5	1 1 3 5	6 4 3 2	3413 3433	3 2 7 12	14 10 6 5	7						
6	3 3 3 3	2 3 2 2	4431 3423	7 7 7 7	5 7 4 4	6						
7	0 1 3 4	2 1 4 5	2322 2253	1 3 7 9	5 2 10 11	6						
8	1 2 1 2	1 0 0 1	3133 3112	3 5 2 4	2 1 0 3	3						
9	1 1 1 2	3 5 8 14	2334 2322	2 2 2 5	7 11 25 86	18						
10	14 13 15 11	14 10 12 13	3463 4475	86 63 89 45	82 38 57 61	65						
11	8 11 10 9	10 11 11 9	3341 4534	22 42 35 28	34 48 42 28	35						
12	11 10 12 8	8 7 9 9	2322 4224	46 39 52 22	21 18 28 31	32						
13	9 11 11 10	11 13 14 10	3543 3354	28 45 45 34	41 65 78 34	46						
14	9 9 13 7	9 9 7 5	3222 5353	30 32 69 18	33 28 19 12	30						
15	5 4 5 8	10 5 6 2	3323 5342	13 9 12 24	37 13 15 5	16						
16	2 2 2 5	5 9 2 2	2333 4422	5 5 5 13	13 28 4 4	10						
17	2 3 3 5	2 4 3 3	2233 3341	5 7 6 13	5 9 6 6	7						
18	2 1 2 3	4 6 3 2	2331 1412	4 2 5 6	8 14 7 5	6						
19	1 1 0 3	3 3 1 4	2424 1422	3 2 1 7	7 6 2 9	5						
20	4 4 8 8	6 5 8 9	3333 1334	9 9 21 22	15 12 22 31	18						
21	5 2 3 5	5 8 5 6	2433 1343	12 4 7 12	13 24 11 14	12						
22	3 6 7 5	3 5 7 6	1431 1236	6 14 20 13	7 11 17 16	13						
23	1 2 6 7	6 9 4 3	2212 1421	2 4 14 17	16 29 9 6	12						
24	3 1 2 3	2 3 2 5	4224 1122	6 3 5 6	5 6 4 12	6						
25	5 4 3 4	4 5 3 3	3112 3221	13 8 7 8	9 11 6 6	9						
26	2 5 7 7	7 5 2 4	2353 2323	4 11 17 17	17 13 5 10	12						
27	3 1 1 1	0 2 3 4	1332 1212	6 2 2 3	0 5 6 8	4						
28	2 5 4 6	9 3 2 7	2333 2323	5 13 10 16	27 6 4 20	13						
						15.5						

FEB. 1963		3 Ks				σs		as				As
1	3 4 5 7	10 7 8 9	1533 3324	6 8 13 20	40 20 22 27	20						
2	3 4 2 2	2 1 4 2	2332 2312	6 9 5 4	5 2 8 4	5						
3	3 3 2 3	4 2 2 2	2131 1413	6 6 5 6	8 5 5 5	6						
4	2 1 0 0	0 5 7 4	3301 1233	5 2 0 1	1 11 19 10	6						
5	0 3 4 5	7 3 2 1	1014 3212	1 6 8 12	18 7 5 3	8						
6	2 3 2 3	3 3 2 3	2211 2032	4 6 5 6	7 6 5 6	6						
7	1 3 3 3	0 1 3 4	3110 1243	3 6 6 6	1 3 7 9	5						
8	1 1 0 2	0 0 0 1	3303 0003	3 2 0 4	0 0 0 3	2						
9	2 1 0 0	2 4 8 16	3201 1114	5 2 0 1	5 8 23 104	19						
10	17 11 12 11	14 9 11 11	2222 1265	123 43 53 41	86 31 48 46	59						
11	8 7 6 8	8 11 9 8	3221 3222	21 19 15 26	24 41 29 22	25						
12	9 9 10 5	7 7 8 8	1011 1311	32 29 34 13	17 20 23 26	24						
13	8 9 9 8	9 11 11 6	2346 1424	22 27 32 21	32 49 41 14	30						
14	7 8 10 6	7 7 8 5	1412 1131	17 21 37 16	17 17 24 13	20						
15	4 4 4 6	8 4 4 1	3121 3333	9 8 10 16	24 10 10 3	11						
16	4 2 3 4	5 6 1 2	4314 1433	10 5 6 8	13 16 3 5	8						
17	2 5 3 4	2 3 2 1	2122 2023	4 13 6 10	4 6 4 3	6						
18	1 1 1 3	3 4 3 0	3221 1100	3 3 2 6	6 8 6 0	4						
19	3 2 1 3	3 1 1 4	4420 0234	6 5 2 6	6 2 3 8	5						
20	4 5 7 8	7 3 5 9	4113 1420	8 13 17 24	17 7 12 29	16						
21	6 3 2 4	3 7 4 5	0431 1512	15 6 5 9	6 18 8 11	10						
22	4 5 5 3	3 3 5 5	4131 1024	9 12 13 7	7 6 11 11	10						
23	0 4 8 6	4 7 4 4	1322 2143	1 9 21 14	10 18 8 9	11						
24	2 2 2 1	2 1 1 4	1223 2333	5 4 4 3	4 2 2 10	4						
25	4 3 3 3	3 3 2 2	1422 0522	9 6 6 7	6 7 4 4	6						
26	3 3 5 5	5 5 1 4	1132 3434	6 7 12 11	13 12 2 8	9						
27	3 0 0 1	0 0 3 2	1103 0051	6 1 0 3	0 0 7 5	3						
28	3 3 4 4	8 2 1 4	2213 1122	6 6 8 9	23 5 3 10	9						
						12.3						

MAR. 1963		3 Km				Σ Km	am				Am	Am2
1	6 9 11 6	6 9 7 7	20.3	15 31 43 14	14 30 18 17	23	18					
2	5 5 5 6	6 4 4 4	13.0	11 13 13 16	15 9 10 8	12	15					
3	2 5 9 6	7 5 5 7	15.3	4 13 31 14	20 12 12 20	16	12					
4	2 3 4 3	3 2 3 1	7.0	5 6 8 6	6 5 6 3	6	8					
5	2 3 3 2	4 1 4 4	7.7	4 6 7 4	9 2 9 9	6	6					
6	3 5 2 1	4 6 6 5	10.7	7 11 5 2	8 14 15 11	9	8					
7	3 5 2 1	0 2 8 13	11.3	6 12 5 2	1 5 21 63	14	23					
8	11 10 12 14	11 12 12 9	30.3	45 37 55 72	45 51 57 30	49	37					
9	8 10 8 8	9 6 6 11	22.0	23 37 24 23	27 16 15 45	26	34					
10	9 10 11 11	12 15 15 12	31.7	27 37 41 49	60 98 87 52	56	43					
11	13 9 6 6	7 9 11 9	23.3	64 33 16 15	18 29 43 32	31	39					
12	8 5 6 8	7 6 6 2	17.0	24 23 15 22	19 15 16 5	17	18					
13	1 3 5 5	10 10 5 4	14.3	3 6 12 13	37 34 13 9	16	12					
14	4 1 1 0	3 1 2 2	4.7	9 2 2 1	6 2 4 5	4	9					
15	3 4 3 1	0 0 1 0	4.0	6 8 7 2	0 1 3 1	4	3					
16	0 0 1 1	0 1 1 1	1.7	1 1 3 2	1 2 2 3	2	2					
17	0 0 0 1	2 6 6 8	7.7	1 1 1 3	5 14 14 21	3	7					
18	2 6 6 5	7 5 3 7	13.7	4 15 16 13	17 13 6 17	13	13					
19	3 7 5 3	4 6 5 8	14.3	12 18 12 6	9 15 12 24	14	12					
20	3 2 3 3	2 1 6 7	9.0	6 5 6 7	4 3 14 17	6	10					
21	5 4 6 1	2 1 1 0	6.7	11 10 14 2	4 3 2 0	6	6					
22	0 0 0 1	2 4 3 1	3.7	1 1 1 3	5 10 6 2	4	8					
23	5 6 7 11	10 7 5 4	18.3	13 14 19 43	37 18 11 10	21	13					
24	3 2 1 4	3 5 4 5	9.7	7 4 3 9	13 11 10 13	9	11					
25	4 2 2 3	3 4 4 1	7.7	8 4 4 6	6 9 9 3	6	6					
26	0 0 0 1	2 2 5 2	4.0	1 1 1 2	5 4 11 5	4	4					
27	1 0 0 1	1 2 2 0	2.3	3 1 1 2	2 4 5 1	2	4					
28	1 2 5 4	4 2 4 5	9.0	2 5 11 9	8 4 10 11	8	7					
29	4 5 4 5	5 2 3 3	10.3	10 13 8 12	13 4 7 6	9	8					
30	2 1 2 3	1 0 2 1	4.0	4 2 5 7	2 1 4 3	4	5					
31	0 2 3 3	2 1 1 8	6.7	1 4 7 7	5 2 3 21	6	12					
15.2												

APR. 1963		3 Km				Σ Km	am				Am	Am2
1	8 11 10 6	4 4 2 1	15.3	25 48 36 16	10 10 5 2	19	13					
2	4 3 1 1	2 5 6 4	8.7	8 6 3 2	4 13 16 8	8	8					
3	7 4 4 3	0 4 2 3	9.0	17 9 10 7	1 8 4 6	8	11					
4	2 5 8 9	10 8 11 11	21.3	5 13 21 32	39 26 50 44	29	27					
5	14 12 9 8	9 10 10 9	27.0	77 60 31 21	29 38 39 32	41	39					
6	8 7 12 11	9 7 7 9	23.3	22 18 58 41	29 20 20 33	30	30					
7	6 6 9 10	8 8 4 8	19.7	15 14 30 36	22 25 8 21	21	20					
8	6 4 3 7	7 5 7 4	14.3	16 9 6 19	18 11 18 9	13	15					
9	2 8 6 4	5 6 4 4	13.0	5 23 14 8	11 15 9 8	12	10					
10	1 0 1 1	2 2 3 1	3.7	2 1 2 2	5 4 7 3	3	6					
11	2 0 2 4	1 0 2 3	4.7	5 1 5 9	2 1 5 7	4	8					
12	8 3 6 8	6 5 6 5	15.7	23 6 16 22	14 11 15 13	15	12					
13	4 4 4 8	9 7 8 9	17.7	10 9 8 25	28 17 22 27	18	17					
14	9 5 4 7	9 10 8 11	21.0	32 13 8 19	32 36 22 46	26	28					
15	11 8 11 9	7 3 4 5	19.3	49 22 45 27	19 7 10 11	24	24					
16	7 6 4 4	3 5 6 5	13.3	18 15 8 9	7 11 16 12	12	12					
17	7 6 3 4	2 5 6 3	12.0	19 14 6 8	5 13 15 6	11	10					
18	2 3 4 5	9 9 10 11	17.7	4 6 8 13	27 28 40 49	22	19					
19	7 8 8 5	5 8 5 4	16.7	20 26 25 12	13 26 13 9	18	22					
20	8 5 8 4	6 7 3 1	14.0	26 13 23 9	15 20 6 3	14	12					
21	1 4 0 4	4 3 4 3	7.7	2 8 1 9	10 7 10 6	7	9					
22	9 2 1 3	4 4 9 9	13.7	27 5 3 7	8 9 32 33	16	15					
23	6 8 9 6	4 2 1 0	12.0	16 22 31 15	8 5 2 0	12	12					
24	0 0 1 1	2 2 2 2	3.3	1 1 2 3	4 4 5 4	3	5					
25	4 5 4 1	2 2 3 5	8.7	10 12 9 3	4 4 7 13	8	7					
26	4 7 3 1	1 2 5 7	16.0	9 19 7 2	2 4 13 18	9	10					
27	4 5 7 7	8 6 9 3	16.3	10 12 19 17	23 15 33 7	17	12					
28	1 0 3 3	3 3 3 3	6.3	2 1 7 6	6 7 7 6	5	10					
29	2 7 3 3	1 2 3 2	7.7	5 17 7 6	3 4 6 5	7	7					
30	2 2 2 5	5 12 16 12	18.7	5 5 5 12	11 55 105 54	32	33					
15.4												

APR. 1963		3 Kn	gn	an	An	
1	8 10 8 6	5 5 3 1	2333 3211	23 40 25 15	12 13 6 2	17
2	3 3 2 1	3 5 7 5	1142 2342	7 6 5 3	7 13 17 11	9
3	7 4 4 4	1 5 3 2	5343 2523	17 10 10 9	2 11 6 5	9
4	2 6 8 9	10 10 12 12	3131 2261	5 14 23 33	40 35 51 56	32
5	14 14 9 8	9 11 11 9	2423 1253	60 71 33 25	31 46 43 30	45
6	8 8 13 11	9 8 8 10	2333 4333	24 21 68 48	29 21 24 34	34
7	7 6 10 10	9 9 4 8	2132 1322	17 16 35 40	28 29 9 23	25
8	7 4 3 7	8 5 7 5	5212 5432	20 9 7 20	21 12 19 12	15
9	3 8 6 4	6 7 5 4	1333 1233	6 23 15 9	15 19 11 9	13
10	1 1 2 2	3 3 5 2	2343 1233	3 2 5 4	7 6 11 5	5
11	2 0 3 5	1 1 3 4	2243 3242	5 1 6 11	3 2 6 8	5
12	7 3 8 8	7 6 7 6	5132 3333	20 7 21 21	19 14 17 14	17
13	5 4 4 9	9 6 8 8	2534 5132	11 9 8 28	33 16 22 25	19
14	9 6 4 7	8 9 8 11	3122 2135	28 14 9 17	26 31 25 41	32
15	12 8 11 8	7 3 5 5	5353 2133	58 21 44 25	19 7 12 11	25
16	7 5 4 4	4 5 7 6	5423 2354	18 12 8 10	8 13 17 14	13
17	7 5 3 4	4 6 6 3	7242 2412	19 12 6 8	8 15 15 7	11
18	2 3 4 6	9 10 11 11	3122 3346	5 6 8 15	30 36 47 47	24
19	7 9 8 8	7 10 6 5	4331 3434	19 31 24 14	18 34 16 11	21
20	9 6 8 5	7 8 4 2	5232 2532	29 14 23 11	18 22 8 4	16
21	1 4 1 5	5 4 4 4	2333 3434	2 9 2 11	13 8 10 9	8
22	9 3 2 3	4 5 10 10	3134 2255	30 6 5 7	10 12 35 37	18
23	5 8 9 5	4 4 2 0	3342 2131	13 25 30 11	9 8 4 1	13
24	0 1 2 2	3 4 4 3	1344 1223	1 2 5 4	7 8 8 6	5
25	5 6 5 2	2 2 3 6	3423 2255	11 15 12 5	4 5 7 14	9
26	4 7 4 1	2 3 6 8	4523 2345	8 19 8 3	5 6 15 23	11
27	4 5 8 7	8 7 9 4	2533 2243	10 11 21 20	25 18 33 10	19
28	1 1 4 4	5 5 4 5	3422 3322	3 2 9 10	11 11 10 11	8
29	3 7 4 4	2 3 4 3	2333 3431	6 20 10 9	5 7 8 7	9
30	3 2 3 6	5 13 16 12	1411 3332	7 5 7 15	12 65 113 51	34 17.0

APR. 1963		3 Ks	Gs	as	As	
1	9 12 11 7	4 3 1 1	6585 1023	27 56 47 18	8 6 3 3	21
2	4 3 1 0	0 5 6 3	3021 0102	9 6 2 1	0 12 15 6	6
3	7 4 4 2	0 2 1 3	4443 1320	18 8 9 5	1 5 2 6	7
4	3 5 7 9	10 7 11 9	1131 1141	6 12 20 32	37 18 49 32	26
5	14 11 9 7	8 9 10 10	2101 1234	75 49 29 17	26 31 36 34	37
6	8 6 11 10	9 7 6 9	3113 0124	21 16 49 34	29 18 16 32	27
7	5 5 8 9	6 8 3 7	1111 1504	13 12 26 32	16 21 6 20	18
8	5 4 2 7	6 5 6 3	2323 5450	12 9 5 18	15 11 16 6	12
9	2 8 5 3	4 5 3 3	3232 1425	5 22 12 7	8 12 7 6	10
10	0 0 0 0	1 1 1 1	0100 3223	0 1 0 0	2 2 3 2	1
11	2 0 2 3	1 0 2 3	3152 2010	5 1 5 6	2 0 5 6	4
12	8 2 5 8	4 4 5 3	2123 1141	25 5 11 24	8 8 13 12	13
13	4 4 4 8	8 7 8 9	3355 3121	9 9 8 23	24 18 22 29	18
14	10 5 3 8	10 10 7 12	5413 2236	37 11 7 22	37 40 20 51	28
15	11 8 11 9	7 3 4 5	5255 3112	41 22 47 28	18 6 9 11	23
16	7 7 4 4	3 4 6 4	4441 1323	18 18 8 8	6 9 15 10	12
17	7 6 3 4	1 5 6 3	4553 2321	18 16 7 9	3 12 15 6	11
18	2 3 3 5	8 8 9 12	2122 4243	4 6 7 11	24 21 32 51	20
19	8 8 8 4	4 7 4 3	6212 1132	21 22 26 10	8 18 10 7	15
20	8 5 8 4	5 7 2 0	2121 4211	22 12 22 8	12 19 5 1	13
21	1 3 0 4	4 3 4 1	2001 1112	2 6 0 8	8 6 9 3	5
22	8 2 0 3	3 3 9 9	2212 0420	25 4 1 7	6 6 29 29	13
23	7 7 9 7	3 1 0 0	4464 2210	18 20 32 18	6 2 1 0	12
24	0 0 0 1	1 0 0 1	1101 1112	1 1 0 2	2 1 1 2	1
25	4 4 3 1	2 1 3 5	3411 4312	9 8 6 2	4 3 7 12	6
26	4 7 3 0	0 1 4 5	3421 0242	9 18 6 1	0 2 10 12	7
27	5 5 7 6	7 5 9 2	2344 3343	11 12 17 15	20 12 33 5	16
28	0 0 3 1	1 2 2 1	1012 1222	1 0 6 3	2 4 4 2	3
29	2 5 2 1	0 0 2 2	3312 0122	5 13 5 2	0 1 4 4	4
30	2 2 1 4	5 11 15 12	2321 3422	4 4 3 9	11 45 98 57	29 13.9

MAY 1963		3 Kn				gn				an				An
1	15 14 13 12	11 12 7 10	1341 3323	99 78 62 54	42 51 19 37	55								
2	10 9 9 12	9 11 8 11	4211 2623	40 27 31 54	33 43 21 46	37								
3	9 7 8 7	8 9 8 10	4242 3233	33 18 26 17	22 33 21 36	26								
4	11 9 11 11	7 8 7 8	2342 2532	42 27 45 50	17 26 20 22	31								
5	8 9 8 8	4 8 6 5	3333 2313	23 30 25 21	10 22 14 11	20								
6	8 11 7 5	5 5 6 6	2322 3242	21 42 17 11	13 12 16 14	18								
7	3 4 5 8	5 5 6 5	2324 2312	7 8 11 26	12 11 15 11	13								
8	7 7 8 8	7 6 7 11	4924 5135	20 17 25 25	20 15 18 41	23								
9	8 11 10 7	6 6 8 9	2232 1353	23 44 39 19	16 14 25 27	26								
10	7 8 9 9	7 5 9 4	5212 2643	20 23 25 28	17 31 28 30	26								
11	12 10 7 10	10 7 8 9	6624 5243	53 34 17 35	39 18 22 27	31								
12	8 6 8 5	7 6 8 6	3133 1434	22 15 21 13	18 24 25 15	19								
13	9 14 9 12	10 7 8 9	4432 4233	32 71 27 51	37 19 22 30	36								
14	9 11 10 8	5 3 5 7	4232 3124	33 44 37 26	11 7 12 18	24								
15	6 8 9 5	4 4 5 6	4443 2233	14 22 26 11	10 9 11 14	15								
16	7 1 1 2	2 1 2 5	4444 4234	20 3 3 4	4 3 5 12	7								
17	2 3 5 6	6 8 9 5	3121 2332	5 6 12 14	24 25 28 11	16								
18	3 3 2 3	5 7 3 1	4341 2233	7 7 4 7	13 17 6 2	8								
19	1 1 4 4	5 5 6 8	4423 3214	2 3 8 8	12 12 15 21	10								
20	11 9 6 3	4 2 2 3	5634 4321	42 29 14 7	8 5 5 7	15								
21	4 3 2 2	4 4 8 4	2433 2243	8 7 5 4	10 10 25 9	10								
22	2 3 4 4	3 3 2 1	3223 4432	4 7 8 9	7 7 5 3	6								
23	1 2 4 5	4 4 4 2	3434 3424	3 5 8 12	10 6 8 5	7								
24	1 3 2 2	4 3 2 1	2445 3334	2 7 5 5	9 7 5 3	5								
25	5 5 6 7	10 6 7 6	3212 3434	12 12 15 17	37 16 19 15	18								
26	8 7 4 4	5 5 6 6	6132 2224	25 17 9 10	11 11 14 16	14								
27	5 5 3 5	6 7 9 9	2323 6321	11 11 7 11	14 19 30 27	16								
28	10 11 11 10	7 8 6 6	2232 1311	35 43 45 40	17 21 15 16	29								
29	13 15 11 6	7 4 8 5	2132 2233	69 90 42 16	20 9 23 11	35								
30	8 11 11 8	4 5 6 3	2333 3334	25 42 48 22	10 11 14 7	22								
31	2 6 5 7	9 7 8 9	4432 2524	5 16 13 18	27 17 25 28	19.5								

MAY 1963		3 Ks				Gs				as				As
1	14 14 10 10	10 10 5 9	1323 1124	86 78 37 34	34 37 11 33	44								
2	11 7 9 11	8 10 6 9	3301 2324	45 20 29 49	21 36 15 29	31								
3	8 6 8 5	6 7 6 10	3442 2133	21 15 24 11	14 18 14 38	19								
4	11 9 13 12	7 8 5 8	2365 1344	47 27 61 51	17 24 11 23	33								
5	8 9 6 6	3 8 3 3	3544 2221	21 29 15 15	6 21 7 6	15								
6	7 11 7 3	4 4 6 5	3350 1122	20 41 19 6	8 8 16 11	16								
7	2 3 4 6	3 2 3 5	2142 1122	4 6 9 15	6 5 7 11	8								
8	7 6 7 6	5 4 5 9	3612 3414	20 15 18 15	12 10 12 32	17								
9	5 8 10 8	7 4 8 8	1134 1323	12 23 40 24	17 9 25 24	22								
10	8 9 8 8	5 8 8 8	2522 1422	25 33 22 22	13 24 25 25	24								
11	10 10 6 9	9 4 7 8	3503 1145	38 34 15 27	32 9 18 25	25								
12	9 4 7 5	6 6 7 6	5352 1435	33 10 19 11	16 14 19 16	17								
13	12 13 10 11	10 5 7 10	6146 5135	51 61 35 48	37 13 19 37	38								
14	8 10 9 10	5 3 3 7	2435 2105	22 35 27 37	11 6 6 17	20								
15	4 4 7 4	3 1 4 4	3453 2333	10 10 20 9	7 3 10 9	10								
16	9 2 0 0	0 0 0 0	6211 0001	28 4 1 1	0 0 0 1	4								
17	3 2 3 6	4 4 5 3	5224 2321	6 4 7 15	10 9 12 6	9								
18	1 2 1 0	3 3 1 0	2221 2220	3 4 2 1	7 7 3 0	3								
19	0 0 2 3	3 3 3 7	1135 1224	1 1 5 7	6 7 7 18	7								
20	9 5 4 1	0 1 0 0	5152 1210	33 13 9 2	1 2 1 0	8								
21	0 0 0 0	1 0 6 2	1100 2121	1 1 0 0	2 1 16 5	3								
22	1 3 0 2	3 2 0 0	3212 4200	2 6 1 4	6 4 0 0	3								
23	0 1 2 2	0 0 1 0	1223 1020	1 2 4 5	1 0 2 0	2								
24	1 1 0 0	1 0 0 0	2300 2100	2 3 0 0	2 1 0 0	1								
25	3 3 3 5	6 4 6 2	2213 1323	6 6 7 12	16 9 16 5	10								
26	8 7 3 3	2 2 4 7	3401 2235	21 17 6 6	4 4 9 19	11								
27	4 4 2 2	1 3 7 7	3511 2113	9 8 5 5	2 7 17 20	9								
28	8 10 10 8	4 3 3 3	1333 3101	23 38 40 24	10 6 6 7	19								
29	12 14 8 5	4 2 4 1	5311 1212	56 71 26 12	8 4 9 2	24								
30	8 9 11 6	3 1 5 1	1052 1322	23 29 41 15	6 3 12 2	16								
31	0 3 4 5	7 5 8 8	0543 4122	0 7 8 13	17 12 25 25	13								

JULY 1963		3 Kn				gn		an				An
1	8 7 5 4	5 1 2 2	3212 4232	23 19 13 8	6 3 5 4	10						
2	1 3 5 5	4 3 2 3	2233 2331	3 7 11 11	8 6 5 6	7						
3	4 1 1 3	3 1 2 3	2223 1231	10 3 3 6	7 3 5 6	5						
4	1 5 6 7	6 8 10 11	2223 3532	3 12 16 19	24 24 39 43	23						
5	10 14 13 8	6 5 9 10	2364 2345	40 75 69 21	16 12 30 38	38						
6	9 14 13 8	7 8 7 5	3332 2242	30 81 68 22	18 22 19 13	34						
7	6 7 7 9	10 10 6 7	4523 5633	16 17 18 30	40 36 16 18	24						
8	8 8 10 7	7 9 6 10	2243 2245	23 25 40 19	20 28 16 40	26						
9	10 11 9 8	8 8 8 7	4432 2333	35 49 30 25	22 22 21 20	28						
10	5 8 9 6	5 7 7 8	2232 4352	13 26 27 16	12 19 18 23	19						
11	6 7 7 4	3 4 5 3	1324 5223	15 20 17 10	7 8 11 6	12						
12	5 6 5 4	2 4 4 4	3232 5332	12 15 12 8	5 9 9 10	10						
13	5 5 5 4	5 4 5 4	3223 3322	13 13 11 9	13 9 12 9	11						
14	5 3 4 4	7 7 2 3	3225 4421	11 7 8 10	19 18 4 7	11						
15	3 4 4 5	4 5 1 6	3234 2222	6 8 9 13	8 12 3 14	9						
16	8 8 6 4	6 7 4 7	2222 3523	25 24 16 9	15 17 10 18	17						
17	10 9 10 13	11 8 5 5	4446 4325	34 27 35 65	46 24 11 12	32						
18	5 6 6 6	7 9 7 9	3213 3135	12 16 16 15	19 30 17 29	19						
19	7 5 5 5	5 4 6 3	5225 2251	20 13 11 12	12 9 15 6	12						
20	4 4 4 5	5 8 9 5	2332 2312	8 10 8 11	12 25 31 12	15						
21	4 7 10 12	14 13 10 5	3231 2343	10 19 35 55	73 68 34 13	36						
22	5 8 9 10	11 9 9 7	3342 3335	11 23 33 36	43 31 27 18	28						
23	7 8 10 8	11 8 9 14	1432 3342	18 24 35 21	46 24 33 73	34						
24	13 13 10 11	11 10 7 9	2432 3432	65 70 37 49	49 34 20 27	44						
25	6 12 11 5	7 7 5 7	2533 2234	14 54 41 12	19 19 12 16	24						
26	7 9 10 9	9 6 8 9	2232 4223	20 28 38 27	29 16 26 28	27						
27	11 12 11 7	9 8 7 8	3233 1432	49 52 47 20	30 23 20 23	33						
28	8 7 7 8	4 4 2 3	5232 6332	23 18 20 22	9 8 5 6	14						
29	2 2 2 3	5 4 6 8	4434 3244	5 5 5 6	11 10 15 23	10						
30	9 11 14 8	13 7 12 9	3233 2261	27 43 78 24	63 19 57 31	43						
31	10 10 9 7	12 8 7 12	3412 3434	37 34 27 18	55 23 20 57	34						
						22.2						

JULY 1963		3 Ks				Gs		as				As
1	7 8 3 1	1 0 0 0	4301 2000	18 21 6 2	2 0 0 0	6						
2	0 2 3 3	0 2 0 0	0212 1101	0 4 6 7	1 5 0 1	3						
3	4 2 0 2	0 0 0 0	4101 0000	9 5 0 5	0 0 0 0	2						
4	0 6 6 6	6 5 11 11	1550 2322	1 15 15 15	16 12 47 47	21						
5	10 11 12 4	3 1 4 9	3464 2233	40 43 53 8	7 2 9 28	24						
6	10 15 13 7	6 6 6 3	5543 2120	37 96 62 18	14 16 15 6	33						
7	9 9 6 9	10 9 2 4	6540 2315	28 29 15 29	37 27 5 10	23						
8	7 7 9 4	5 7 3 10	4533 1114	17 19 27 10	13 18 7 35	18						
9	11 11 8 7	8 6 5 8	7255 2434	50 43 26 18	21 14 12 23	26						
10	4 8 8 5	5 6 3 7	3322 2423	10 21 22 11	6 14 7 20	14						
11	7 5 8 1	1 2 2 3	4332 3221	18 13 21 2	2 4 5 6	9						
12	3 4 2 0	0 2 2 1	1411 0213	7 9 5 1	0 4 5 3	4						
13	6 4 4 2	2 0 2 1	5351 2123	15 9 9 5	4 1 4 2	6						
14	3 2 1 1	2 4 0 0	5233 4300	7 4 3 3	5 9 0 0	4						
15	3 2 1 3	1 2 0 3	1230 3210	6 4 2 6	2 4 1 6	4						
16	7 7 4 2	4 4 3 5	5412 1324	19 18 8 4	8 10 6 11	11						
17	9 9 9 12	9 9 3 5	8565 0424	27 30 32 51	29 32 7 13	28						
18	4 4 5 5	4 8 4 8	3524 2333	9 8 11 11	10 24 10 24	13						
19	6 3 3 4	5 0 4 0	6151 3040	15 6 6 8	11 0 10 0	7						
20	0 2 0 1	1 4 5 3	1202 2311	1 4 0 3	3 10 13 6	5						
21	2 5 9 12	14 11 9 3	2202 2432	4 11 29 53	74 50 28 7	32						
22	2 5 10 7	8 9 6 3	2351 2420	4 12 34 18	21 29 16 6	18						
23	7 8 8 5	6 8 8 13	5431 0446	17 21 25 13	15 23 23 62	25						
24	11 13 10 11	10 7 5 8	1433 1644	49 63 40 46	34 20 12 23	36						
25	5 10 9 5	5 7 3 6	2322 3310	11 40 31 11	11 20 7 15	18						
26	7 7 10 7	7 4 7 6	4353 2332	18 20 34 20	19 9 19 15	19						
27	12 10 8 5	8 5 3 7	4331 2204	59 40 25 12	21 12 6 17	24						
28	9 5 7 6	2 2 0 0	6252 2111	31 11 20 15	4 5 1 1	11						
29	0 0 1 0	1 3 4 6	1131 2132	1 1 3 1	2 6 9 15	5						
30	8 10 14 7	11 6 12 10	3341 3224	21 38 76 17	50 15 57 34	39						
31	11 9 9 7	10 4 5 13	3553 1136	45 30 31 18	34 8 12 70	31						
						16.7						

AUG. 1963		3 Kn				gn		an				An
1	11 11 7 8	9 9 8 8	2432 3434	43 47 18 26	30 30 25 26	31						
2	7 12 12 9	7 7 8 8	3232 2223	20 34 54 27	18 19 26 22	30						
3	8 8 6 4	6 6 7 8	3343 2434	25 23 16 10	16 15 19 22	18						
4	7 5 9 7	10 7 8 9	4322 2442	17 12 32 17	36 18 21 31	23						
5	9 8 7 9	7 5 8 6	3321 2233	32 25 17 28	20 11 24 22	22						
6	7 8 9 8	6 8 6 9	4233 1333	17 26 29 23	16 21 16 28	22						
7	8 9 7 8	8 4 4 6	5442 6231	24 33 19 25	24 8 10 14	20						
8	8 8 7 6	6 4 2 2	3531 3223	21 23 18 19	15 9 4 5	14						
9	7 9 7 7	5 6 8 5	3532 1123	18 29 20 20	16 16 23 13	19						
10	5 5 3 6	10 11 4 2	3321 3633	11 11 7 14	36 45 9 5	17						
11	5 2 4 2	5 5 4 5	3333 4222	11 5 10 5	13 12 10 12	10						
12	3 4 5 5	5 6 6 4	3252 5353	6 9 11 12	11 14 14 9	11						
13	3 2 1 2	4 3 4 4	3435 2344	6 4 2 4	8 6 8 9	6						
14	4 2 3 2	3 4 2 4	4414 4234	10 4 6 5	6 8 5 9	7						
15	2 3 4 4	8 8 8 9	4532 2341	5 7 8 10	24 21 26 31	17						
16	5 5 3 5	5 7 5 6	2454 3333	12 11 6 12	13 19 13 14	13						
17	7 5 5 7	4 5 10 8	2332 2343	18 12 11 17	10 11 40 22	18						
18	6 8 11 11	14 10 8 9	1252 3334	16 26 44 48	79 34 25 28	37						
19	7 7 5 5	7 10 12 15	2243 2343	18 18 12 11	18 40 60 88	33						
20	17 15 15 13	14 11 8 9	4244 3433	121 91 92 64	75 42 25 28	67						
21	12 11 12 13	9 9 8 8	4313 4433	59 41 54 67	33 32 21 25	42						
22	5 6 9 6	7 5 5 9	2212 4423	11 14 30 14	17 13 11 28	17						
23	11 10 12 9	11 6 5 6	7533 5221	41 40 52 29	42 16 11 14	31						
24	10 6 8 8	6 5 7 8	4343 3421	40 14 25 24	15 11 17 14	20						
25	7 7 6 6	5 4 7 8	3411 2233	16 18 15 16	11 10 24 25	17						
26	9 8 8 5	7 6 7 6	6343 2422	31 24 21 13	20 14 17 15	19						
27	5 5 5 6	8 11 12 9	3333 3362	12 13 11 14	25 49 54 33	26						
28	9 8 8 11	11 10 13 10	5222 3553	33 24 25 47	45 36 63 40	39						
29	7 8 8 12	9 7 9 8	3322 3143	20 21 22 52	27 17 31 21	26						
30	6 7 5 6	7 9 8 9	3334 1534	14 18 14 16	17 29 22 32	20						
31	10 8 8 6	9 13 6 11	5321 2633	35 23 21 16	33 66 14 42	31						
						23.3						

AUG. 1963		3 Ks				Gs		as				As
1	13 11 9 6	9 8 8 9	6272 4326	66 42 27 15	29 23 25 31	32						
2	9 11 11 8	5 3 9 9	4232 3135	32 42 45 21	12 7 26 33	28						
3	8 7 7 2	3 4 6 7	3151 2335	21 17 17 5	6 9 14 17	13						
4	7 4 8 8	10 5 8 9	4333 1334	18 10 25 25	34 12 24 27	22						
5	11 8 8 8	6 3 7 6	6311 1252	46 21 23 26	16 7 18 15	22						
6	7 8 8 6	4 6 5 8	3321 3223	20 24 22 16	9 15 11 24	18						
7	7 9 5 6	7 3 1 3	3531 1131	20 29 12 16	17 6 3 6	14						
8	7 8 5 4	5 4 0 0	4833 3100	18 24 12 9	12 8 0 0	10						
9	5 6 7 8	4 3 5 2	1532 3011	12 16 20 22	9 6 13 5	13						
10	2 3 2 4	7 8 4 0	1121 1341	5 6 4 8	18 23 8 1	9						
11	3 2 3 0	1 3 3 3	1310 1112	6 5 6 0	2 6 6 7	5						
12	1 4 3 2	3 3 4 2	3313 1241	3 9 6 4	6 6 10 5	6						
13	3 2 0 0	0 0 3 3	5600 1022	6 5 0 0	1 0 7 7	3						
14	4 1 2 1	0 0 0 0	3313 0000	10 2 5 2	0 0 0 0	2						
15	0 0 0 1	4 3 6 9	1112 2052	1 1 1 3	10 6 16 29	8						
16	6 4 1 1	4 5 4 3	6333 1451	14 9 3 2	8 12 8 6	6						
17	7 4 6 6	3 3 9 6	4362 0122	20 9 14 14	6 6 32 16	15						
18	6 7 9 11	15 6 5 7	6322 2214	14 20 29 43	92 15 13 17	30						
19	6 6 4 1	4 9 13 15	2542 1235	14 16 8 3	8 32 69 87	30						
20	16 13 16 11	13 10 7 9	6344 1112	118 69 106 45	61 34 17 32	60						
21	13 9 11 12	8 7 6 6	4014 4133	61 29 50 58	24 17 14 14	33						
22	4 4 9 4	5 3 3 8	4321 1213	9 9 29 8	13 7 6 24	13						
23	8 10 13 9	10 5 4 3	1340 2330	26 38 62 29	37 12 9 6	27						
24	12 4 8 7	4 4 4 3	6345 3111	51 10 24 20	9 8 8 7	17						
25	4 7 4 4	1 0 5 7	3532 2044	10 17 10 10	3 0 13 17	10						
26	7 9 6 3	5 4 7 5	4321 3213	20 27 15 7	13 10 17 12	15						
27	4 5 3 3	6 9 11 10	3212 2464	9 11 7 7	14 29 45 38	20						
28	9 7 7 12	10 9 12 11	5342 3224	33 20 18 53	34 29 54 42	35						
29	10 7 9 11	8 5 8 5	4443 4321	34 18 30 50	26 12 21 13	26						
30	5 5 5 6	7 7 6 10	1322 3125	13 12 11 14	18 18 16 35	17						
31	10 8 6 6	10 12 3 12	4322 2426	34 25 14 15	40 56 7 56	31						
						19.1						

SEP. 1963		3 Kn				σn		an				An
1	9 8 8 11	10 8 7 5	4332	5323	31 23 24 44	40 21 18 13	27					
2	5 4 2 2	4 6 8 9	2345	2434	12 9 5 4	8 15 25 33	14					
3	9 7 7 7	8 5 6 6	3352	5354	28 20 18 19	23 12 14 15	19					
4	4 5 4 5	4 2 5 7	5433	2234	10 12 10 13	10 4 13 20	12					
5	9 2 4 6	6 7 6 9	6552	1226	26 5 8 15	16 18 14 28	17					
6	8 5 5 6	6 5 5 9	4334	1323	21 11 12 16	15 11 11 27	16					
7	4 4 2 2	3 3 4 8	2434	1123	9 8 11 5	7 7 9 25	10					
8	7 11 10 9	10 6 4 4	3651	2122	17 41 35 33	38 16 9 8	25					
9	8 11 7 10	10 6 5 5	3623	3133	23 49 18 34	36 16 13 12	25					
10	6 5 8 5	6 5 5 9	1333	1124	14 13 22 13	15 16 11 30	17					
11	9 7 6 11	8 10 12 9	4334	3354	28 18 14 42	25 35 56 27	51					
12	11 10 10 8	8 5 5 5	6444	3354	45 34 39 21	23 13 12 11	25					
13	5 4 3 2	4 4 8 12	3634	2332	13 8 6 4	8 9 21 39	16					
14	10 14 17 17	15 16 12 13	5433	3643	35 7 141 132	100 112 60 64	90					
15	10 11 11 11	12 14 12 13	3333	1444	37 41 41 43	59 73 52 68	52					
16	9 12 11 11	12 11 14 12	3533	1431	27 53 41 49	57 46 72 51	50					
17	12 15 15 16	10 10 13 8	3524	3222	51 52 89 120	39 38 68 21	60					
18	8 6 6 9	9 11 6 8	2532	3342	23 15 14 29	29 43 16 26	24					
19	10 10 10 15	11 10 9 5	4334	2553	36 37 37 87	49 39 32 12	41					
20	7 8 6 9	10 8 6 7	4444	3352	18 21 15 33	36 21 16 18	22					
21	7 9 6 7	14 17 16 11	2413	5322	18 28 14 19	76 130 107 49	55					
22	11 21 18 12	10 11 16 24	5111	1352	41 248 159 54	35 43 120 391	136					
23	24 21 11 11	9 9 9 7	6222	1332	411 275 45 45	28 30 27 17	110					
24	2 5 6 5	7 7 11 15	3213	3432	4 12 16 13	17 19 43 90	27					
25	18 16 12 12	11 15 10 7	2424	3732	148 116 56 59	45 91 39 18	72					
26	7 15 10 9	10 11 9 10	3313	3535	20 88 34 27	39 49 27 39	40					
27	10 8 6 8	8 8 15 15	4212	3243	35 25 16 21	25 22 103 92	42					
28	14 14 12 9	14 15 12 12	3424	4553	84 79 53 32	82 89 60 51	66					
29	8 8 9 10	10 8 10 10	6212	3352	26 21 28 37	35 24 36 39	30					
30	10 7 9 8	8 6 4 5	4252	3433	40 17 30 24	23 14 6 13	21 39.6					

SEP. 1963		3 Ks				Gs		as				As
1	11 7 9 11	10 6 5 2	4454	1413	42 18 28 43	34 16 13 4	25					
2	5 3 0 0	0 2 5 8	2110	1263	11 6 1 0	1 5 13 24	8					
3	8 7 6 5	7 5 7 5	2463	3131	22 19 15 13	20 12 20 13	17					
4	4 3 3 3	2 0 4 5	4100	3021	9 6 6 6	5 0 10 13	7					
5	9 2 0 5	5 4 5 9	6213	1547	31 4 1 12	13 8 13 30	14					
6	8 3 5 4	4 3 3 7	5033	3114	22 6 12 10	9 6 6 17	11					
7	2 4 3 0	0 0 1 7	3110	0043	5 8 6 0	0 0 3 20	5					
8	8 11 9 9	10 5 2 2	3364	3221	21 41 29 33	34 11 5 5	22					
9	9 10 7 7	10 4 4 3	6433	1130	28 35 20 20	34 8 10 6	20					
10	5 7 5 6	4 3 3 8	2435	4222	11 18 13 15	10 7 6 25	13					
11	9 7 5 12	7 10 11 9	5414	3626	33 18 13 54	20 35 47 31	31					
12	11 9 9 5	6 4 5 5	7464	5244	50 30 32 11	16 10 11 11	21					
13	4 1 3 0	0 2 6 11	3300	1254	9 2 6 0	1 4 15 42	10					
14	10 12 17 17	16 16 15 14	5134	3665	37 53 121 142	117 115 102 82	96					
15	9 9 10 10	12 14 11 11	0112	1514	29 32 37 40	57 71 49 42	45					
16	8 9 10 13	11 9 12 11	3131	1123	21 32 35 61	49 29 57 42	41					
17	11 9 14 17	10 9 12 8	2232	2123	47 29 80 121	37 32 57 21	53					
18	8 8 7 8	10 10 5 8	2314	3215	25 21 18 24	34 40 13 22	25					
19	10 8 10 13	12 10 8 5	4141	5641	34 26 39 62	51 39 26 13	36					
20	8 5 4 8	9 8 6 5	4234	0224	23 11 10 24	29 21 15 13	18					
21	6 7 4 8	12 18 16 12	2315	2651	15 20 6 23	57 171 116 53	58					
22	13 20 20 12	8 10 19 21	5331	1364	63 220 201 53	26 40 180 283	133					
23	24 22 10 11	9 8 7 5	6511	3332	411 301 34 45	28 23 20 11	109					
24	2 6 6 6	5 8 10 14	3202	3431	4 14 15 15	12 24 36 86	26					
25	17 17 12 14	11 13 10 6	3414	3632	132 143 53 84	45 63 36 16	72					
26	8 14 11 8	9 11 8 10	4212	2334	23 82 49 21	29 44 21 38	38					
27	9 7 6 7	7 6 15 14	4103	3112	32 17 15 20	20 16 91 72	35					
28	15 13 14 10	13 12 13 11	2421	1263	93 63 74 34	62 57 66 45	62					
29	8 8 8 10	8 8 8 9	3111	1242	21 23 26 34	26 21 24 32	26					
30	11 6 8 8	6 3 4 3	3133	2240	41 16 21 22	15 6 9 6	17 36.5					

OCT. 1963		3 Kn	σn	an	An	
1	4 4 4 3	2 3 3 3	2234 3113	8 9 10 6	5 6 7 6	7
2	1 1 3 3	4 4 4 4	4353 4225	3 2 6 6	10 10 9 9	7
3	3 4 6 4	4 3 4 3	4342 3424	6 10 15 8	8 7 10 7	9
4	6 7 6 5	5 4 3 3	7451 3411	15 19 16 13	13 10 7 7	13
5	4 5 5 9	5 5 9 5	3331 3343	9 12 11 25	13 13 27 11	16
6	5 7 1 2	1 5 5 2	2434 2644	11 18 3 4	3 11 13 5	9
7	4 6 5 5	3 9 5 12	3133 1324	10 14 12 13	7 29 12 54	19
8	10 11 8 8	7 10 6 5	5332 2633	37 43 24 25	17 37 14 13	26
9	3 5 5 4	3 4 7 8	4432 1333	7 12 11 8	7 9 17 22	12
10	5 4 8 7	7 5 11 7	4533 2333	13 6 21 18	19 11 46 20	20
11	5 6 10 12	13 10 8 11	3332 4225	12 15 38 60	65 35 22 43	36
12	13 10 10 11	14 14 16 11	4434 3554	61 37 35 43	83 66 115 46	63
13	8 11 9 8	10 9 10 11	2412 3353	21 45 30 25	37 30 34 50	34
14	12 11 12 13	11 12 11 7	3555 3432	54 41 57 52	50 59 41 17	48
15	9 10 9 9	9 7 10 10	4442 2365	28 35 28 32	28 17 36 37	30
16	10 8 9 8	8 9 9 5	5312 2554	37 23 30 25	26 31 29 13	27
17	5 6 5 4	2 6 3 3	4636 4564	13 14 11 10	5 14 6 6	10
18	4 5 4 6	5 5 6 4	5555 2342	10 11 6 15	12 13 14 9	12
19	5 5 6 4	3 6 5 5	3545 4334	11 11 16 10	7 15 11 11	12
20	5 5 4 8	13 8 7 11	3534 6543	13 12 10 26	61 22 17 41	25
21	5 10 7 8	4 5 2 4	3223 2334	13 40 18 26	6 11 5 8	16
22	3 3 2 4	5 5 2 2	5152 2233	6 7 5 4	12 11 5 5	7
23	2 3 1 2	3 2 6 6	3264 1355	5 6 3 4	7 5 15 16	8
24	14 15 16 18	11 11 10 12	4741 3223	81 97 118 173	42 47 35 51	61
25	13 8 8 5	4 4 6 8	3223 2245	68 25 23 13	11 9 15 22	23
26	9 5 5 5	5 5 4 5	4333 3412	32 12 11 13	12 13 6 12	14
27	4 3 4 3	5 3 6 2	2134 3443	8 7 9 7	11 6 16 4	9
28	3 1 2 5	2 8 11 7	5353 3235	7 3 4 12	4 26 46 20	15
29	6 6 7 6	12 19 20 19	6453 1432	24 16 18 14	55 182 206 196	89
30	17 12 9 8	4 5 6 4	6512 2212	136 58 31 24	10 11 15 8	37
31	5 4 7 7	5 5 4 4	3332 3322	12 9 18 19	11 13 10 9	13
						24.0

OCT. 1963		3 Ks	Gs	-	as	As
1	3 4 4 1	1 1 1 0	1333 2221	6 10 10 2	2 3 3 1	5
2	1 0 0 2	4 4 3 1	2112 1313	2 1 1 5	8 9 6 2	4
3	2 4 4 4	2 2 3 2	1344 2331	5 9 10 10	4 4 6 5	7
4	4 5 5 6	5 5 3 3	3230 4400	9 11 12 15	13 13 6 6	11
5	3 5 7 8	3 3 8 4	0143 1034	6 12 19 25	7 6 21 9	13
6	4 6 1 0	0 1 2 0	3531 1211	10 16 3 1	1 2 5 1	5
7	5 8 4 6	3 7 4 11	2430 1131	11 21 9 15	6 18 9 49	17
8	10 11 8 7	5 9 4 4	3241 1133	40 47 24 18	13 32 10 10	24
9	3 5 4 2	1 2 5 8	2233 3134	6 11 9 5	3 5 12 23	9
10	5 5 6 6	4 3 9 5	1222 2011	13 11 15 15	10 6 32 12	14
11	4 4 10 13	14 8 6 11	1343 2114	8 10 35 62	71 26 16 42	34
12	11 10 10 10	13 14 14 10	2352 1521	43 38 34 40	62 71 62 34	51
13	8 10 7 7	10 8 9 12	2431 1125	22 37 20 17	34 26 29 58	30
14	11 11 11 10	10 11 10 5	2344 2431	47 41 45 39	37 45 36 13	38
15	8 8 8 9	8 4 8 11	1340 3444	26 21 24 29	24 9 23 42	25
16	8 8 7 8	6 8 8 5	1312 0461	23 21 17 21	15 26 26 12	20
17	4 5 4 4	0 3 0 0	2254 0001	10 11 8 9	0 6 0 1	6
18	1 4 3 4	3 3 4 4	2423 1113	3 8 7 9	7 7 8 9	7
19	4 4 3 1	3 3 2 4	3353 1114	10 10 6 3	6 6 5 9	7
20	4 2 2 6	11 7 6 10	3110 4123	9 5 5 15	45 17 15 40	19
21	4 8 8 6	3 3 1 3	3221 1135	9 25 21 16	6 6 3 7	12
22	3 1 1 4	3 4 2 2	4324 2313	7 3 2 8	7 10 5 5	6
23	1 3 0 1	3 2 5 5	2012 2241	3 6 1 2	7 4 11 12	6
24	14 15 16 18	11 11 10 11	2142 4455	82 91 106 165	45 49 38 46	78
25	15 8 6 4	5 3 6 7	3211 3134	89 22 16 8	11 6 14 18	23
26	8 4 3 4	5 6 3 5	2302 4002	22 10 6 10	13 15 6 11	12
27	4 3 5 3	4 2 5 1	3021 1123	10 6 11 6	8 5 12 3	8
28	3 2 0 6	0 9 10 4	2400 1113	7 5 0 15	1 29 34 9	13
29	4 4 6 4	10 17 18 23	3453 3474	9 8 15 9	34 134 151 334	87
30	17 9 10 10	4 4 7 4	4213 3343	134 32 37 36	10 9 18 10	36
31	5 4 7 9	5 3 4 3	1330 2241	13 9 20 29	11 7 8 7	13
						20.5

DEC. 1963																			
1	3 Kn					σn	an					An							
	4	2	3	2	4		7	5	6	2312	4443		8	5	7	5	10	20	11
2	5	6	6	4	10	10	8	9	2232	4351	11	15	15	10	40	40	26	31	24
3	9	11	14	12	12	11	12	13	2321	3564	33	44	86	55	57	49	54	66	56
4	8	10	10	8	11	10	10	13	3443	3455	23	37	40	21	45	36	39	65	38
5	11	10	7	8	13	12	12	10	2332	5444	44	37	19	25	70	57	54	35	43
6	9	10	9	7	12	11	10	9	4422	4453	30	34	32	19	55	43	34	26	34
7	7	8	7	8	11	9	7	5	4333	4234	20	22	20	25	48	33	19	13	25
8	7	10	9	8	10	10	8	7	4453	4664	16	34	28	22	37	35	21	16	27
9	2	4	6	9	8	5	2	1	3224	3323	5	10	16	30	24	13	5	2	13
10	0	0	1	1	1	0	0	0	1233	3211	0	1	3	2	2	1	1	0	1
11	0	2	1	2	3	1	2	3	2332	2341	1	5	2	4	6	3	5	6	4
12	3	1	1	4	2	1	3	8	2232	2342	7	2	3	8	4	3	7	23	7
13	7	8	4	4	4	3	4	4	4222	3152	18	25	8	9	10	7	9	10	12
14	4	4	4	4	10	10	9	8	2322	2242	9	10	9	10	35	36	30	25	21
15	5	4	6	5	5	6	5	2	2233	3323	12	9	15	13	13	15	11	5	12
16	6	4	2	4	5	7	4	4	4341	2225	15	9	5	8	11	18	10	9	11
17	5	1	2	0	3	5	5	3	2232	3323	11	2	5	1	6	11	11	6	7
18	2	1	2	4	3	2	1	1	3332	2332	5	3	5	8	6	5	2	2	5
19	1	0	0	0	4	6	4	11	2222	3332	2	1	1	1	8	15	10	42	10
20	8	8	11	8	11	10	12	8	2322	5552	22	24	41	23	44	35	53	22	33
21	4	3	6	5	8	9	6	11	2112	3554	8	6	16	11	24	29	14	42	19
22	4	7	8	6	11	7	11	7	5431	3465	9	18	22	16	50	19	41	19	24
23	4	5	10	9	4	11	9	8	2343	6565	8	11	36	32	8	47	20	25	24
24	8	3	2	1	7	9	9	7	5242	2464	23	7	5	2	17	30	28	16	16
25	1	2	3	8	2	3	2	1	2333	3342	2	4	6	23	5	6	4	3	7
26	2	5	3	4	3	4	2	5	3343	4324	5	11	6	9	6	10	4	11	8
27	3	4	7	2	5	3	4	3	1323	3121	7	10	17	5	13	6	8	6	9
28	4	4	9	5	5	5	11	9	2222	3463	9	10	28	12	11	12	46	33	20
29	7	5	5	11	10	12	8	7	5212	3754	18	12	13	48	37	59	26	18	29
30	5	4	2	2	7	7	4	5	3323	5555	13	10	4	4	19	20	10	13	12
31	2	1	2	3	3	2	1	4	3221	3333	5	2	4	6	6	4	3	9	5
													18.2						

DEC. 1963																			
1	3 Ks					σs	as					As							
	3	1	2	2	4		6	4	7	1312	1034		6	3	5	5	9	15	10
2	7	7	6	5	9	9	9	10	4311	4143	17	20	16	12	29	32	27	40	24
3	9	10	11	11	11	10	11	11	1241	4344	32	40	49	49	49	39	41	42	43
4	8	8	8	6	8	9	9	13	3422	2255	21	21	21	15	21	29	31	65	28
5	11	6	6	8	11	11	11	8	5111	4462	46	16	16	23	45	49	47	25	33
6	8	8	7	6	12	10	9	9	1112	4122	23	23	17	16	58	34	29	29	29
7	7	7	6	8	9	8	5	5	3112	0221	20	17	16	21	29	21	12	12	19
8	6	8	7	8	7	8	6	5	3342	1432	14	21	18	21	18	23	14	12	18
9	3	5	7	7	6	4	2	1	2333	4213	6	12	18	18	14	10	5	3	11
10	1	0	1	1	0	0	0	0	3122	1000	3	1	2	3	1	0	0	0	1
11	0	0	1	3	1	0	2	4	0120	2023	0	1	2	6	3	0	4	9	3
12	0	0	1	3	1	0	2	6	1021	2136	1	0	2	7	2	1	4	16	4
13	6	9	4	3	2	3	5	3	5110	4121	16	32	8	6	5	6	12	6	11
14	4	5	6	5	11	11	10	8	3321	2241	10	12	14	13	41	41	38	23	24
15	6	5	7	8	5	8	5	3	1333	3321	16	12	20	24	12	21	11	6	15
16	5	4	2	4	4	9	3	4	1123	3623	13	9	4	9	10	28	7	9	11
17	3	0	3	0	1	3	3	4	2110	2103	7	1	6	0	3	7	6	10	5
18	3	1	1	4	1	3	1	1	0223	2133	6	2	2	10	3	6	3	3	4
19	1	0	0	0	2	5	5	10	2100	3113	3	1	0	0	4	12	12	37	9
20	8	8	11	8	10	8	9	7	1133	1314	23	26	47	24	34	22	29	18	28
21	4	4	7	6	9	8	7	8	3335	2251	10	9	20	15	29	25	19	26	19
22	3	7	8	5	9	7	9	6	1322	4320	7	20	21	12	29	20	31	15	19
23	3	5	9	6	2	9	9	7	2102	3223	7	12	29	16	4	31	31	20	19
24	7	4	3	3	5	5	7	5	3353	3432	19	10	7	6	13	13	20	12	13
25	0	3	5	6	2	2	3	2	1014	1252	1	6	12	15	5	4	7	4	7
26	3	5	3	4	2	1	4	4	1311	4253	6	12	7	8	4	2	8	10	7
27	4	3	5	1	5	4	4	4	4211	1444	8	6	12	2	13	9	9	8	8
28	2	4	9	6	6	5	10	8	3122	2234	4	8	29	15	15	11	40	23	18
29	7	4	6	12	10	11	8	8	4212	1334	20	10	16	54	34	49	24	23	29
30	5	5	4	1	7	8	3	5	1133	5313	13	13	10	2	18	21	6	12	12
31	1	0	3	3	2	0	1	2	2112	3132	3	1	6	7	4	1	2	5	4
													15.6						

YEARLY TABLES OF aa-INDICES, 1968-1975

The aa-indices published in this bulletin are the continuation of the series of these indices beginning in the year 1868. A full description of the aa-indices is given in the IAGA Bulletin 33, which contains them for the years 1868-1967. Descriptions are also given in two short papers (Ann. Géophys., 27, 62-70, 1971 and J. Geophys. Res., 77, 6870-6874, 1972), in connection with comparisons with other indices am, ap or Ci.

Briefly, the three-hourly indices aa, computed from the K indices of two antipodal observatories (invariant magnetic latitude 50°), provide a quantitative characterization of the magnetic activity, which is homogeneous through the whole series. Half-daily and daily values give an estimate of the activity level very close to that obtained with am indices. Values are in nanotesla's (nT) and correspond to the activity level at an invariant magnetic latitude of 50° . In the yearly tables on the next pages, the following values are listed:

- N = daily values for the Northern hemisphere
- S = daily values for the Southern hemisphere
- M = half-daily values of aa-indices for the Greenwich day.

Letters C and K in the tables refer to a classification of the quiet days of the month (C = really quiet, K = quiet, but with one or a few slightly disturbed three hourly intervals). The letters on the left refer to the 24 hours Greenwich day, on the right to a period of 48 hours centered on the Greenwich noon. All these data are available on magnetic tape from the appropriate World Data Centers, using the format described in IAGA Bulletin 33.

A graph of the yearly averages of the aa-indices for the years 1868-1975 is given in the last page of this section.

Note that for the years 1974-1975 the N and M values (as well as the classification of C and K days), which are published in this Bulletin, are slightly different from those published in the Journal of Geophysical Research. This difference is because of the erroneous substitution of the constant of Abinger instead of that of Hartland - see Bulletin 33, p. 6, Table III - when computing the monthly values. The magnetic tape deposited in World Data Center A for Solar-Terrestrial Physics has been corrected in February 1977.

Graph of aa-indices for the years 1868-1975

The graph in the last page of this section is drawn from a series of points representing yearly averages of aa-indices. The ordinate of each point (one point per month) is a twelve month average such that the points plotted at the marked year intervals are in each case averages for January to December of that year. Ordinates are in nT's.

	JAN.			FEB.			MAR.			APR.			MAY			JUNE										
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M								
1	36	32	39	29	18	14	12	20	18	20	18	20	45	34	38	41	21	22	9	35	31	20	16	36		
2	42	69	57	55	33	32	26	39	21	23	21	24	25	23	22	27	24	22	33	13	38	21	25	34		
3	16	11	18	10	26	27	26	28	27	28	15	41	24	19	23	21	21	12	22	11	36	22	24	34		
4	16	9	9	16GKK	23	30	42	11	34	25	22	38	16	13	18	12	8	11		7GCC	18	15	15	18		
5	19	22	12	29	19	14	9	24	K	28	29	28	29	50	40	9	81			7GCC	16	5	9	13GCC		
6	37	21	26	32	6	2	5	30CK	17	11	12	16	54	57	65	47	8	5	5	80CC	12	7	7	12GCC		
7	18	12	19	11	10	6	3	140CK	10	10	10	100CK	16	21	24	13	66	76	82	61	18	21	16	23		
8	13	11	11	120CK	29	28	29	29	11	6	8	100CK	6	6	8	40CC	15	8	13	10	C	29	12	14	29	
9	5	7	4	80CK	28	30	29	29	10	5	7	80CK	5	4	3	60CC	36	31	30	38		22	11	16	17	
10	10	16	17	100CK	60	56	25	91	25	24	22	27	18	10	11	17	K	21	12	15	18	50	46	50	47	
11	26	21	8	40	60	81	84	58	16	13	20	10	22	15	17	21	30	24	31	24	119	83	123	79		
12	28	26	21	33	23	19	24	18	18	13	13	19	K	22	15	12	26	45	27	47	26	48	67	50	46	
13	20	13	21	33	28	28	22	34	10	7	11	60C	42	27	29	40	29	17	22		50	44	48	46		
14	24	14	16	23	10	13	11	120C	45	28	27	47	40	43	41	42	25	15	23	18	38	37	37	39		
15	21	16	10	27	51	37	28	60	47	37	39	45	23	25	19	29	20	12	18	14	20	9	11	18		
16	24	23	14	34	24	27	21	30	42	29	28	43	29	20	24	26	21	18	19	20	27	18	12	34		
17	25	25	24	27	41	23	20	44	23	16	22	18	26	20	20	26	29	22	11	41	30	30	46	14		
18	20	21	27	14	42	38	33	47	19	15	19	16	18	17	20	16	36	17	13	40	24	18	16	28		
19	26	22	16	33	21	11	26	5	20	22	25	17	5	5	7	40CC	36	18	12	33	28	30	29	29		
20	24	25	30	19	50	70	70	50	35	26	35	26	5	4	5	40CC	36	33	39	30	14	7	10	11	C	
21	13	15	17	12	45	30	38	37	16	11	13	14	10	7	7	110CC	42	27	23	46	9	4	5	80CK		
22	16	24	17	24	16	13	19	11	12	8	11	90CC	20	17	19	19	32	17	29	21	25	21	23	23		
23	23	14	14	23	10	5	5	11	CC	21	15	7	29	24	21	27	19	26	14	13	27	19	13	19	13	
24	23	17	13	28	12	7	12	8	CC	43	34	31	46	21	8	18	13	K	31	20	29	22	5	2	3	40CC
25	11	8	9	110C	10	5	6	90CC	35	39	38	36	15	9	5	19	K	14	8	8	14	CK	12	4	4	120CK
26	25	30	13	43	10	4	4	90CC	26	24	23	28	42	29	21	50					30	17	24	24		
27	20	18	18	21	21	13	9	26	26	24	24	26	32	33	35	27	8	3	6	50CC	24	19	18	25		
28	34	17	16	36	51	45	21	75	26	19	23	23	26	29	36	19	19	5	9	15	CK	16	6	9	13	C
29	27	17	21	24	29	24	33	21	25	22	19	28	26	29	27	28	22	16	16	22	26	15	9	33		
30	23	16	24	16	48	44	43	50	48	44	43	50	17	7	13	11	C	21	14	17	29	28	18	26	21	
31	15	27	30	12	32	30	20	43													23	13	17	19		
					22.1				27.8					24.2							25.1	28.9				
					20.1				25.3					20.3							17.6	20.8				
					21.2				26.6					22.3							21.4	24.9				

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
1	25	13	20	18	11	3	7	80CC	20	12	20	12	30	26	31	26	136	132	49	220	19	22	16	26				
2	25	18	24	19	9	4	6	80CK	23	23	20	26	57	57	68	46	81	86	92	75	12	18	12	19				
3	31	26	41	16	28	18	26	21	40	23	24	40	40	47	78	8	50	41	44	47	37	27	26	36				
4	21	15	23	16	13	7	15	5	C	25	24	29	21	7	5	5	7	CC	42	47	49	41	43	38	46			
5	19	11	17	13	30	18	18	30	19	22	20	21	6	7	8	50CK	15	8	9	15	C	38	29	37	30			
6	16	6	14	8	CK	36	22	36	23	34	32	25	41	16	14	17	14	16	11	7	21	14	11	18	8	K		
7	18	11	17	13	K	24	24	29	20	32	30	23	39	36	24	20	40	26	20	35	12	10	6	7	120CK			
8	13	9	12	10	CC	28	13	25	17	53	56	67	42	15	11	12	14	C	18	20	11	28	18	25	23	21		
9	11	7	7	120C	26	16	17	26	29	18	27	21	19	11	11	19	4	28	51	53	40	17	14	12	19			
10	54	46	45	56	18	12	16	15	14	16	20	11	9	6	11	4	CK	28	25	20	34	25	30	42	13			
11	22	14	19	17	15	7	15	7	CC	9	6	12	3	CC	5	10	7	80C	21	23	25	19	17	14	9	22		
12	21	5	12	14	C	13	6	9	10	CC	33	30	13	50	68	74	67	75	8	5	10	40CK	14	18	21	11	CC	
13	37	21	11	48	25	10	5	30	62	42	47	58	47	34	46	34	14	10	14	CC	13	10	8	15	CC	15	CC	
14	38	28	39	47	47	34	41	39	45	45	45	46	29	21	24	27	8	9	6	110CC	7	7	7	80CC				
15	21	10	16	15	38	37	39	36	52	39	43	48	11	9	10	11	C	5	10	11	40CK	18	17	16	19			
16	22	15	13	25	64	59	39	84	21	16	23	15	11	15	9	18	K	29	36	17	48	23	20	22	21			
17	16	7	9	14	C	50	54	55	50	12	8	13	8	CC	19	19	19	20	32	43	27	49	11	8	13	70CK		
18	24	14	17	22	45	32	39	38	9	5	5	90CK	15	14	21	8	34	30	41	24	16	15	13	16				
19	19	13	13	19	19	17	22	14	18	18	27	10	33	20	12	42	13	14	19	9	24	31	28	26				
20	15	4	12	70CK	12	13	11	15	CC	13	10	14	10	KK	15	12	19	9	26	39	27	39	6	7	11	50C		
21	20	7	8	20	8	7	9	7	CC	21	18	17	22	5	5	7	40CC	15	13	10	18	27	35	25	37			
22	34	24	32	27	12	7	5	14	CC	24	15	14	26	4	3	3	40CC	13	9	8	14	C	28	20	25	24		
23	27	17	25	19	26	21	17	31	33	29	29	34	7	7	4	100CC	11	12	17	7	CC	29	27	18	40			
24	9	7	3	6	60CK	40	32	46	26	9	4	4	90CK	15	15	8	23	K	11	12	8	16	KK	16	13	19		
25	18	7	9	17	KK	10	2	4	9	CK	6	4	4	60CK	12	17	12	17	22	14	16	20	37	57	77	17		
26	37	17	21	29	8	7	7	9	CC	10	7	9	90CC	11	8	7	13	C	16	13	10	20	7	11	10	80C		
27	25	18	29	14	11	5	10	6	CC	6	4	5	50CC	15	14	18	12	K	20	15	19	16	28	31	42	18		
28	18	9	10	18	K	7	5	7	60CC	19	13	14	18	C	12	13	9	17	K	18	14	11	22	15	11	9	18	C
29	11	5	9	80CC	5	3	3	50CC	20	14	16	18	68	57	38	88	10	11	12	100CK	22	17	11	29				
30	18	7	9	16	CC	6	2	3	50CK	14	10	4	21	K	27	27	19	35	6	4	2	70CC	15	12	12	15	C	
31	14	7	14	70CK	27	31	21	38					126	140	98	169					24	14	15	24				
					22.4				23.1				24.2							25.5	26.4	20.5						
					13.4																							

	JAN.			FEB.			MAR.			APR.			MAY			JUNE												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
1	11	14	13	12	C	25	33	30	27	9	8	10	6	CC	21	13	25	10	17	9	10	16	C	44	42	36	51	
2	33	36	32	36	18	12	12	18	8	9	10	8	CC	12	18	9	21	34	20	40	14	54	42	45	51			
3	64	56	48	72	7	7	8	60CC	24	14	13	26	34	32	30	36	18	9	8	19	43	34	48	29				
4	29	32	34	27	10	12	9	170CC	26	25	34	18	40	42	34	48	13	7	14	7	CK	24	19	23	20			
5	19	23	17	25	7	6	8	50CC	9	10	9	11	CK	28	20	14	35	18	12	7	23	21	7	13	15			
6	9	11	10	10	CK	13	11	12	12	CC	11	5	6	10	CC	20	19	25	14	64	50	44	71	15	9	15	10	CC
7	3	3	3	2	40CC	14	12	14	13	CC	10	6	8	9	CK	12	9	14	8	CC	56	47	58	45	7	3	4	70CC
8	2	4	4	30CC	21	14	15	20	31	23	27	27	11	10	8	140C	24	27	24	27	21	10	19	12	C			
9	2	4	4	30CC	20	25	25	20	14	13	19	8	K	66	76	58	84	24	20	19	26	10	9	7	120CC			
10	11	12	8	16	CK	25	18	9	34	29	21	26	25	43	41	43	41	27	15	24	19	13	5	8	11	CC		
11	16	16	14	19	12	10	8	15	C	13	16	19	11	36	47	44	39	11	8	12	8	CK	14	11	12	13	CC	
12	7	12	11	90CC	13	11	9	15	CC	41	26	13	25	20	18	18	21	10	6	7	90CC	10	7	10	80CC			
13	10	16	12	15	CC	8	5	11	30CC	64	61	48	77	16	14	15	15	12	5	6	110CC	24	21	8	37			
14	19	13	16	16	30	33	20	43	40	44	39	45	64	42	11	96	35	22	23	34	11	9	8	13	C			
15	17	12	14	15	56	33	25	64	41	31	46	26	46	34	43	38	26	18	21	24	12	8	11	9	CC			
16	16	13	16	14	45	34	41	38	32	24	26	30	30	25	32	23	13	13	6	21	K	14	11	9	16	C		
17	13	15	12	16	22	25	22	25	21	18	18	22	15	13	21	8	101	66	74	93	23	18	26	15				
18	28	36	19	46	29	20	17	33	17	11	15	13	23	13	14	23	53	58	62	49	18	10	17	11	K			
19	31	25	19	38	16	10	18	9	K	33	29	16	46	17	13	22	9	22	18	21	20	5	3	4	4	CC		
20	42	57	61	38	22	12	12	23	21	12	27	7	9	7	8	80CC	14	8	15	7	KK	8	5	7	60CC			
21	22	17	22	18	12	18	12	18	7	6	8	12	50CC	32	31	9	55	13	7	9	12	CC	11	7	6	12	CC	
22	18	12	17	13	7	4	9	20CC	7	6	6	70CC	26	23	26	24	14	7	12	10	C	16	9	9	17	C		
23	13	16	18	12	31	26	14	43	7	7	4	100CC	25	11	12	24	29	18	25	23	19	17	21	16				
24	22	25	14	34	24	17	10	31	7	10	31	7	4	6	4	40CC	18	10	9	20	12	7	7	13	C			
25	16	23	28	12	71	47	31	87	25	21	28	18	3	4	4	30CC	17	10	12	15	C	43	35	27	52			
26	3	6	5	40C	44	38	51	31	32	25	32	26	13	7	3	170KK	19	18	20	18	31	26	39	18				
27	90	70	57	64	25	18	15	29	20	16	16	21	15	18	21	12	4	2	4	10	CC	9	12	11	10	CK		
28	64	56	43	77	10	12	17	6	K	4	4	5	50CC	30	40	30	42	11	4	4	120CC	21	11	9	24			
29	28	36	44	21	4	4	3	40CC	19	14	17	16	16	5	9	13	C	41	45	24	63							
30	46	39	45	41	19	11	6	24	13	17	20	11	3	25	27	CC	27	21	21	27								
31	31	25	24	33	48	43	34	57	48	43	34	57	9	4	8	50C												
22.5			23.7			22.7			22.7			24.9			25.1			20.8										
23.2			18.7			20.8			18.6			22.6			17.8			15.7										
			20.7									23.8			21.5			18.4										

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
1	26	19	24	22	17	10	10	17	C	27	17	27	18	42	38	41	38	11	10	14	8	CC	16	21	17	21		
2	28	36	36	28	30	29	43	17	4	4	3	40CC	42	30	36	36	7	7	4	10	CC	11	17	8	21			
3	17	9	13	19	11	9	5	120CC	10	12	12	100CC	43	29	45	28	6	4	8	120CC	27	30	27	31				
4	18	14	13	19	18	16	16	18	18	10	10	4	25	28	30	23	36	12	13	14	12	CC	15	25	23	18		
5	22	10	14	18	27	16	31	12	29	34	29	34	31	29	30	31	9	18	11	17	C	9	13	14	10	CK		
6	22	10	16	16	8	2	2	80CC	21	21	16	27	38	44	38	43	7	8	7	8	CK	6	5	7	40CC			
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ANNUAL MEAN N 22.30 S 19.63 M 21.04

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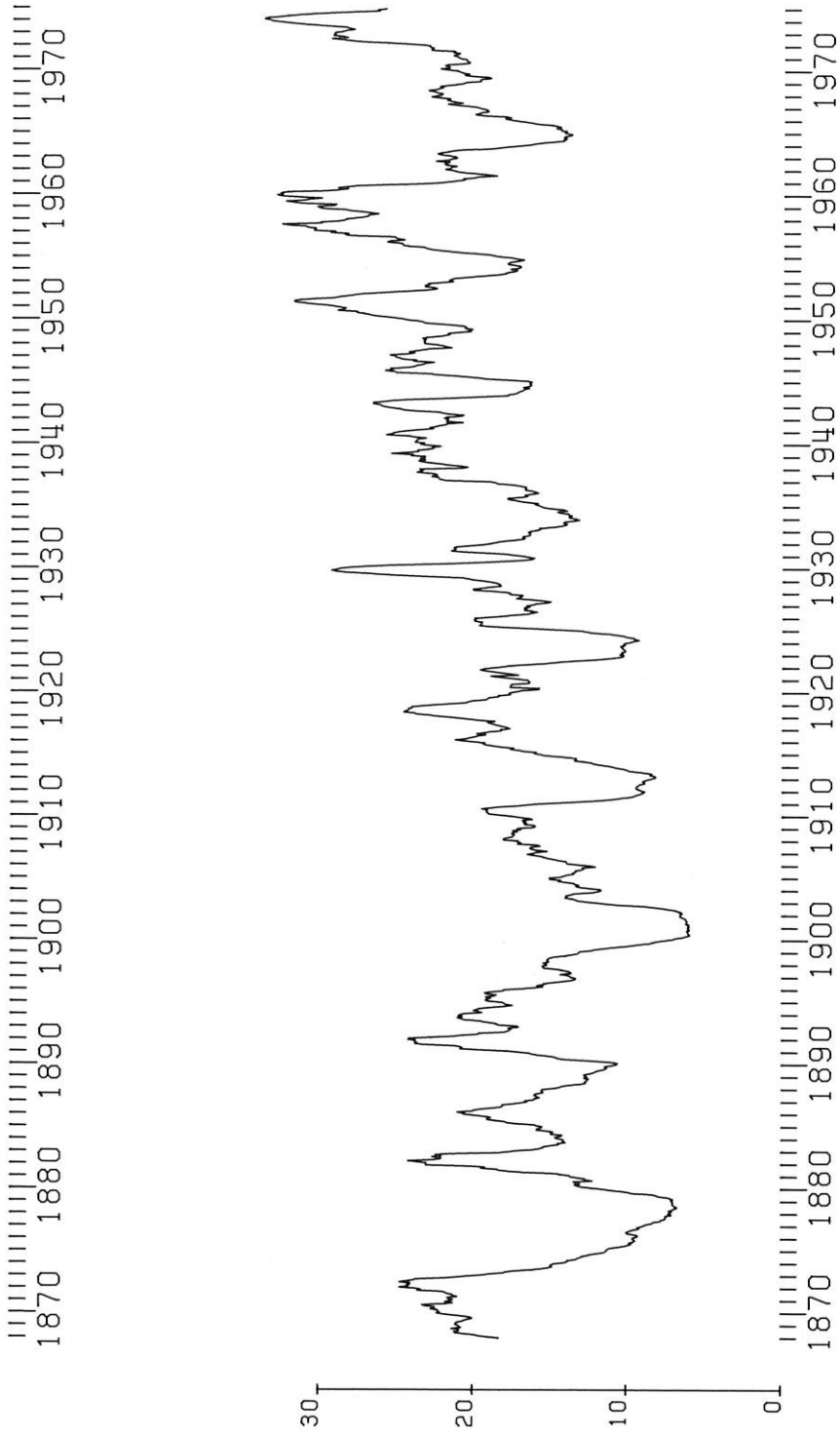
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16	31	22	34	19	10	5	6	90CC	25	26	32	18	53	53	46	60	21	19	12	29	7	6	6	70CK		
17	13	13	16	11	K	6	6	3	90CC	20	19	23	15	46	42	43	46	30	30	32	29	15	8	10	13	CC
18	18	6	11	13	C	10	12	11	120CC	17	13	15	16	K	40	42	26	56	30	33	41	22	6	14	10	110CC
19	26	22	23	25	16	11	12	15	C	8	7	7	90CC	30	37	38	29	7	8	8	70CK	33	31	11	55	
20	24	16	22	19	16	20	18	19	23	18	11	31	40	40	38	43	13	11	10	14	C	59	39	33	65	
21	16	14	19	11	17	12	18	12	29	25	30	25	66	52	48	70	38	44	25	58	54	66	41	79		
22	17	6	11	13	C	27	16	8	36	37	27	15	50	34	29	36	28	13	12	16	9	K	45	36	38	43
23	32	30	33	29	45	36	26	55	93	107	94	106	14	9	13	10	C	18	15	12	22	K	41	25	31	36
24	15	14	15	14	54	49	67	36	45	44	39	5														

	JAN.			FEB.			MAR.			APR.			MAY			JUNE									
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M							
1	34	29	31	33	27	23	15	36	36	30	27	39	30	29	28	31	18	11	9	20	45	38	46	38	
2	19	19	17	22	28	15	23	21	32	36	36	32	32	23	18	38	34	32	23	43	40	30	41	29	
3	20	26	20	27	16	12	17	12	38	35	37	36	73	59	50	82	40	30	50	20	38	30	41	27	
4	29	23	21	32	15	11	14	12	19	19	23	15	40	56	52	44	66	39	43	62	24	14	22	17	
5	34	24	27	31	15	16	9	22	41	30	20	52	36	35	36	36	55	49	57	48	21	9	15	15Q	
6	23	18	27	15	13	14	11	17	33	27	26	35	45	37	45	38	13	9	15	8G	18	11	16	14G K	
7	7	5	8	5QCC	18	15	18	16	29	23	15	38	32	36	40	26	22	21	13	30	9	5	5	10GCK	
8	24	16	8	32	13	12	7	18QCK	26	33	27	32	23	24	20	27	32	16	19	30	16	12	5	13G C	
9	13	23	19	17	10	9	10	9G	64	41	38	67	38	29	24	43	24	21	27	18	22	14	9	28G	
10	24	32	19	36	38	26	21	43	52	41	41	52	48	46	46	48	6	4	5	4GCK	38	19	21	36	
11	12	13	17	8 C	52	42	31	63	54	44	48	50	31	32	38	25	13	8	6	15QCC	50	52	32	70	
12	12	11	10	14QCK	76	52	74	55	31	23	27	27	8	5	7	7QCK	13	4	11	7QCC	54	39	58	34	
13	9	13	11	11 CK	45	25	26	45	17	15	24	9G	21	12	15	18	13	8	9	13QCC	42	42	45	39	
14	18	17	16	20	21	19	22	18	34	28	22	41	15	7	13	10QCC	27	15	11	32	30	32	22	41	
15	22	39	18	43	9	8	9	8QCC	9	4	3	10QCC	8	4	6	7QCC	48	50	43	56	54	59	45	68	
16	26	23	24	26	19	13	8	24	57	76	30	102	13	4	5	13QCC	48	57	53	53	33	39	44	28	
17	35	28	31	32	23	20	22	22	14	14	20	9G	13	11	7	18QCC	48	57	56	50	33	35	34	34	
18	52	44	37	58	4	5	5	4QCK	6	6	7	5QCK	71	67	79	60	35	45	44	36	23	25	19	29	
19	15	14	14	15	7	8	7	9QCC	5	6	5	6QCC	52	54	36	70	38	47	39	46	36	28	23	41	
20	31	28	31	29	26	24	14	36	35	34	11	58	60	74	61	74	36	39	34	41	36	35	32	40	
21	25	27	31	21	35	43	38	40	93	66	53	106	59	52	58	53	38	41	45	35	20	9	13	16	
22	12	9	9	12QCK	27	23	17	34	52	67	68	51	59	46	48	55	44	39	31	52	29	14	23	20	
23	10	7	12	5QCK	78	52	43	88	57	52	48	62	48	52	51	50	43	49	41	51	16	13	10	19	
24	12	9	7	15QK	50	47	55	43	59	45	43	62	40	26	28	39	60	63	65	58	24	17	20	22	
25	93	86	56	123	56	54	52	58	50	43	48	46	36	40	42	34	30	32	33	29	21	15	11	26	
26	54	56	58	51	54	49	52	51	42	36	31	46	48	25	46	20	25	25	23	27	64	69	72	62	
27	69	50	56	64	48	44	31	62	40	39	51	28	31	37	46	22	31	21	31	21	78	74	86	67	
28	36	26	20	43	50	49	41	58	26	30	27	29	40	37	29	48	21	23	30	14	46	32	39	40	
29	42	39	38	43	59	49	36	72	59	49	36	72	34	33	19	48	21	18	21	19	34	39	31	43	
30	50	39	27	62	38	34	38	55	38	34	38	55	31	35	27	39	34	25	20	40	30	34	32	31	
31	38	28	30	36					45	39	47	38					50	29	36	53					
29.1					31.2				38.5				37.3				33.2				34.2				
26.5					26.1				34.4				34.2				30.3				31.8				
27.9					28.7				36.5				35.8				31.6				29.5				

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.									
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M							
1	24	16	22	19	18	11	14	15Q C	42	39	53	48	48	46	47	48	15	10	13	13 K	13	18	10	23Q	
2	25	22	25	22	37	44	10	72	61	52	56	57	59	49	27	81	12	13	16	9QCK	27	25	25	27	
3	26	17	22	22	64	63	51	76	36	36	41	31	27	20	25	23	12	11	12	11 CC	34	30	25	39	
4	52	34	33	54	43	33	48	29	43	26	22	48	20	15	14	22Q	6	9	8	8QCK	17	21	27	11	
5	87	83	86	84	42	43	44	41	36	39	53	23	23	14	13	25	12	8	7	13QCK	18	17	7	29Q	
6	116	132	164	84	46	34	27	53	30	25	31	25	23	21	27	18	19	21	19	21	7	10	11	7QCK	
7	33	21	27	27	46	39	32	53	23	25	23	26	13	12	12	13QCK	18	17	20	16	15	21	17	20	
8	59	39	33	65	33	25	34	24	20	16	20	17	24	25	16	34	38	43	13	68	29	27	19	38	
9	35	27	39	23	29	29	30	28	16	9	13	12QCC	59	61	48	72	55	58	73	40	79	68	53	94	
10	42	40	39	43	40	24	38	26	17	10	13	14QCC	21	18	24	15	26	12	18	21	36	27	31	33	
11	29	22	21	31	28	19	28	20	10	7	9	8QCC	15	12	17	10QK	78	70	26	123	40	33	28	45	
12	41	36	23	55	14	9	12	11QK	12	11	8	16QK	33	31	15	50	90	101	106	86	29	37	34	32	
13	31	25	33	24	14	11	13	12QCC	40	21	24	38	93	93	114	72	66	47	50	64	51	32	21	62	
14	38	34	42	30	15	11	14	12QCC	20	17	14	24	44	33	20	58	47	60	70	37	27	19	29	18	
15	24	22	27	19	14	11	12	13QCC	64	75	14	145	64	50	74	41	21	22	16	27	27	21	22	27	
16	20	20	23	17	14	13	13	15 C	102	94	156	41	90	83	67	106	31	25	26	31	17	20	8	29Q	
17	25	13	18	20	14	13	11	16 K	7	8	9	6QK	74	79	72	62	26	21	24	24	41	37	27	51	
18	19	12	19	12Q	25	18	17	27	25	27	8	44	59	50	53	57	18	14	16	17	47	52	48	51	
19	18	11	10	19Q	52	63	53	62	54	49	65	38	59	43	43	59	29	21	20	31	52	41	41	52	
20	22	23	19	26	73	48	67	55	55	52	52	55	71	52	60	63	44	34	41	38	42	41	41	52	
21	23	15	17	22	52	69	73	48	74	59	30	103	23	18	25	17	48	34	31	51	36	32	27	41	
22	17	13	13	18Q	57	52	53	57	40	37	39	38	26	26	21	32	33	25	27	31	24	23	24	24	
23	99	81	87	93	54	64	67	51	28	24	17	36	12	9	11	11QK	31	25	24	33	46	33	18	62	
24	64	74	73	65	46	51	58	40	41	48	48	42	54	74	87	41	54	37	29	62	29	27	23	33	
25	42	37	50	29	24	23	24	24	57	39	29	67	46	37	37	46	35	29	36	31	31	19	16	35	
26	43	27	29	42	16	14	12	19	58	54	57	57	48	47	44	52	32	32	22	43	22	21	24	18	
27	45	36	45	37	30	25	27	28	45	54	43	56	45	39	34	50	19	15	15	19	40	39	44	34	
28	31	28	43	17	41	25	27	39	27	26	20	34	49	41	30	60	12	11	15	9 CK	22	24	29	17	
29	29	22	30	22	48	45	53	42	29	31	24	36	35	30	38	28	9	9	11	4QCC	24	19	21	23	
30	19	18	25	12Q	40	28	37	31	36	42	32	46	24	16	18	23	4	6	5	5QCC	11	9	9	12QK	
31	15	13	15	13Q	52	32	34	50					16	12	14	15Q					22	34	27	28	
38.4					36.1				39.0				41.9				31.3				30.9				
32.7					32.0				35.8				37.4				28.1				29.8				
35.7					34.2				37.5				39.8												

	JAN.			FEB.			MAR.			APR.			MAY			JUNE										
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M								
1	19	18	22	16	76	49	56	69	43	36	45	34	16	16	20	12	16	13	11	19	47	32	12	67		
2	9	6	7	8QCC	53	43	56	40	19	20	21	19	18	8	11	13	CC	38	36	38	36	27	23	24	26	
3	15	21	15	22	23	20	24	20	23	16	16	24	13	11	11	13	CC	28	25	26	27	28	19	24	24	
4	73	54	46	81	23	15	15	24	19	14	18	15	19	13	12	20		62	39	55	47	29	29	25	33	
5	59	39	38	60	40	26	24	43	50	47	41	57	26	12	14	24										
6	52	38	20	67	20	14	16	18Q	48	37	35	51	32	26	20	39		56	47	62	41	28	30	27	31	
7	57	42	76	24	30	23	22	39	8	6	5	9QCC	45	28	17	57		37	41	25	53	18	11	14	15	
8	57	91	83	65	19	12	20	11Q	5	4	4	9QCC	50	51	32	69		30	21	20	33	12	6	8	10GCC	
9	21	14	18	17	24	20	22	22	25	15	7	34	71	72	62	82		31	34	24	41	17	7	15	9 CC	
10	13	12	19	7 KK	66	56	42	79	100	108	99	109	54	56	53	57		34	30	43	22	11	8	7	12Q	
11	9	9	11	8QCC	78	61	41	98	76	89	108	58	66	59	68	57		5	4	4	4QCC	30	24	30	24	
12	7	10	7	11QCC	64	57	58	64	54	64	90	70	40	44	37	46		7	4	4	7QCC	48	39	38	50	
13	54	59	56	57	47	41	31	57	54	37	32	58	43	36	48	31		18	10	8	20	31	24	27	28	
14	59	57	50	67	45	37	38	45	56	49	41	64	40	27	38	29		27	28	32	23	20	22	20	22	
15	30	36	27	39	43	29	25	47	43	39	34	48	19	15	13	22		8	4	7	6QCC	32	28	20	41	
16	46	47	37	57	56	39	36	59	41	51	48	44	14	12	17	9 C		47	47	34	60	35	28	33	31	
17	57	41	45	54	31	25	27	29	27	20	24	24	15	8	9	15QCC		30	30	36	25	25	23	19	29	
18	46	28	38	38	29	25	27	27	38	29	26	41	16	17	10	23		22	19	21	21	26	22	26	23	
19	20	24	27	17	21	17	20	18	29	21	11	39	16	8	10	14QCC		37	18	24	31	29	21	20	31	
20	20	17	16	22	17	17	21	14Q	32	29	25	37	42	30	13	59		38	31	50	20	18	8	12	14 C	
21	15	14	10	20	18	16	15	20	6	5	8	3QCC	43	29	34	38		27	20	22	26	24	20	22	23	
22	21	13	9	26	17	13	18	13Q	16	10	14	12QK	25	30	30	25		22	22	24	20	13	9	12	10 CK	
23	32	21	20	34	96	67	68	56	23	15	29	10	40	30	36	34		18	12	17	14	12	4	6	10GCC	
24	23	15	20	18	34	21	22	34	27	33	18	43	33	25	34	24		16	10	14	12 C	7	3	6	4GCC	
25	12	10	7	16QKK	39	33	43	29	15	19	14	20Q	17	15	17	15		41	21	18	44	13	9	7	16 CC	
26	9	9	10	8QCC	17	16	22	11	33	33	34	32	25	16	23	19		28	20	36	12	14	11	14	11 CC	
27	29	35	27	36	11	10	11	11QCC	44	52	18	78	12	8	14	5QCC		22	19	18	24	11	5	7	9QCC	
28	24	27	34	18	35	15	13	38	33	39	38	34	8	4	6	5QCC		26	23	26	23	55	37	17	75	
29	17	18	15	20	22	17	19	21	22	17	19	21	14	12	14	12 CK		16	10	15	12 C	47	35	53	29	
30	17	18	15	20	22	17	19	21	22	17	19	21	14	12	14	12 CK		16	10	15	12 C	47	35	53	29	
31	44	42	22	65	27	20	19	29	27	20	19	29	27	20	19	29		12	6	7	11QCC					
31.1					36.8				35.5				29.3					27.4				25.8				
28.3					29.3				33.0				24.0					22.1				20.0				
29.8					33.2				34.3				26.8					24.8				22.9				

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.									
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M							
1	24	31	32	23	20	13	22	11	19	15	14	21	17	12	20	17	18	13	23	56	41	45	52		
2	20	13	16	17	10	10	14	16	15	12	16	11 C	7	4	5	5QCC		55	46	25	77	50	46	50	47
3	20	12	14	18	13	9	8	14QCC	10	6	7	10QCC	25	17	11	31		85	76	79	82	28	22	24	27
4	18	10	10	18	16	9	9	17 C	8	6	7	7QCC	19	11	18	12		68	52	62	59	24	21	20	29
5	17	7	11	13QCC	46	39	46	38	9	7	7	10 CK	12	10	15	8 C		48	37	41	45	20	17	14	24
6	16	11	8	19	17	13	24	6	31	23	26	28	40	42	37	45		23	23	25	21	19	13	10	23
7	29	23	28	24	15	14	4	24	16	9	17	9 C	76	46	59	84		23	24	20	28	12	7	9	11QCC
8	42	55	58	39	25	26	41	11	17	8	10	16 C	71	62	55	79		16	11	14	13	39	35	20	55
9	52	49	51	50	32	25	19	40	40	40	29	51	55	54	62	48		59	60	41	77	29	33	36	25
10	35	31	28	38	29	27	36	20	42	42	46	38	48	29	42	36		43	28	19	53	13	18	8	23
11	32	45	48	30	16	12	13	15	55	37	48	44	19	16	9	26		30	32	26	36	13	13	12	14 C
12	17	10	10	17QCC	8	5	6	8QCC	34	30	36	29	26	18	20	25		18	16	20	15	5	8	9	9QCC
13	23	15	10	28	13	12	14	12QCC	37	21	39	19	18	12	12	19		8	8	10	7QCC	6	6	4	9QCC
14	36	25	26	36	32	26	41	18	23	25	31	16	18	38	28	29		8	11	9	11QCC	15	15	7	24
15	36	25	26	37	36	37	32	41	18	15	15	19	10	11	13	8QCC		10	9	9	11QCC	20	20	25	15
16	26	27	29	24	13	14	11	17	12	6	8	10 C	22	26	24	25		13	12	13	12QCC	29	22	24	28
17	38	23	27	35	19	19	22	17	29	23	20	33	18	15	20	13		40	30	14	57	19	18	16	22
18	30	31	31	30	17	12	18	11 K	27	23	14	36	11	12	7	18 KC		15	15	21	10	15	14	12	18
19	22	18	17	24	10	9	7	12QCC	17	15	16	17	6	8	6	10QCC		17	15	19	14	13	13	11	15 K
20	17	13	20	11	27	31	14	45	19	12	11	20	11	8	8	12 CC		26	16	17	27	8	7	11	4QCC
21	17	14	10	22	32	21	19	35	14	10	12	12 CK	11	9	14	7 CC		32	26	36	23	19	24	14	29
22	19	11	12	18	29	22	31	21	10	7	10	8 CC	15	12	13	14 C		97	89	58	129	25	19	23	22
23	17	10	16	11	22	19	24	17	12	7	14	5 CC	16	12	15	14		15	12	20	8	14	17	16	16
24	17	11	17	12	22	19	20	22	7	4	4	5QCC	10	8	12	6QCC		27	29	13	43	10	5	4	11QCC
25	54	61	58	57	22	19	20	22	7	4	4	6QCC	7	11	8	10QCC		27	23	27	24	33	39	36	36
26	41	44	37	48	16	8	10	14QCC	36	20	15	41	14	10	6	18 KK		22	36	43	16	62	54	41	75
27	24	23	27	20	12	5	12	5 CC	24	27	27	25	10	10	13	7 CK		14	9	13	10QCC	54	56	48	62
28	26	23	26	24	17	11	10	18	23	19	21	21	23	18	11	31		18	19	21	17	27	24	29	23
29	14	9	10	12QCC	50	37	48	39	11	9	12	9 CK	27	13	26	15		60	47	40	67	29	25	27	27
30	12	13	15	10QCC	32	21	37	17	7	5	5	7QCC	22	16	21	18		59	49	41	67	19	23	22	20
31	15	6	9	12QCC	19	11	15	15	31	33	41	23	31	33	41	23						17	11	17	11
26.0					22.4				21.0				23.2												



Twelve month averages of aa-indices for the years 1868-1975.

A NEW LIST OF SSC'S FOR THE YEARS 1968-1975-

A new method for the final identification of the ssc's was discussed and accepted at the Grenoble Assembly of IAGA in 1975 by the Working-Group V. 6. Two basic ideas govern it: (1) restrict the final identification to a network of low-latitude observatories because the auroral effect associated with the ssc's at high and mid-latitudes (see IAGA Bulletin no. 33, and J. Geophys. Res., 80, p. 111, 1975) makes any identification more difficult; (2) base the final identification on copies of the suitable records gathered at a central bureau, because doubtful cases are difficult to solve without an examination of the records themselves. Besides, this new method permits one to give for each event its duration and its amplitude, in continuation of the list given in Bulletin no. 33 for the years 1868-1967.

The preliminary list of ssc's, as obtained from the regular monthly flow of reports from all observatories, remains irreplaceable not only as a starting point of the list but also for the final decisions to be made on each event from the low-latitude records. Establishing a list of events such as the ssc's is a difficult task, because morphological features are always difficult to recognize when they tend to vanish. One could expect that the availability of copies of records would allow the central bureau to fully solve the problem in such doubtful cases. In fact, the experience gained when setting up the new list for the years 1968-1975 showed that this difficulty was not completely solved because, on some occasions, important morphological differences between one low-latitude station and another made the decision difficult. Independent information issued by all observatories is then all the more important for the task of IAGA: that is, to provide the scientific community with a list of ssc's that is as reliable as possible.

In the list, the times in the column at the left are mean values obtained from all observatories; but the earliest and latest times reported by the observatories for the beginning of the event are added in parentheses. For printing reasons only the minutes are given in the parentheses; these minutes generally belong to the hour of event, but if they are underlined, they belong to the preceding hour. The five numbers in the next column correspond to the qualification given by the central bureau (see section 3). After these numbers, a summary of the monthly reports is given in parentheses (see section 4). Then are given the average duration of the event in minutes (see section 5) and its average amplitude in nT's ¹⁾ (see section 6). Before describing these various data, some points have been listed concerning the criteria used for identifying the ssc's (section 1) and the network of low-latitude observatories chosen (section 2).

¹⁾ 1 nanotesla (nT) = 1 gamma (γ)

1) Criteria for the morphological identification of ssc's

The description of the storm sudden commencements given in the Atlas of Rapid Variations (Ann. IGY, p. 694, and IAGA Bulletin 16c, p. 249) is the basic document concerning the definition of the ssc's. Notes on the meaning of the words "commencements", "storm" and "sudden" contained in Appendix E of IAGA Bulletin no. 33 are a useful supplement. An additional comment needs to be added.

A crucial point for identification of the events is the distinction between a storm sudden commencement and a sudden impulse. All observers encounter such difficulties, as illustrated in the monthly reports sent to the central bureau where sometimes the same event is qualified as being an si or an ssc by about the same number of observers. The following morphological remarks which are partly arbitrary, can help in solving this problem, and have been followed in establishing the present list.

a) The basic difference between an ssc and an si is the presence (that is, for an ssc) or the absence (that is, for an si) of a clear change of rhythm in the agitation before and after the sudden move.

b) It can happen that a sudden move in a given direction is followed later (say in about one or a few hours) by a sudden move in the reverse direction and with a similar amplitude. Sometimes, there is no agitation at all between these two sudden moves, and none is observed either before or after both moves; sometimes rapid fluctuations exist between them, but no agitation before and after. In these cases, we do not classify the first sudden move as an ssc.

c) On the contrary, when a change of rhythm occurs after the first move and when the agitation continues after the second move, we classify the first move as an ssc.

d) When a change of rhythm exists in the agitation before and after a sudden move, we tend to classify this event as an ssc, even if the subsequent storm is very small. This means that we give more emphasis to the change of rhythm which occurs after the event than to the amplitude of the storm itself. One readily can appreciate this fact by looking at the yearly diagrams of the am and Dst indices and of the ssc's published for the 1968-1975 years in this Bulletin.

Finally, when an observer makes a comparison between the present list and his own records, he must keep in mind that the final choice was made from records from five low-latitude stations. The higher the latitude of his observatory, the more often the phenomenon is obscured by the auroral effect associated with each ssc and the more often disturbances occur, the intensity of which vary with local time. These two effects will mask correspondingly the degree of purity of the event under consideration. At the central bureau, the possibility of looking at records from stations widely spread in longitude permits one to appreciate better the existence of the change of rhythm at some other longitude.

2) The network of observatories

Low-latitude observatories have been chosen to obtain a relatively good distribution with longitude. In addition, two constraints exist as far as the latitude is concerned: (1) observatories must be distant enough from the auroral zone to minimize the auroral effect associated with ssc's; (2) they must not be too close to the magnetic equator if the daytime amplification due to the equatorial electrojet is to be avoided. Table 1 gives relevant information (geographical longitude λ , dipole latitude ϕ , angular distance D to the auroral zone defined by the invariant magnetic latitude 69° , angular distance d to the magnetic equator) for the main observatories as well as for those which are used as alternates. The distance in longitude between these observatories varies from 4 to 6 hours. We give below indications (see section 6) showing that there is no significant influence (absence of diurnal variation in the amplitude of the ssc's) of the auroral effect or of the equatorial electrojet.

	M'Bour	Fuquene	Honolulu	Port-Moresby	Alibag
λ	343.0	286.3	202.0	147.2	72.9
ϕ	21.3	16.9	21.1	-18.6	9.5
D	51.1	51.2	47.3	46.7	56.0
d	6.4	17.8	22.4	17.2	9.8
	Tamanrasset	Paramaribo	Apia	Kanoya	Hyderabad
λ	5.5	304.8	188.2	130.9	78.6
ϕ	25.4	17.0	-16.0	20.5	7.6
D	46.8	52.3	49.4	44.0	57.3
d	12.3	18.2	14.0	23.0	8.3

Table 1: Values in degrees of λ , ϕ , D and d at the low-latitude observatories.

3) Definition of the code numbers imposed on each ssc

The code number imposed on the ssc at each of the five observatories can help to discern roughly the degree of certainty for the catalogued events (when the code is underlined, it means that the supplementary observatory was used). Its meaning is as follows:

- 2 and 3 mean that the event can be unmistakably identified as an ssc from the single record under consideration; 3 is assigned instead of 2 when the following three features are present: (1) very sharp change of rhythm in the agitation, (2) large amplitude of the sudden move, and (3) remarkable morphology of the event itself.

- 1 means that the event seen in the record under consideration is possibly an ssc but is not sufficiently clear in itself to state that it is a true ssc; one needs records from other longitudes in order to get a firm judgment.

- 0 means that, from this observatory record, the event could have escaped the attention of the observers, or the event does not deserve to be called an ssc.

We try to assign independently to each event the code numbers for each station. However this rule is not applied in two situations:

(1) The distinction between 2 and 3 is sometimes difficult. In these cases, we compare records of the five observatories.

(2) It has been said above that the examination of the low-latitude records did not allow complete resolution of the problem for doubtful cases. In general, we first tried to assign 1 or 0 by strictly applying the definitions given above; but in some doubtful cases, we lowered the codes from 1 to 0 at some observatories to emphasize the remaining doubt which we had in keeping the event in the catalogue. More or less arbitrarily we did not assign in any case more than two codes zero.

In conclusion, when an event is qualified by five codes 1, it can be considered as a true ssc; when two codes 0 appear in the set, the event has to be considered as a doubtful case.

A few remarks on statistics can be added. Table 2 gives frequencies of the codes at each observatory of the network. The homogeneity between observatories seems quite reasonable, with the exception of a smaller number of codes 0 at Fuquene and Port-Moresby.

	M'Bour	Fuquene	Honolulu	Port-Moresby	Alibag
0	19	9	17	11	16
1	61	66	54	58	64
2	106	109	118	116	109
3	24	26	21	23	21

Table 2: Number of codes 0, 1, 2 and 3 imposed on the events at each observatory.

When considering the set of codes for each event, one obtains 11% for cases such as 00111: these are the doubtful cases. The 9% of the 01111 type can be considered as probable ssc's. All the others are true ssc's of which about 8% are remarkable (that is, sets of codes with at least three codes 3).

4) Qualification of the ssc given by all observatories

In addition to the five code numbers described above, the list summarizes the qualifications given by all observatories as resulting from their monthly reports⁽¹⁾ (each contributing observatory is listed at the beginning of each year with the two-letter indicators used in the relevant IAGA Bulletin 12 or 32 for the years 1968-1975). The numbers of observatories are indicated which gave either letter A ("when the phenomenon in their magnetograms is very remarkable"), or letter B ("when it is a fair, ordinary, but unmistakable ssc"), or letter C ("when it is a poor or doubtful case"), or the symbol si (when the event was interpreted as an si).

(1) In IAGA Bulletins 12 for 1968 and 1969, such qualifications resulted from the checking lists. For reasons of homogeneity with the following years, we use the qualifications given by the observatories in their monthly reports themselves for these two years.

The agreement between the qualifications given by the observatories and the code numbers assigned by the central bureau is quite good when the set of five code numbers contains values 2 and 3 only; most observatories then assigned letter A or B to the event. However, sometimes in these cases, a number of observatories have identified the event as being si's. This indicates that, at mid- or high latitudes, disturbances before the event were more severe at some longitudes (especially during the local night), and lead the observer to qualify the corresponding event in a different manner. A qualification made from only low latitude, but widely spread longitude observatories, is much easier to do and is probably more reliable.

When the five code set contains values equal to 1, discrepancies between both sets of qualifications are much more frequent. Sometimes, an event qualified as being an si by a majority of observatories was inserted into the final list. A certain number of events which had been reported by only a few observatories were rejected (110 events, as compared with the 210 events retained for the years 1968-1975) while some others, also reported by a few observatories, were kept in the list. This shows that information coming from all observatories is very important in guiding the search for true ssc's at the central bureau. On the one hand, there is very little chance that an event deserving to be identified as an ssc will be neglected; on the other hand, even though the examination of the five low-latitude records is always the decisive factor for doubtful cases, a glance at the geographical position of the various observatories which have reported the event remains of great help.

Finally, on some occasions, the chief reason for keeping a given event in the list was the fact that it had been reported by about 20 to 30 observatories.

5) The duration of the events

As in Bulletin 33, the duration of the main move observed in each ssc is defined by time-interval between the commencement itself and the first extreme. However, we said above that, on some occasions, the morphology of the event is quite different from one station to another. A first difference is related to local time; in the morning, the first phase of the storm is in general much more marked than at other times of the day, and, because of this fact, sometimes the first extreme vanishes. A systematic description of the other differences would necessitate a long study, which has not been undertaken at this stage.

One tries to choose the right moment of the extreme in comparing records of the five stations, but we do not require strict coherence between the scaled durations. Table 3 gives the percentages of ssc's whose average duration (in minutes) is included between the two limits (i. e., greater than the left-hand limit, lower or equal to the right-hand limit); it also gives the percentages of ssc's for which the standard deviation of the durations, scaled at each observatory, for a given event is included between the two given limits.

Table 3
Average duration

0	1	2	3	4	5	6	7	10	(minutes)
1.0	1.5	15.8	23.0	24.0	19.4	9.7	4.5	1.5	%

Standard deviation

0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0	(minutes)
3.0	7.6	11.2	23.0	16.3	13.8	11.2	8.2	5.1	%

The histogram of the average duration is close to that obtained in Bulletin 33 with a much larger number of events (twelve times more), but is less a-symmetrical around its maximum. This results from the use of five observatories instead of three.

With the standard deviations, a diagram of individual values (average duration against standard deviation) would not show any systematic effect, except that standard deviations greater than 1 minute correspond to average durations longer than 5 minutes.

6) The amplitudes

Two important points have to be checked: (1) does a daily variation of the amplitudes exist or doesn't it?, (2) are the average amplitudes similar for the five observatories?

a) - Figure 1 gives, for each observatory, the daily variation in UT of ssc amplitudes set into groups of two hours. Arrows indicate the time of the daily variation minimum caused by the auroral effect at about 08h L.T. (see J. Geophys. Res. , 80 , 111 , 1975). Obviously, no systematic effect appears, except at Fuquene (FQ). In that case, an apparent variation exists, which minimizes at about 6h L.T. Is it significant? With this small sample (there are about 17 cases in each group), one cannot expect that the large or small ssc's be randomly distributed. Then, one could observe significant variations from one group to the other; and, since one can readily assume that the ssc amplitudes vary similarly at all observatories from one event to another, one could expect that high (or low) average values occur in the same group for all observatories. This is not at all what is observed. In fact, when looking at individual cases, one observes an unexpected variability of the intensity with longitude. Because no daily variation exists at four of the observatories, this variability is not due to a systematic effect and should lead to an unexpected conclusion : heterogeneities would exist in the magnetospheric source of the storm sudden commencement, and these heterogeneities would apparently be distributed in a random manner. A detailed study which should be undertaken on that point, is

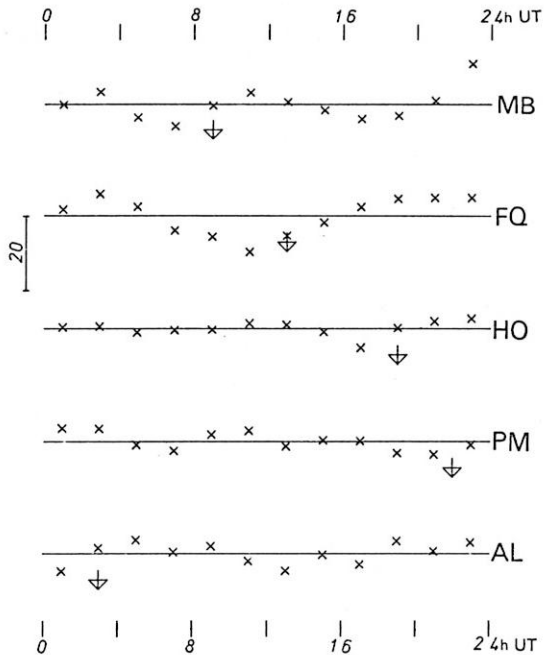


Figure 1: Daily variation of the ssc amplitude (in nT's) at M'Bour (MB), Fuquene (FQ), Honolulu (HO), Port-Moresby (PM) and Alibag (AL). Full lines : ordinate of the average value at each observatory. Arrows : time of the expected local time minimum due to the auroral effect.

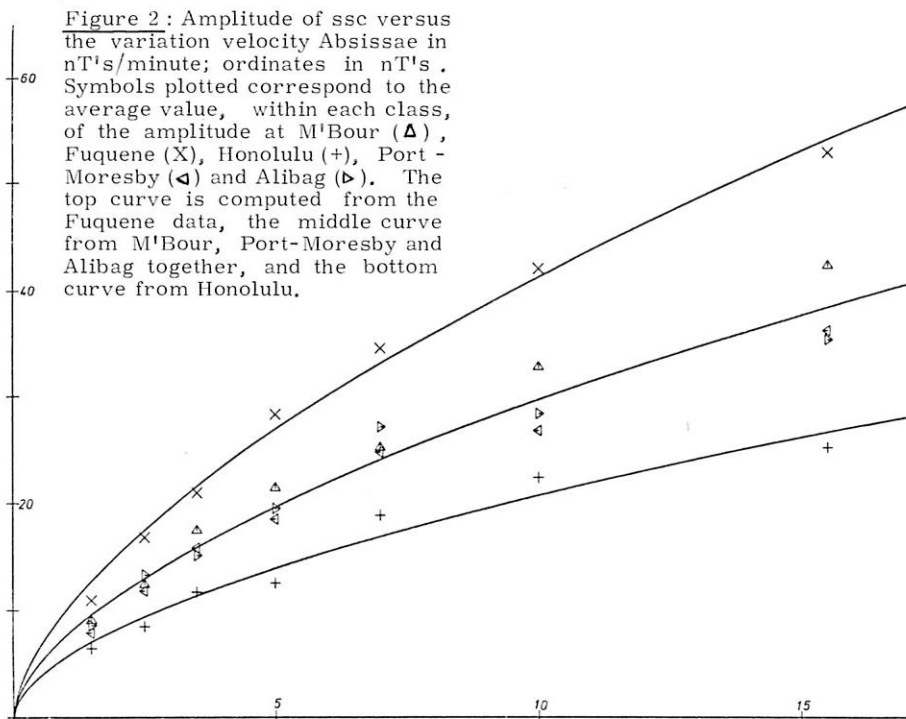
beyond the aim of this introduction to the new list. But, since the distance D of Fuquene to the auroral zone is larger than that of other stations (see Table 1) we shall conclude that the observed daily variation at Fuquene is caused by a random effect and has no more significance than the deviations observed at the other observatories.

b) - The average values of the 210 events taken all together for each observatory vary considerably from Fuquene (26.8 nT) to the group M'Bour - Port Moresby - Alibag (19.7), and from this group to Honolulu (14.1). Again this is a relatively unexpected result, at least as far as the magnitude of the effect is concerned. With Figure 2, we show how such an effect can be linked to differences in local induction. We classify the ssc's according to the variation velocity (average amplitude/average duration for the five observatories) into seven groups, and plot the average values a of the amplitudes at each observatory in each group against the variation velocity v . Three curves are

drawn (one for Fuquene, one for Honolulu, the third one for the group M'Bour - Port Moresby - Alibag) with the formula

$$a = A v^{\alpha}$$

where A and α are computed by least squares. Residuals are of about 1 nT . This diagram indicates clearly that the internal part is proportional to the external part, but its amplitude varies from one observatory to another.



The two results which have been just described (heterogeneities in the external source, or, at least, variability of the amplitudes from one observatory to another for each event; differences in local induction) render less significant the value of the average amplitude given for each event of the list. It seems that this difficulty at least cannot be overcome at present.

7) Conclusion

Some words have to be said on the comparison between the present list and that published in Bulletin 33 for the 1868-1967 years.

The latter was based on three observatories. Only one of them was at a low latitude; the other two, with an invariant magnetic latitude of 50° , were strongly sensitive to the auroral effect. Very clearly, the present list is much more reliable. Especially, its starting point, the monthly reports from all observatories, guarantee that very few events have been omitted. Furthermore, thanks to the examination of five low-latitude records, the changes of rhythm could be evaluated much better, and events have been kept or rejected on a more rational basis.

In the 100-year list of Bulletin 33, the amplitude at the low-latitude station given for each event was the most significant one. Facts displayed in section 6 point out that a measurement of amplitude based on a single low-latitude observatory is not as reliable for a given event as one would hope. However, it is probable that, for statistical use, both lists will be relatively homogeneous. Indeed, Alibag (AL) was the low-latitude observatory of the 100-year list and belongs, in the present list, to the group for which the amplitudes are close to the average of the five observatories.

Acknowledgments - Copies of records for special days of the year 1975 and some others for the preceding years have been provided by the ten observatories used in this work; we thank the observatory staffs for their diligence in answering our requests. The World Data Center A for Solar-Terrestrial Physics, N.O.A.A., Boulder, Co., U.S.A., provided the microfilm copies for the 1968-1975 years.

STORM SUDDEN COMMENCEMENTS (ssc) 1968

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 82 following observatories (AC AE AG AK AM AP AQ BA BE BI BU CF CI CO DB DO EB ES FR FU GN GU HA HB HL HO HR HU IR JO KA KN KS KV KY LE LG LM LU LZ MA MB MC ME MG MO MT NE NI NU OD PA PB PE PM PP PR QU SF SI SJ SM SO SU SW TC TE TF TG TK TL TN TO TP TR TU TW UB VI VL WI WN) 69 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

		<u>JANUARY</u>			
02 0221	0 1 1 1 1	(2A, 2B, 4C, 1si)	6.9	7	
(21-23)					
11 1251	2 2 2 2 2	(34A, 31B, 3C, 2si)	4.0	21	
(49-52)					
26 1441	2 2 2 2 2	(35A, 27B, 2C, 6si)	3.4	17	
(40-43)					
		<u>FEBRUARY</u>			
04 0100	1 <u>1</u> 2 2 1	(3A, 6B, 8C, 5si)	4.8	10	
(59-00)					
07 1713	2 2 2 2 2	(3A, 23B, 10C, 5si)	6.3	12	
(12-15)					
10 1621	2 3 2 2 2	(41A, 31B, 3C, 1si)	5.0	28	
(21-23)					
20 0703	2 2 2 2 2	(15A, 33B, 7C, 3si)	2.4	12	
(01-05)					
		<u>MARCH</u>			
09 2340	2 2 2 2 2	(6A, 18B, 13C, 21si)	5.0	13	
(39-41)					
14 0737	2 1 1 2 1	(2A, 6B, 2C, 2si)	5.8	-14	
(35-38)					
		<u>APRIL</u>			
05 1328	1 1 <u>1</u> 2 2	(8A, 25B, 16C, 2si)	7.7	7	
(27-28)					
		<u>MAY</u>			
07 0030	2 2 2 2 2	(16A, 43B, 8C, 2si)	7.6	18	
(28-32)					
		<u>JUNE</u>			
10 2154	2 2 2 2 2	(46A, 28B, 1C, 2si)	3.3	29	
(52-55)					
25 1618	2 2 2 2 2	(13A, 27B, 10C, 10si)	7.4	12	
(16-20)					
		<u>JULY</u>			
09 2155	1 1 1 0 0	(11A, 31B, 15C, 1si)	5.1	9	
(54-56)					
13 1612	3 3 3 3 3	(61A, 15B, 1C)	2.5	42	
(09-13)					
		<u>AUGUST</u>			
23 1714	2 2 2 1 2	(13A, 34B, 8C, 7si)	5.1	12	
(14-15)					
		<u>SEPTEMBER</u>			
02 0826	1 1 2 1 1	(4B, 2C, 2si)	5.2	7	
(26)					
02 2257	1 1 0 1 1	(4A, 10B, 13C, 5si)	6.4	11	
(56-58)					

STORM SUDDEN COMMENCEMENTS (ssc) 1968 - continued

<u>SEPTEMBER</u>				
06 1438 (38)	2 2 2 2 2	(26A, 37B, 2C, 1si)	2.6	14
30 2345 (45-50)	1 2 2 2 2	(11A, 16B, 8C, 5si)	5.9	23
<u>OCTOBER</u>				
02 0018 (15-18)	1 2 2 2 1	(7A, 30B, 9C, 3si)	3.6	15
06 0628 (21-30)	2 2 2 2 2	(15A, 33B, 2C, 11si)	4.0	32
26 1833 (33-54)	2 2 2 2 2	(13A, 35B, 8C, 9si)	4.8	17
28 2132 (32-35)	1 1 1 1 1	(8B, 7C, 1si)	6.6	10
29 0646 (45-47)	1 1 1 1 1	(3A, 8B, 3C, 32si)	3.6	14
29 0909 (08-10)	2 2 2 2 2	(30A, 27B, 4si)	2.8	34
31 0859 (59)	2 2 2 2 2	(23A, 14B, 3C, 2si)	5.0	40
<u>NOVEMBER</u>				
01 0916 (16-18)	2 2 2 2 2	(15A, 26B, 3C, 1si)	3.7	14
16 0915 (15-17)	2 2 2 2 2	(27A, 31B, 2C)	4.7	22
20 0904 (03-05)	2 2 2 2 2	(28A, 29B, 5si)	4.2	38
24 1557 (56-59)	0 0 1 1 1	(7A, 13B, 7C, 28si)	0.7	12
<u>DECEMBER</u>				
05 0633 (33)	2 2 2 2 2	(18A, 36B, 10C, 3si)	3.3	18
11 1509 (08-10)	1 2 2 1 1	(7A, 14B, 16C, 11si)	4.4	15

STORM SUDDEN COMMENCEMENTS (ssc) 1969

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 85 following observatories (AC AE AK AM AP AQ BA BE BI BU CF CI CO DB DO DS DU EB ES FR FU GN GU HB HL HO HR HU IK IR JO KA KG KN KS KV KY LE LG LM LU LZ MA MB MC ME MG MO MT NE NI NU OD OT PA PB PE PM PP PR QU SF SJ SM SO SU SW TC TE TF TG TK TL TN TO TP TR TU TW UB VI VL WI WN) 80 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

JANUARY

07 0323 (21-25)	2 2 2 2 2	(11A, 28B, 12C, 10si)	6.7	11
25 0036 (35-36)	0 1 1 1 0	(5B, 8C, 2si)	3.5	5

FEBRUARY

02 1502 (01-06)	2 3 3 3 3	(49A, 19B, 1C, 3si)	2.7	25
10 2024 (15-30)	2 2 2 1 1	(19A, 39B, 11C)	0.7	6
26 0158 (56-63)	2 2 2 2 2	(25A, 37B, 8C, 3si)	4.6	18
28 0423 (22-24)	2 2 2 2 2	(15A, 16B, 5C, 20si)	2.5	24

MARCH

04 1821 (19-25)	2 2 1 2 1	(10A, 15B, 12C, 6si)	5.5	9
17 0030 (26-32)	1 2 2 2 2	(21A, 26B, 5C, 13si)	3.2	16
19 1958 (57-64)	2 2 2 2 2	(42A, 28B, 2C, 3si)	3.4	34
23 1012 (12-14)	2 2 1 2 2	(4A, 16B, 16C, 17si)	4.8	10
23 1826 (24-27)	3 3 2 2 3	(49A, 14B, 3si)	2.9	31
30 2119 (18-20)	1 2 2 1 1	(19A, 8B, 5C, 20si)	3.9	28

APRIL

12 2046 (45-47)	2 2 2 2 2	(36A, 29B, 3C, 5si)	2.2	25
27 1831 (30-32)	1 1 1 0 0	(4A, 23B, 9C, 8si)	4.2	14
28 0252 (51-53)	3 3 3 3 3	(41A, 27B, 4si)	4.0	31

MAY

02 1322 (21-33)	1 2 2 1 2	(23A, 32B, 3C, 8si)	2.1	16
14 1929 (29-35)	3 3 3 2 3	(63A, 10B, 1C, 1si)	2.1	51
17 2059 (59)	1 1 1 0 0	(8B, 5C, 11si)	5.5	11

JUNE

08 0509 (07-11)	2 2 2 2 2	(28A, 37B, 3C, 6si)	5.3	35
16 0622 (20-22)	1 1 2 1 1	(2A, 15B, 10C, 13si)	6.4	19

STORM SUDDEN COMMENCEMENTS (ssc) 1969 - continued

<u>JUNE</u>						
30 2258 (57-60)	1 1 1 0 0	(1A, 7B, 7C, 9si)	4.9	6		
<u>JULY</u>						
20 1136 (35-37)	1 1 1 1 1	(3A, 6B, 6C, 21si)	7.1	12		
26 1153 (48-56)	2 2 2 2 2	(36A, 22B, 1C, 1si)	3.3	30		
<u>AUGUST</u>						
26 0435 (31-37)	1 2 2 2 2	(8A, 18B, 8C, 6si)	4.4	12		
<u>SEPTEMBER</u>						
14 1518 (16-18)	2 2 2 2 2	(17A, 30B, 7C, 2si)	5.4	15		
27 2125 (24-25)	3 3 3 2 2	(39A, 20B, 1si)	2.8	31		
29 0453 (49-54)	2 2 2 2 2	(18A, 34B, 2C, 7si)	3.1	21		
<u>OCTOBER</u>						
09 1639 (37-39)	2 2 2 2 2	(8A, 35B, 10C, 10si)	5.8	14		
18 2029 (26-30)	2 2 2 2 2	(8A, 26B, 9C, 16si)	5.1	14		
24 0141 (40-43)	1 2 2 2 2	(8A, 22B, 15C, 9si)	4.1	11		
<u>NOVEMBER</u>						
08 1837 (32-37)	2 2 2 2 2	(28A, 23B, 3C, 6si)	4.2	30		
22 0254 (50-55)	1 1 1 1 1	(13A, 28B, 5C, 21si)	5.2	21		
26 1507 (00-09)	0 1 2 2 2	(9A, 23B, 19C, 5si)	5.8	16		
<u>DECEMBER</u>						
11 1215 (15)	0 0 1 1 1	(3B, 8C, 11si)	5.5	8		

STORM SUDDEN COMMENCEMENTS (ssc) 1970

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 83 following observatories (AC AE AK AM AP AQ BA BE BT BU CF CI CO DB DO DS DU EB ES FR FU GN GU HB HL HO HR HU IK IR JO KA KG KM KS KV KY LE LG LM LV LZ MA MB MC ME MG MO MT NE NI NU OD OT PB PE PH PP PR QU SF SI SJ SM SO SS SV SW SZ TE TF TK TL TN TO TR TU TW UB VI VL WI WN) 78 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

JANUARY

05 0607 (05-12)	1 1 1 2 1	(2A, 6B, 4C, 13si)	4.9	10
14 2028 (15-30)	0 1 1 1 1	(4A, 8B, 5C, 23si)	6.1	11
29 1839 (35-44)	0 1 1 1 1	(3A, 11B, 10C, 13si)	5.2	11

FEBRUARY

01 1223 (19-25)	0 1 1 0 1	(3C, 6si)	6.8	6
23 2013 (09-15)	2 2 2 2 2	(17A, 31B, 2C, 24si)	4.9	17

MARCH

05 0805 (01-06)	2 1 1 1 1	(25A, 31B, 5C, 5si)	3.3	18
08 1417 (03-19)	3 3 3 3 3	(51A, 7B, 2C, 7si)	2.0	64
27 0657 (50-60)	2 2 2 2 2	(44A, 29B, 3C, 2si)	4.7	28
31 0529 (26-40)	2 3 3 3 2	(47A, 21B, 2si)	2.4	38

APRIL

18 0823 (20-25)	1 0 1 1 1	(8A, 14B, 18C, 3si)	3.5	5
20 1122 (20-30)	2 2 2 2 2	(45A, 28B, 1si)	3.3	22

MAY

27 0514 (12-17)	1 1 2 1 1	(1A, 9B, 12C, 5si)	5.7	8
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JUNE

01 0305 (00-12)	2 2 2 2 2	(40A, 25B, 7si)	2.6	32
02 0209 (03-13)	2 2 2 2 2	(17A, 28B, 26si)	2.8	23
17 0750 (47-54)	2 2 2 2 2	(29A, 24B, 7C, 7si)	3.7	22
27 0605 (57-09)	3 3 3 3 3	(48A, 22B, 1C)	2.6	41

JULY

01 1302 (50-04)	1 1 1 1 1	(14A, 24B, 5C, 17si)	4.2	13
03 0334 (29-38)	1 1 0 2 1	(2A, 6B, 14C, 8si)	5.7	12
03 2251 (49-53)	3 3 2 2 2	(55A, 20B, 1C)	2.9	28
05 0212 (10-13)	1 1 0 1 1	(1A, 2B, 6C, 2si)	6.8	8
08 2317 (13-22)	3 3 3 2 2	(54A, 19B, 1C)	4.0	32

STORM SUDDEN COMMENCEMENTS (ssc) 1970 - continued

<u>JULY</u>						
21 0734 (30-39)	2 2 2 2 2	(3A, 16B, 12C, 4si)	8.3	14		
24 1125 (19-30)	1 0 0 1 1	(5A, 12B, 6C, 18si)	4.1	13		
24 2350 (38-69)	3 3 2 2 3	(39A, 19B, 1C, 8si)	3.6	44		
29 0043 (35-45)	2 2 2 2 2	(21A, 36B, 9C, 2si)	4.3	19		
<u>AUGUST</u>						
15 2140 (37-43)	1 1 1 1 0	(6A, 9B, 3C, 36si)	5.7	12		
16 2204 (58-09)	3 3 3 3 3	(63A, 10B, 1C)	3.4	68		
31 0334 (28-44)	2 2 2 2 2	(6A, 33B, 9C, 15si)	5.4	14		
<u>SEPTEMBER</u>						
none						
<u>OCTOBER</u>						
16 0917 (13-20)	2 3 3 3 3	(41A, 28B, 1C, 1si)	3.7	32		
<u>NOVEMBER</u>						
07 0046 (43-58)	3 3 3 3 3	(62A, 11B, 1C)	3.6	53		
18 1225 (18-30)	3 2 2 3 3	(52A, 19B, 1C, 1si)	3.2	37		
21 0622 (16-32)	0 1 1 1 1	(16A, 31B, 16C, 6si)	4.4	10		
<u>DECEMBER</u>						
02 1438 (32-42)	1 1 1 2 1	(5A, 15B, 13C, 18si)	5.6	12		
04 1054 (52-58)	0 1 0 1 1	(2C, 5si)	6.7	7		
14 0154 (45-59)	2 2 3 3 2	(47A, 19B)	3.0	35		
18 2144 (35-48)	2 2 2 2 2	(10A, 26B, 8C, 22si)	5.4	19		
29 1530 (18-33)	2 2 2 2 2	(5A, 19B, 12C, 12si)	5.9	17		

STORM SUDDEN COMMENCEMENTS (ssc) 1971

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 86 following observatories (AC AE AM AP AQ AV BA BE BT CF CI CO DB DO DS DU EB ES FR FU GN GU HA HB HL HO HR HU IK IR JO KA KG KN KS KV KY LE LG LM LU LZ MA MB MC ME MG MN MO MT NE NI NU OD OT PB PE PM PP PR QU SF SJ SM SO SS SU SW SZ TA TE TF TG TK TL TN TO TR TU TW UB VI VL WI WN) 81 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

JANUARY

18 0900 (55-02)	2 2 2 2 2	(15A, 31B, 7C, 5si)	5.3	16
24 1930 (22-36)	2 2 2 2 2	(13A, 18B, 8C, 18si)	3.2	8
27 0430 (25-36)	3 3 2 3 3	(59A, 15B, 1C, 1si)	2.8	31

FEBRUARY

08 2036 (31-38)	2 2 2 2 2	(12A, 17B, 16C, 14si)	4.5	17
23 0514 (02-17)	1 1 1 2 1	(6A, 11B, 17C, 17si)	5.6	8

MARCH

19 1150 (40-55)	2 2 2 2 2	(17A, 39B, 3C, 10si)	4.9	15
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APRIL

03 2139 (28-45)	3 3 2 2 2	(34A, 19B, 6C, 5si)	4.2	32
09 0428 (25-30)	2 2 2 2 2	(18A, 43B, 10C, 1si)	4.7	13
14 1243 (41-45)	2 2 2 2 2	(43A, 21B, 3C)	5.0	21
28 1306 (00-09)	2 2 2 2 2	(26A, 15B, 2C, 18si)	7.5	31

MAY

30 0736 (25-39)	2 2 2 2 1	(19A, 33B, 7C, 6si)	4.8	14
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JUNE

13 1325 (20-28)	1 1 0 1 1	(3A, 24B, 12C, 12si)	7.0	6
22 2303 (57-18)	1 1 0 1 1	(1A, 3B, 7C, 16si)	6.3	9

JULY

05 1813 (07-24)	1 1 1 0 0	(1A, 1B, 4C, 3si)	3.4	4
08 1728 (24-30)	1 1 0 1 1	(1A, 12B, 11C, 8si)	5.9	7
21 0522 (14-25)	2 2 2 2 2	(10A, 30B, 5C, 1si)	6.2	14

AUGUST

07 1436 (29-40)	1 1 0 0 1	(1A, 9B, 9C, 3si)	3.2	3
17 2043 (39-46)	2 2 2 1 2	(6A, 20B, 12C, 4si)	6.7	8
30 2303 (00-06)	2 2 2 2 2	(11A, 19B, 7C, 7si)	5.8	19

STORM SUDDEN COMMENCEMENTS (ssc) 1971 - continued

<u>SEPTEMBER</u>							
04 1646 (39-50)	2	2	1	2 1	(16A, 37B, 10C, 5si)	4.2	10
04 1909 (08-12)	1	0	2	1 1	(2A, 1B, 7si)	6.3	9
24 1431 (29-37)	1	<u>1</u>	0	1 1	(1A, 9B, 14C, 3si)	3.2	4
<u>OCTOBER</u>							
05 2245 (38-50)	2	2	2	2 2	(37A, 24B, 4C, 5si)	3.9	25
07 1602 (00-03)	1	<u>1</u>	1	1 1	(2A, 8B, 15C, 6si)	3.4	3
08 1703 (55-05)	2	2	1	2 2	(20A, 21B, 6C, 18si)	3.4	19
11 1211 (01-14)	1	0	1	1 0	(3A, 14B, 7C, 16si)	3.5	7
<u>NOVEMBER</u>							
none							
<u>DECEMBER</u>							
16 1904 (00-08)	2	2	2	2 2	(43A, 28B, 4C, 1si)	4.0	24
17 1418 (12-22)	2	2	3	3 3	(51A, 14B, 7si)	4.1	42
19 0642 (39-45)	1	1	1	1 1	(2A, 5B, 1C, 1si)	9.6	11

STORM SUDDEN COMMENCEMENTS (ssc) 1972

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 84 following observatories (AC AE AM AP AQ AV BA BE BI CF CI CO DB DO DS DU EB ES FR FU GC GN GU HA HB HL HO HR HU IK IR KA KG KN KS KV KY LE LG LM LU LZ MA MB ME MG MO MT NE NI NU OD OT PE PM PP PR QU SF SI SJ SM SO SS SU SW SZ TA TE TF TG TI TK TL TN TO TR TU TW UB VI VL WI WN) 67 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

JANUARY

21 1151 (42-57)	2 2 2 2 2	(21A, 19B, 5C, 4si)	4.2	28
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FEBRUARY

01 1010 (08-15)	1 1 1 2 1	(2A, 10B, 1C, 18si)	9.6	13
09 1937 (26-41)	1 1 1 1 0	(1A, 5B, 4C, 10si)	6.2	8
13 0940 (30-54)	1 1 0 1 0	(12A, 21B, 11C, 10si)	3.4	7
18 2339 (33-43)	2 2 2 2 1	(11A, 15B, 3C, 23si)	5.4	21
24 0642 (36-50)	2 2 2 2 2	(33A, 26B, 6C, 1si)	4.4	28

MARCH

06 2108 (57-18)	3 3 3 3 3	(69A, 10B)	2.6	62
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APRIL

20 1050 (43-53)	2 <u>1</u> 1 1 1	(9A, 23B, 10C, 12si)	6.0	9
29 0345 (41-48)	0 <u>1</u> 1 1 1	(1A, 6B, 3si)	8.2	14

MAY

09 0518 (15-21)	2 <u>2</u> 2 1 2	(9A, 28B, 12C, 9si)	4.0	10
15 1849 (44-55)	3 <u>3</u> <u>3</u> 3 3	(66A, 9B)	4.0	76
17 0227 (24-30)	1 0 0 1 1	(1A, 3B, 13si)	11.6	23
30 1420 (15-24)	2 <u>2</u> 2 1 2	(5A, 13B, 7C, 10si)	5.1	15

JUNE

06 1445 (42-49)	2 <u>2</u> 1 2 2	(11A, 22B, 3C, 21si)	6.2	14
17 0629 (24-33)	0 <u>0</u> 1 1 1	(6A, 15B, 5C, 9si)	2.9	8
17 1312 (06-17)	3 <u>2</u> 3 3 2	(50A, 16B, 3si)	3.1	33

JULY

24 1856 (53-64)	1 2 1 0 0	(3A, 15B, 11C, 3si)	13.7	12
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STORM SUDDEN COMMENCEMENTS (ssc) 1972 - continued

<u>AUGUST</u>				
04 0119 (14-31)	2 2 2 2 2	(42A, 25B, 3si)	3.0	22
04 0220 (17-22)	3 3 2 3 2	(32A, 10B, 13si)	2.5	45
04 2054 (40-67)	3 3 3 3 3	(43A, 6B, 2C, 8si)	2.7	74
08 1341 (37-43)	1 1 0 1 1	(7A, 14B, 8C, 7si)	3.2	6
08 2354 (51-60)	2 2 2 <u>2</u> 2	(27A, 19B, 7C, 10si)	4.6	24
09 0037 (33-39)	2 2 2 2 1	(17A, 11B, 18si)	2.3	37
25 2259 (56-62)	2 <u>2</u> 2 2 2	(18A, 30B, 6C, 8si)	4.4	19
27 0502 (00-03)	2 1 1 2 2	(2A, 7B, 3C, 27si)	5.0	22
<u>SEPTEMBER</u>				
10 0628 (24-33)	1 1 1 1 2	(2A, 5B, 9C, 9si)	5.1	13
13 1240 (34-42)	3 3 3 3 3	(54A, 10B)	4.5	57
29 1138 (35-41)	1 <u>0</u> 0 1 1	(3A, 9B, 12C, 3si)	5.9	7
<u>OCTOBER</u>				
07 1024 (19-28)	2 <u>2</u> 1 2 2	(12A, 15B, 6C, 19si)	6.0	16
18 1746 (43-52)	2 2 2 2 2	(37A, 25B, 1C, 1si)	5.0	29
31 1654 (48-55)	3 3 2 3 3	(46A, 14B, 3C)	2.2	40
<u>NOVEMBER</u>				
none				
<u>DECEMBER</u>				
12 2145 (42-49)	2 2 2 2 1	(4A, 17B, 17C, 4si)	3.0	10

STORM SUDDEN COMMENCEMENTS (ssc) 1973

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 79 following observatories (AC AE AM AP AQ BA BE BU CF CI CO CZ DB DO DS DU EB ES FR FU GN GU HB HL HO HR HU IK IR KA KG KS KV KY LE LG LM LU LZ MA MB ME MO MT NE NI NU OD OT PE PM PP PR QU SF SI SJ SM SO SS SU SW SZ TA TE TF TG TI TK TL TN TO TU TW UB VI VL WI WN) 67 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

		<u>JANUARY</u>	
03 2118 (13-20)	2 2 2 2 2	(11A, 15B, 14C, 15si)	4.4 16
		<u>FEBRUARY</u>	
13 2119 (16-24)	2 2 2 2 1	(7A, 14B, 6C, 28si)	3.0 16
16 1312 (12)	1 1 1 1 1	(1A, 1si)	5.7 -5
		<u>MARCH</u>	
16 0625 (19-27)	2 2 2 2 2	(17A, 14B, 7C, 10si)	4.2 25
		<u>APRIL</u>	
10 2110 (08-12)	1 1 1 2 1	(3A, 10B, 10C, 6si)	5.8 7
12 0705 (02-07)	0 1 1 1 1	(1B, 2C, 7si)	4.9 6
13 0438 (34-41)	2 2 2 3 3	(35A, 25B, 1C)	2.6 43
14 0247 (42-50)	2 2 2 2 2	(22A, 23B, 5C, 7si)	4.2 33
		<u>MAY</u>	
01 1733 (30-35)	2 2 2 2 2	(7A, 27B, 7C, 17si)	2.6 12
06 1339 (30-41)	2 2 2 2 2	(5A, 26B, 10C, 8si)	5.0 13
21 0252 (46-57)	2 2 2 2 2	(24A, 27B, 1C, 5si)	3.2 26
		<u>JUNE</u>	
10 1042 (38-49)	2 2 2 2 2	(8A, 19B, 8C, 2si)	15.0 25
		<u>JULY</u>	
31 0546 (44-52)	0 1 2 1 1	(7A, 11B, 5C, 16si)	1.9 21
		<u>AUGUST</u>	
02 1249 (48-52)	2 2 2 2 2	(20A, 22B, 3C, 6si)	3.9 21
20 0855 (55)	0 1 1 1 0	(1C)	8.8 9
		<u>SEPTEMBER</u>	
none			

STORM SUDDEN COMMENCEMENTS (ssc) 1973 - continued

		<u>OCTOBER</u>						
16 0520	2	<u>2</u>	2	2	2	(2A, 10B, 9C)	3.8	7
(19-22)								
28 0733	1	<u>1</u>	1	0	0	(6B, 9C, 2si)	4.9	6
(25-35)								

NOVEMBER

none

DECEMBER

none

STORM SUDDEN COMMENCEMENTS (ssc) 1974

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 73 following observatories (AC AE AQ BA BE BU CF CI CO CZ DB DO DS DU EB ES FR FU GN GU HB HL HO HR HU IK IR KA KG KS KV KY LE LG LM LU LZ MA MO MT NE NI NU OD OT PE PM PP QU SF SI SJ SM SO SS SU SW SZ TA TF TG TI TK TL TN TO TU TW UB VI VL WI WN) 59 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

			<u>JANUARY</u>			
			none			
			<u>FEBRUARY</u>			
			none			
			<u>MARCH</u>			
19 2205	1 2 2 2 1		(6A, 15B, 12C, 15si)	3.8		9
(03-08)						
			<u>APRIL</u>			
03 0437	1 2 2 2 2		(6A, 17B, 7C, 19si)	4.8		19
(35-40)						
			<u>MAY</u>			
			none			
			<u>JUNE</u>			
10 1850	2 2 1 2 2		(23A, 25B, 5C, 5si)	6.5		18
(46-55)						
23 0858	2 2 2 2 2		(15A, 13B, 7C, 13si)	6.1		21
(52-63)						
25 2329	2 2 2 2 2		(45A, 18B, 2C)	3.9		34
(23-33)						
			<u>JULY</u>			
04 1534	2 2 2 2 2		(27A, 21B, 4C, 4si)	4.7		24
(27-36)						
06 0322	3 3 3 3 3		(31A, 8B, 8si)	1.6		50
(20-31)						
			<u>AUGUST</u>			
02 1227	1 1 2 2 2		(4A, 18B, 19C)	5.6		8
(25-30)						
			<u>SEPTEMBER</u>			
15 1343	3 3 3 3 2		(46A, 12B)	3.1		40
(40-46)						
18 1434	2 2 2 2 2		(36A, 18B, 3C)	1.2		21
(31-36)						
			<u>OCTOBER</u>			
12 1244	2 2 2 2 2		(36A, 21B, 1C, 2si)	3.3		23
(40-49)						
14 1634	1 1 0 0 1		(3A, 16B, 15C, 2si)	2.5		6
(31-36)						
23 1849	1 1 0 1 1		(4B, 6C)	5.1		4
(48-50)						

STORM SUDDEN COMMENCEMENTS (ssc) 1974 - continued

NOVEMBER

08 1414	2 2 2 2 2	(28A, 31B, 3C, 1si)	4.7	23
(09-17)				
19 0130	0 1 0 1 1	(1B, 1C, 1si)	5.3	5
(28-31)				

DECEMBER

none

STORM SUDDEN COMMENCEMENTS (ssc) 1975

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the 61 following observatories (AC AE AP AQ BA BE BU CF CI CO CZ DB DO DU EB ES FR FU GN GU HB HL HO HR HU IK KA KG KS KY LE LG LM MT NE NI NU OT PE PM PP SF SI SJ SO SS SU SW SZ TA TE TI TL TN TO TU TW VI VL WI WN) 53 of which have regularly sent a monthly sheet to the central bureau, and from the copies of records sent by five observatories (see the introduction).

			<u>JANUARY</u>			
06 1957	1 1 <u>2</u> 1 <u>1</u>	(11A, 8B, 5C, 9si)	3.4	31		
(54-60)						
07 2322	2 2 <u>2</u> 2 2	(10A, 19B, 14C, 6si)	2.3	13		
(14-29)						
						<u>FEBRUARY</u>
23 0826	2 1 <u>2</u> 2 2	(8B, 5C, 1si)	4.0	11		
(22-28)						
						<u>MARCH</u>
						none
						<u>APRIL</u>
						none
						<u>MAY</u>
01 0616	1 1 1 1 1	(2A, 4B, 3C, 12si)	7.0	14		
(12-19)						
16 0308	2 2 2 2 <u>2</u>	(15A, 26B, 9C, 2si)	5.7	18		
(05-15)						
19 1951	2 2 2 2 2	(36A, 17B, 2C, 1si)	2.7	34		
(48-54)						
						<u>JUNE</u>
						none
						<u>JULY</u>
06 1721	2 2 2 2 2	(12A, 22B, 4C, 4si)	6.2	14		
(18-25)						
25 0221	0 1 1 1 0	(8A, 15B, 11C, 1si)	5.1	11		
(10-24)						
31 2215	1 1 2 2 2	(8A, 18B, 10C, 9si)	5.0	13		
(10-20)						
						<u>AUGUST</u>
08 0315	0 1 1 1 <u>0</u>	(6A, 16B, 4C, 7si)	4.6	18		
(07-18)						
						<u>SEPTEMBER</u>
						none
						<u>OCTOBER</u>
03 1115	1 1 1 0 1	(4A, 13B, 11C, 2si)	4.9	7		
(11-16)						
14 0617	2 2 2 2 2	(1A, 7B, 1C, 10si)	5.0	9		
(09-19)						

STORM SUDDEN COMMENCEMENTS (ssc) 1975 - continued

NOVEMBER

21 2305	0 1 1 1 <u>1</u>	(4A, 12B, 6C, 8si)	4.0	12
(02-07)				

DECEMBER

none

YEARLY DIAGRAMS OF MAGNETIC ACTIVITY FOR THE YEARS 1957-1975

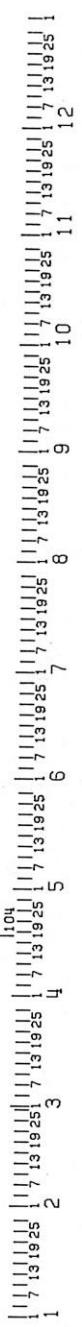
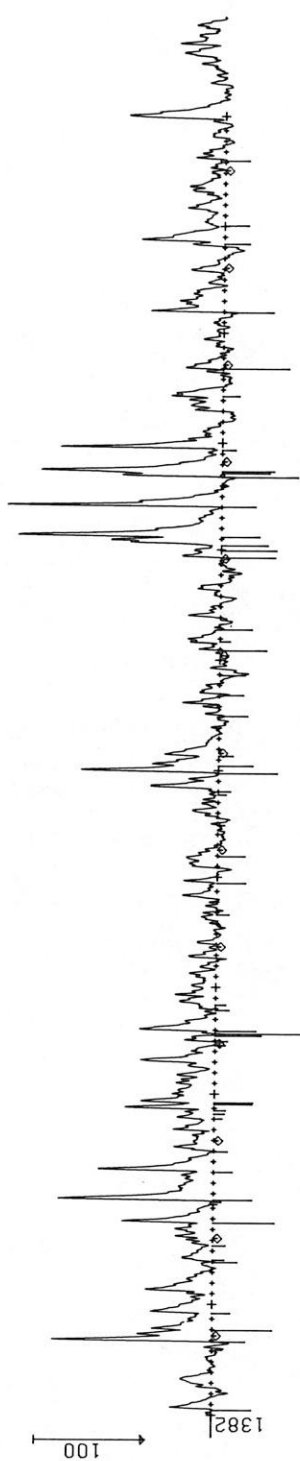
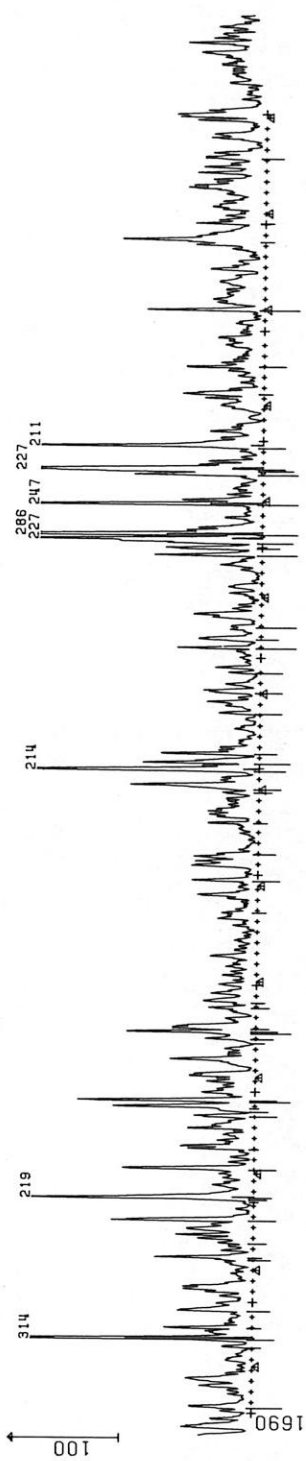
The set of yearly diagrams presented in this Bulletin aims at being a continuation of those contained in IAGA Bulletin 33 for the 1868-1967 years, but also aims at providing a more complete picture of the magnetic activity. By displaying simultaneously the Dst, am, an and as indices, as well as the ssc's, each yearly diagram makes up a significant summary of the magnetic activity in the course of a year. The 11 years overlap between both sets of diagrams permits one to make a comparison.

The frame of the diagrams is identical to the frame used in Bulletin 33 (see p. 12-13 for the description of the time-marks, of the triangles and rhombs indicating Bartels and Carrington rotations). The only further comment to make about this frame concerns the choice between Bartels or Carrington rotations; Mayaud (Ann. Géoph., 31, 419, 1975) found that the average duration of the recurrences in magnetic activity is equal to $27.105^{\pm} 0.0013$ days for a 103-year series of indices aa; this indicates that the right value for the duration of the rotation is intermediate between those of the Bartels and Carrington rotations.

Curves of Dst, am, an and as indices are similar to those of the aa index as described in Bulletin 33, page 13. In particular, running twelve-hour averages are used. For each 3-hour interval a value is plotted, which is the average for that interval and the three preceding intervals.

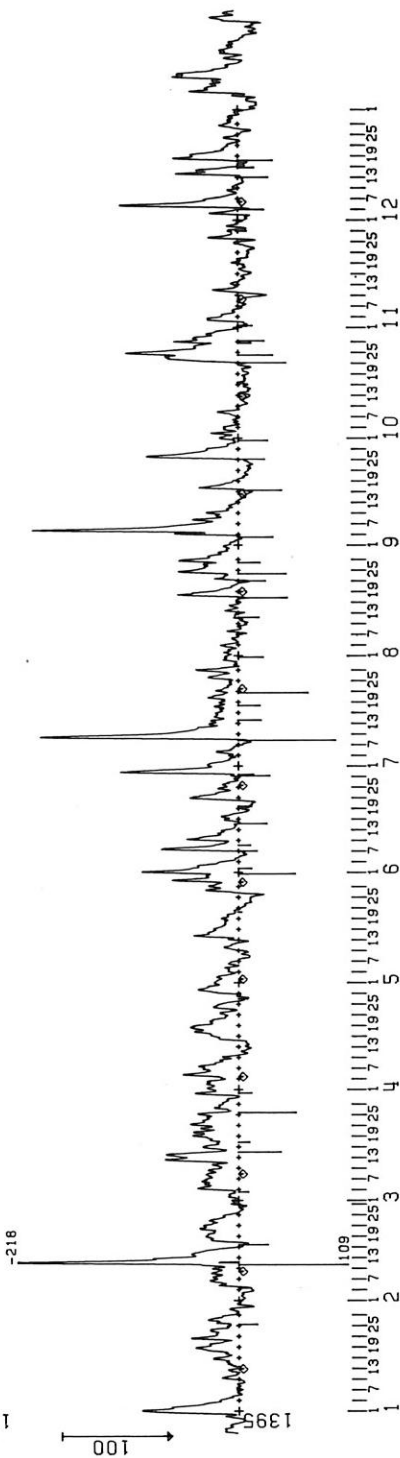
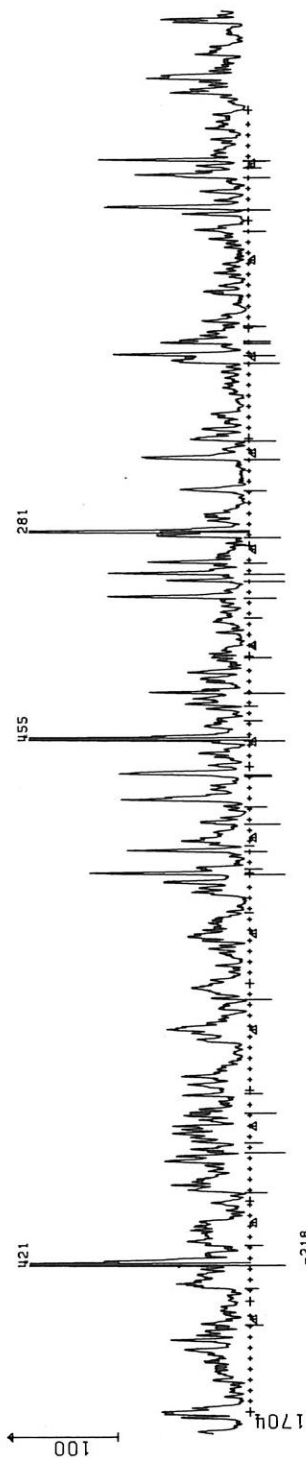
In each diagram, the upper curve corresponds to $(an-as)/2$ - except in 1957-1958 where such a curve is not drawn - , the middle curve corresponds to $am = (an + as)/2$ (aa is plotted instead of am in 1957-1958), and the lower curve corresponds to Dst. Note that a mental addition of the $(an - as)/2$ curve and the am curve gives the value of an; a mental subtraction gives the value of as. Scales are the same for the three curves (see the scales on the left) but am and $(an-as)/2$ are positive upwards, and Dst is positive downwards. Zero levels are the dashed-line with $(an-as)/2$, and the line of crosses with am and Dst. When the values go beyond 200 nT's for am (or -200 nT's for Dst), the variation curve, shifted to the zero level, is drawn again from that level; furthermore, the true value of the extremum is indicated.

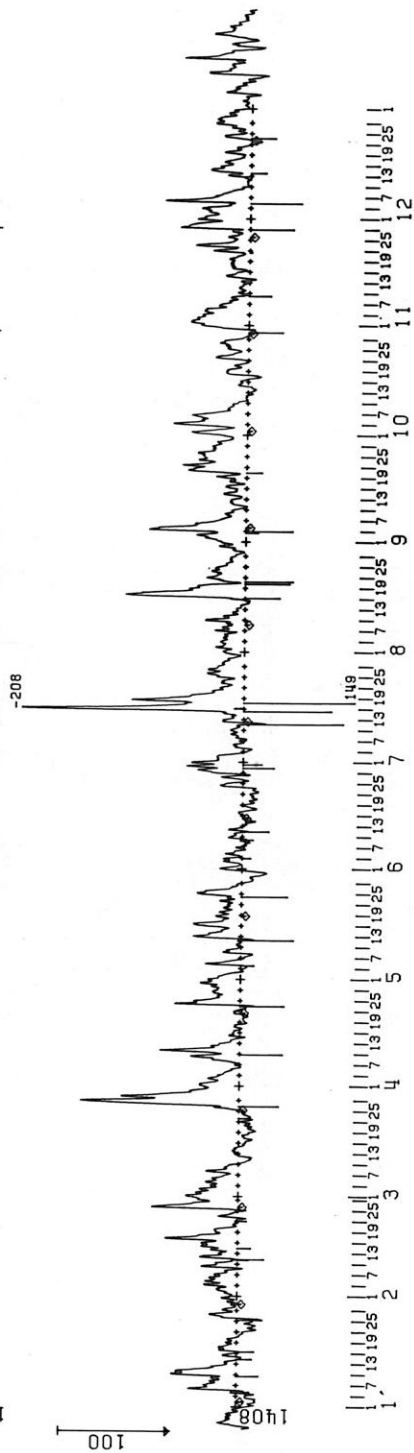
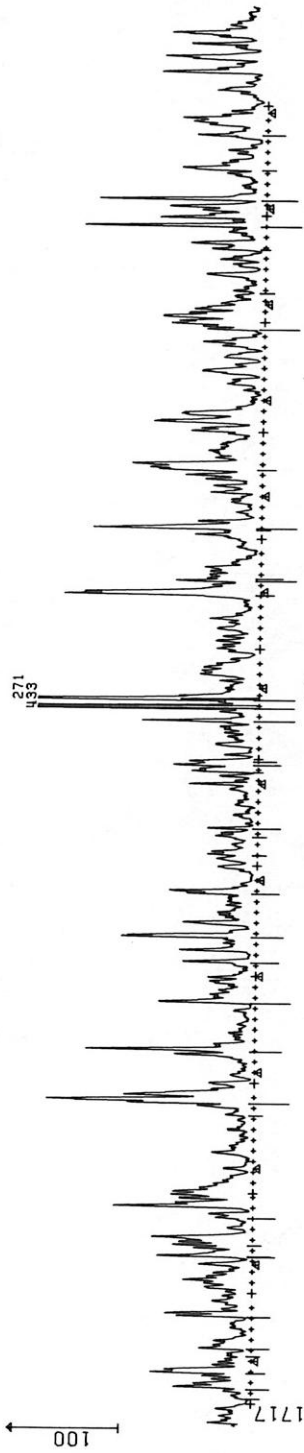
The ssc's are displayed in two ways: 1/ below the am curve, a vertical bar indicates the occurrence of the ssc within the corresponding 3-hour interval; its length is proportional to the average of the code numbers imposed on the ssc for each of the observatories used in the final identification (see Bulletin 33, p. 19-21, for the years 1957-1967, and this Bulletin in the introduction to the ssc-list for the years 1968-1975); 2/ below the Dst curve, a similar vertical bar is drawn, but its length is proportional to the amplitude of the ssc (see references quoted above). The scale and the direction of variation are the same as with the Dst index. When the amplitude goes beyond 100 nT's, the true value is printed beside the bar. Furthermore, when the amplitude is a negative one, and because the vertical bar in such a case could be difficult to distinguish from the Dst curve, a horizontal bar is drawn at the bottom of the vertical bar displaying the quality of the ssc (see an example, in the yearly diagram of 1960, in March).





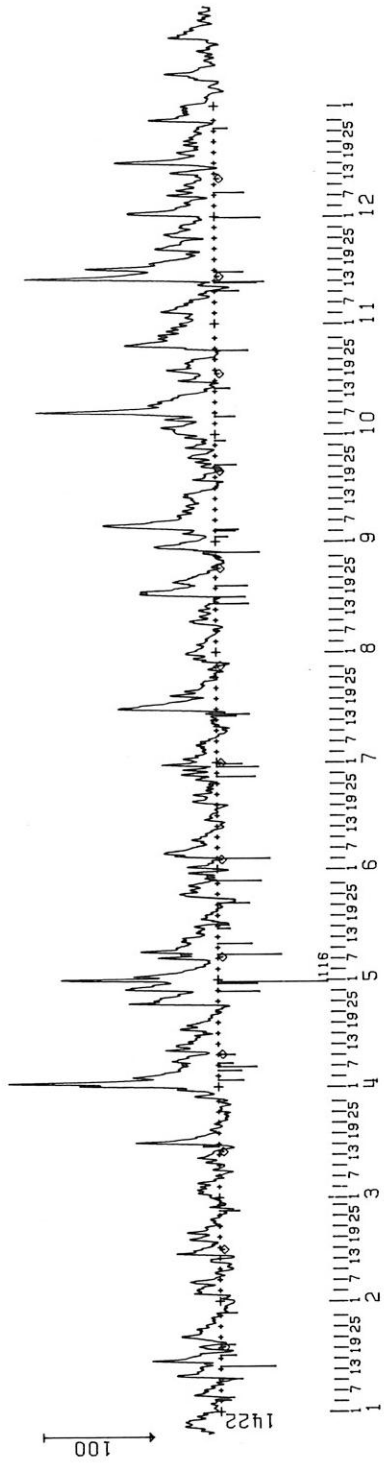
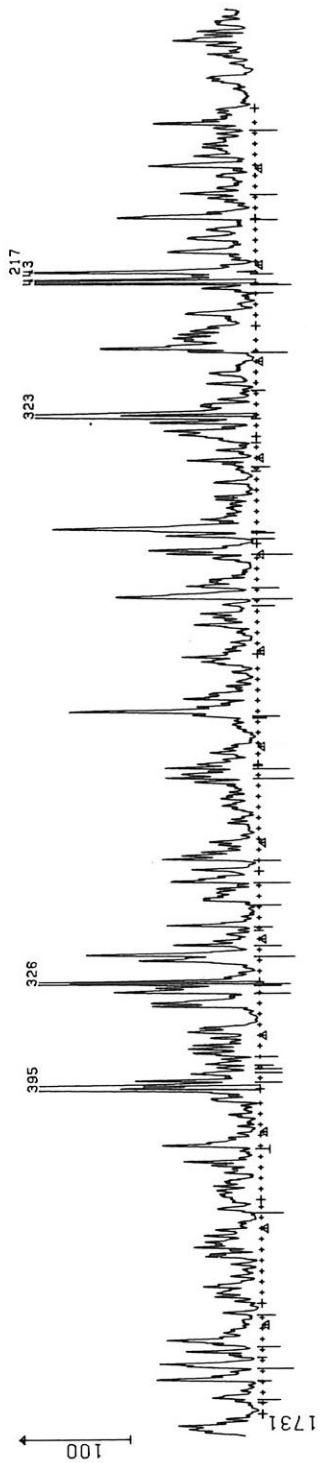
1958

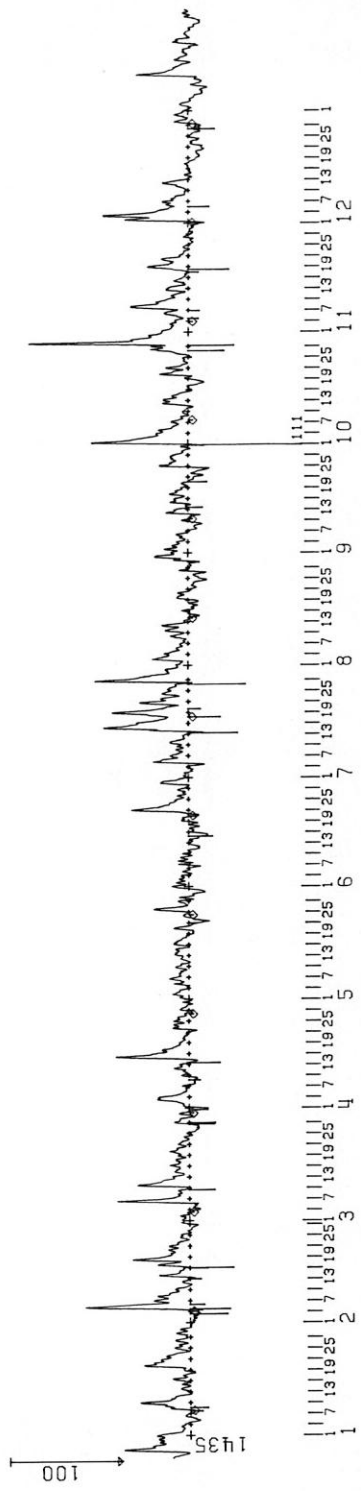
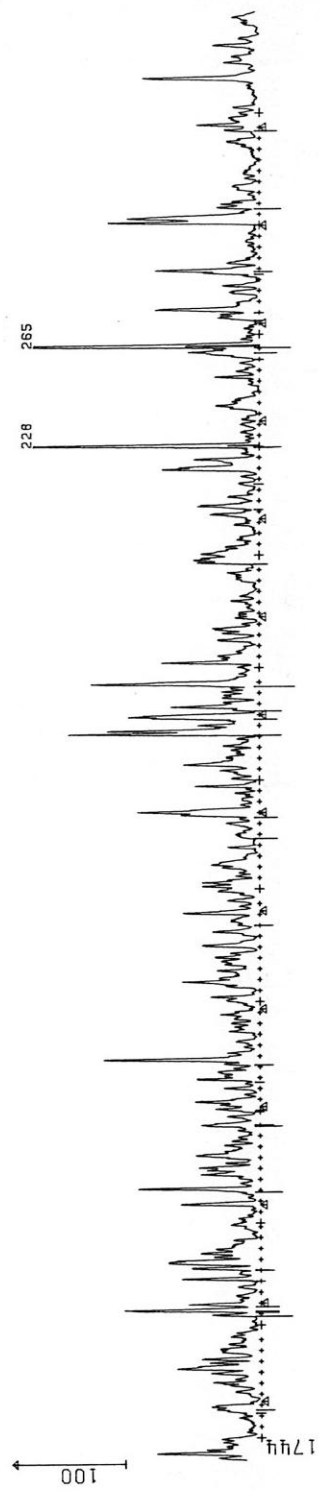
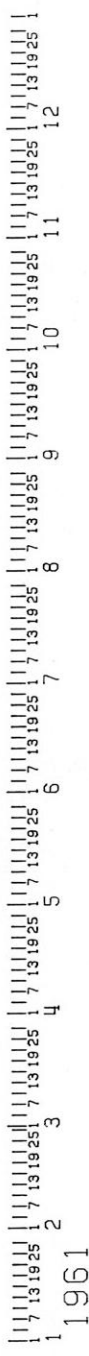




1 7 13 19 25 | 2 7 13 19 25 | 3 7 13 19 25 | 4 7 13 19 25 | 5 7 13 19 25 | 6 7 13 19 25 | 7 7 13 19 25 | 8 7 13 19 25 | 9 7 13 19 25 | 10 7 13 19 25 | 11 7 13 19 25 | 12 7 13 19 25 |

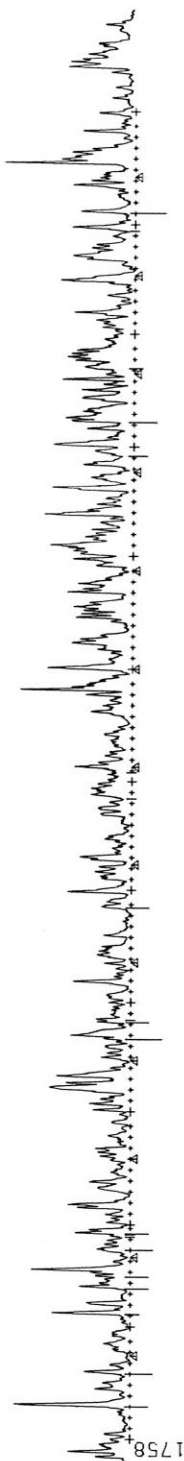
1960





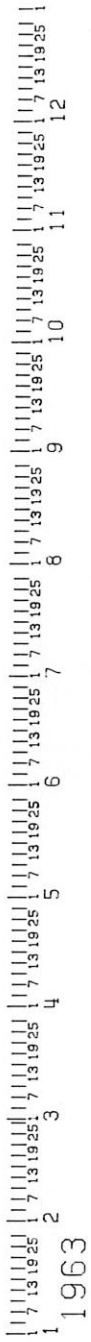


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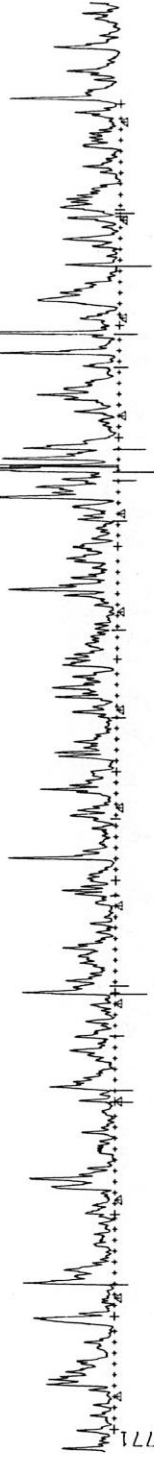
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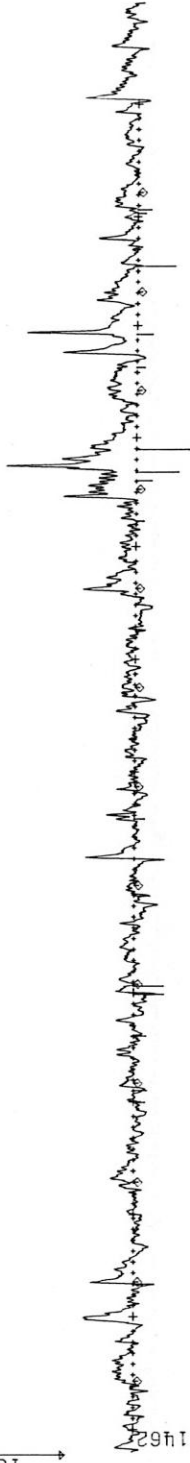


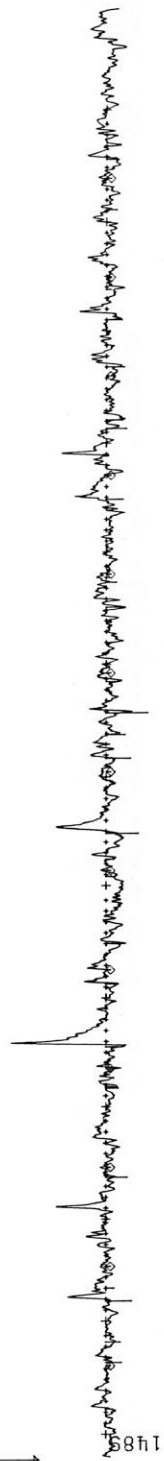
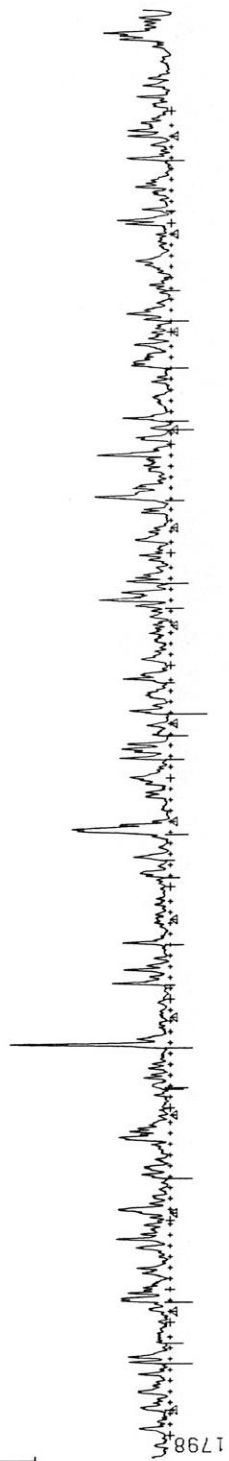
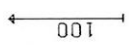
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296



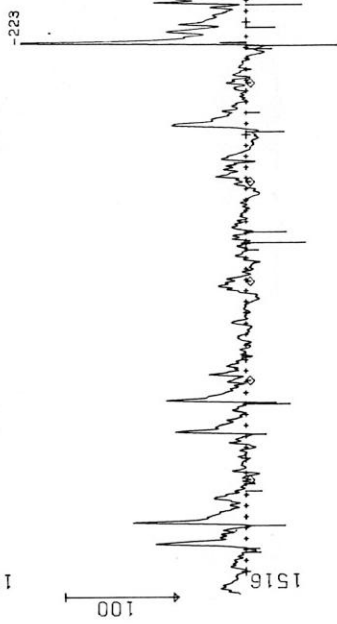
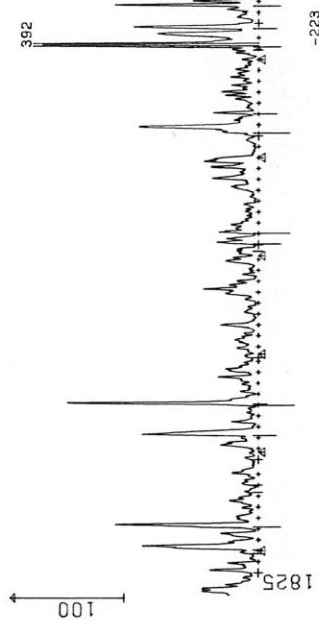
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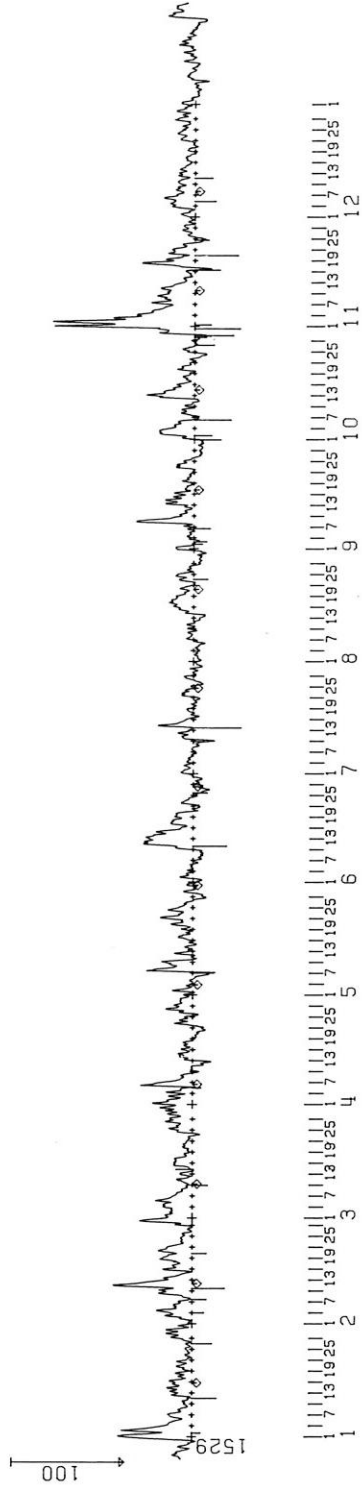
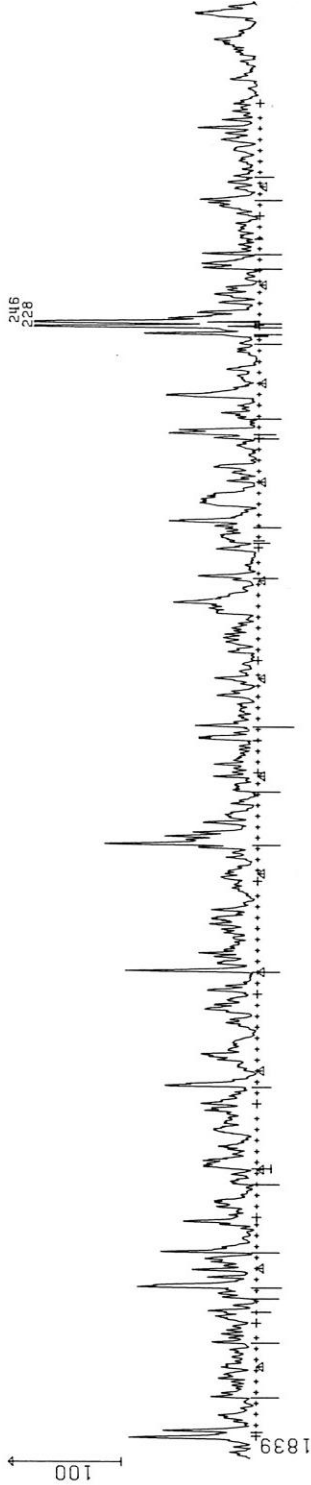


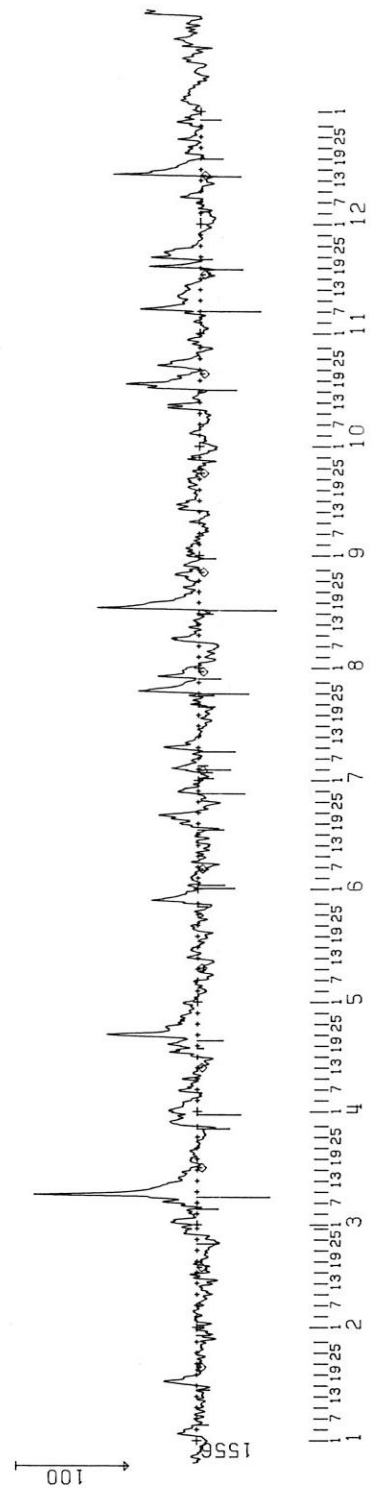
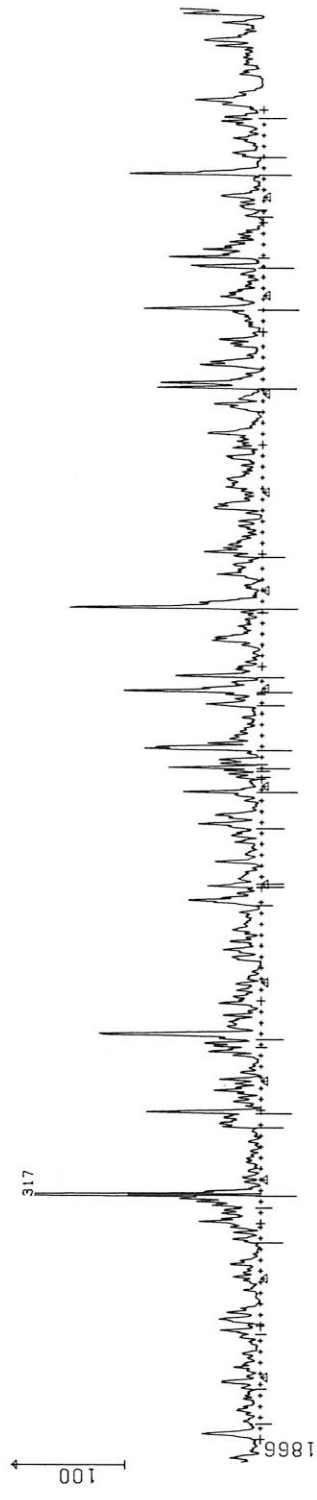
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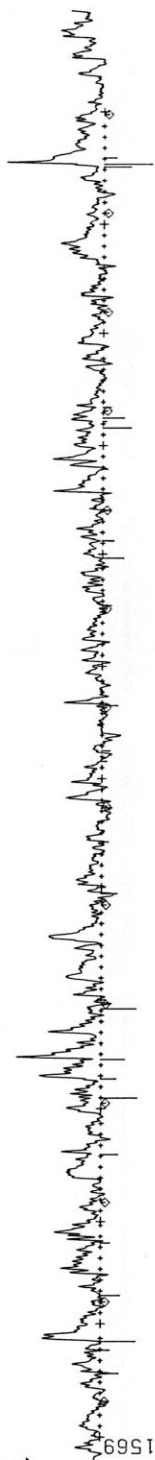
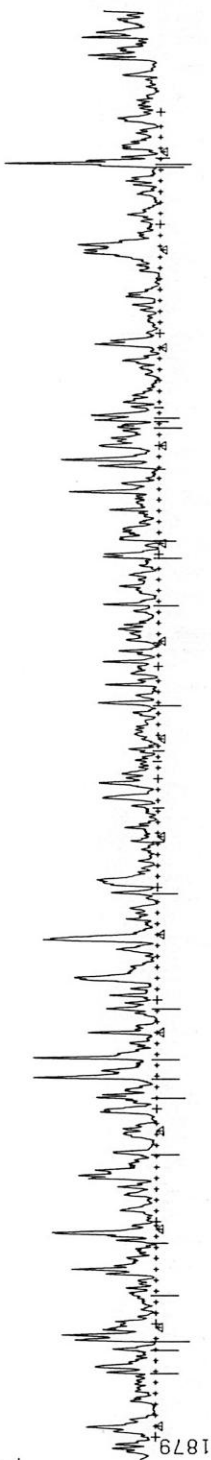
1967

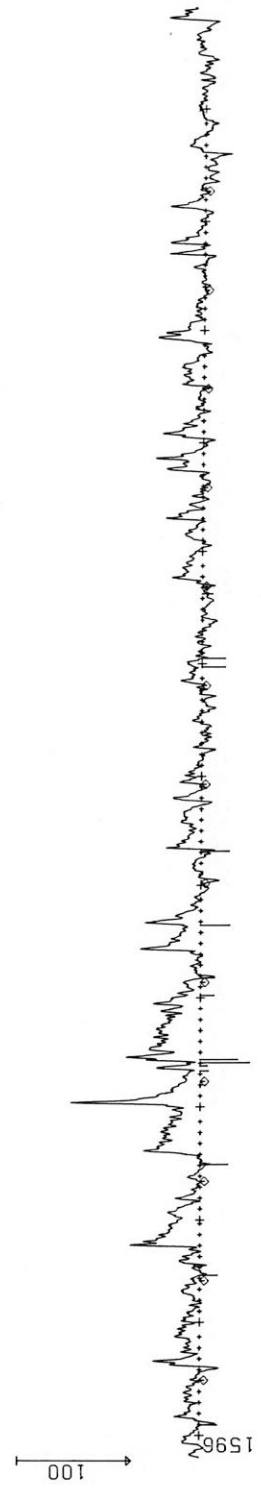
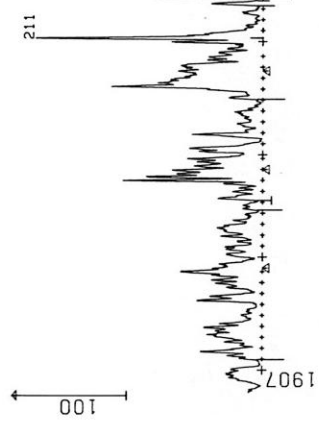


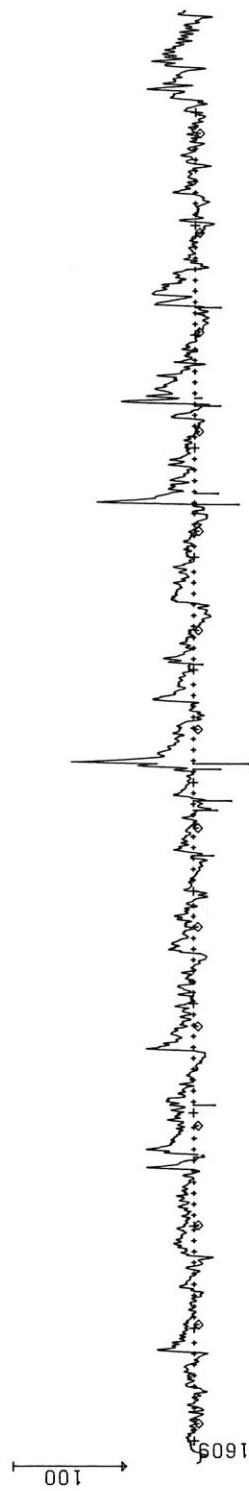
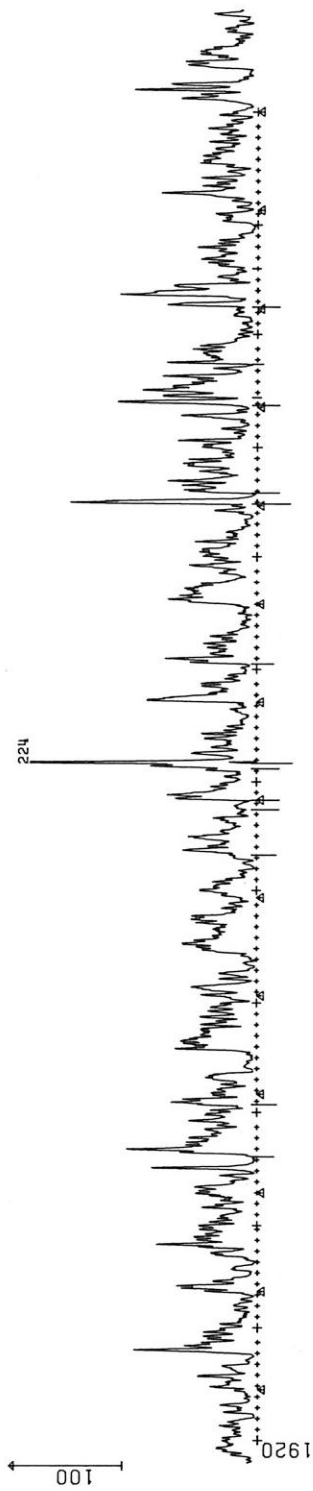
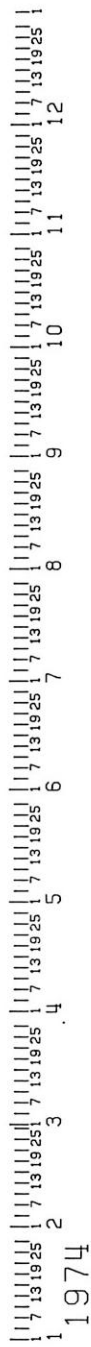
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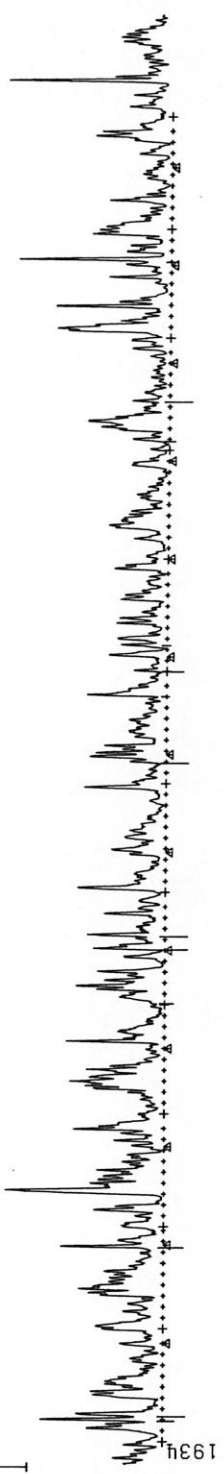




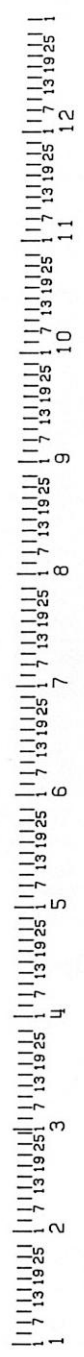


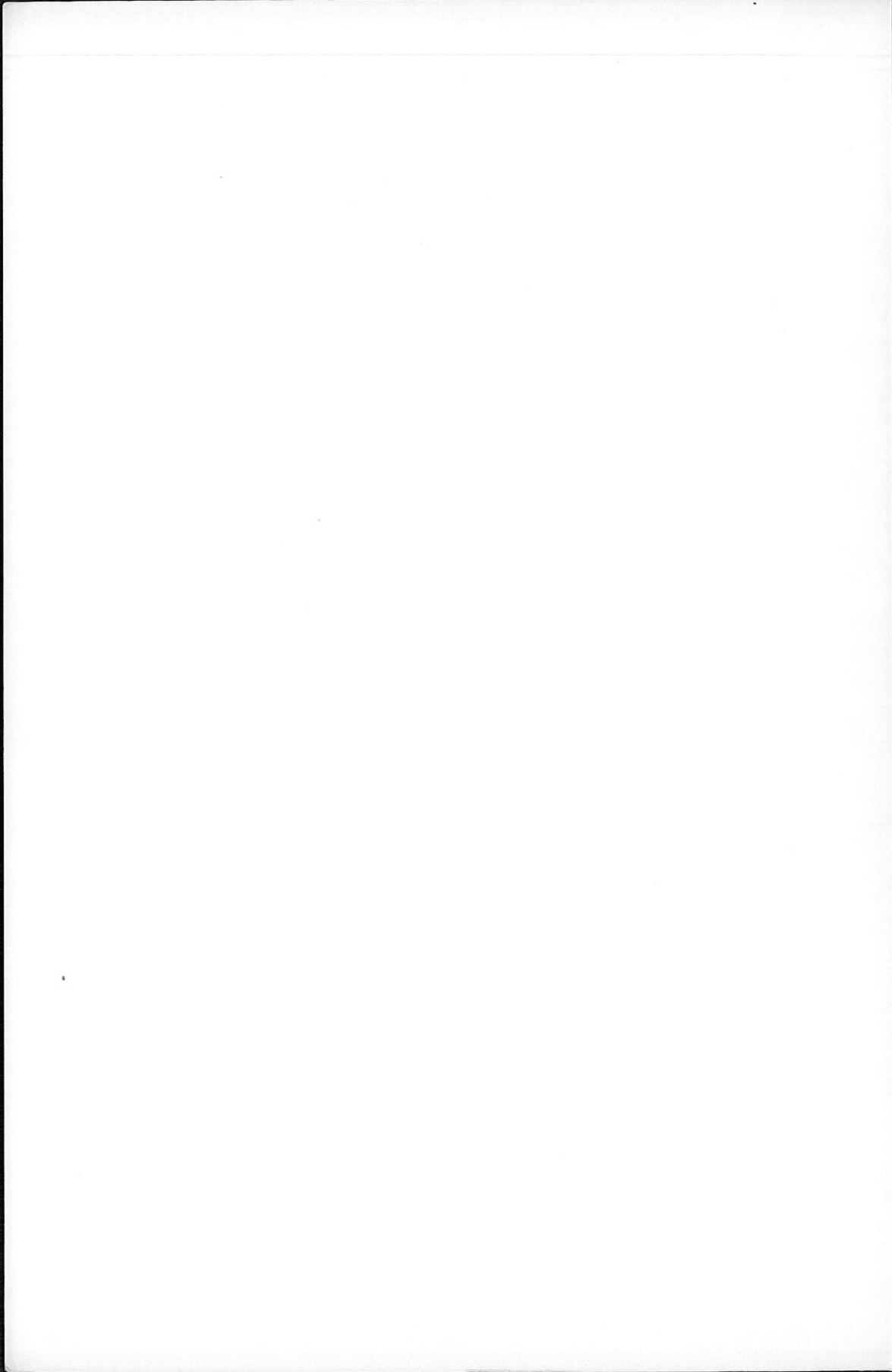


100



100





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|---------|---|--------------|
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| No. 27 | Transaction of Madrid Meeting, 1969 | |
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- IAGA Symposium No. 5, Sao Paulo, Brazil
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No. 12q2	Geomagnetic Data, 1962, Rapid Variations	
No. 12r1	Geomagnetic Data, 1963, Indices K and C	
No. 12r2	Geomagnetic Data, 1963, Rapid Variations	
No. 12s1	Geomagnetic Data, 1964, Indices K and C	
No. 12s2	Geomagnetic Data, 1964, Rapid Variations	
No. 12t1	Geomagnetic Data, 1965, Indices K and C	
No. 12t2	Geomagnetic Data, 1965, Rapid Variations	
No. 12u1	Geomagnetic Data, 1966, Indices K and C	
No. 12u2	Geomagnetic Data, 1966, Rapid Variations	
No. 12v1	Geomagnetic Data, 1967, Indices K and C	
No. 12v2	Geomagnetic Data, 1967, Rapid Variations	
No. 12w1	Geomagnetic Data, 1968, Indices K and C	
No. 12w2	Geomagnetic Data, 1968, Rapid Variations	
No. 12x1	Geomagnetic Data, 1969, Indices K and C	
No. 12x2	Geomagnetic Data, 1969, Rapid Variations	

(Continued inside back cover)

Revised aa-indices, 1969 - 1975

In the course of the year 1977, a clear deterioration of the standard of the K scalings used in the derivation of aa index appeared. For instance the activity level for June 1977 was twice greater in the Northern hemisphere than in the Southern hemisphere. Furthermore Dr. Siebert drew Dr. Mayaud's attention to a possible shift of the aa-index with respect to the am-index during preceding years. After enquiring, it was decided to rescale the years 1969 - 1977 at both the antipodal observatories.

Accordingly, the aa-values as published in IAGA-Bulletin No. 39 (1969 - 1975) and in IAGA-Bulletin No. 32g (1976) had to be revised. Also, the aa-values for 1977 published in IAGA-Bulletin No. 32h differ from those distributed in the monthly bulletins of the International Service of Geomagnetic Indices or in the Journal of Geophysical Research. The revised aa-indices for the years 1969 - 1975 are published in this supplement to the IAGA-Bulletin No. 39 and sent to recipients of that Bulletin. Those for 1976 are included in IAGA-Bulletin No. 32h (Table 1a).

Steps have been taken in view of avoiding in the future any slow deterioration of the quality of the aa-indices. This will be done in a way similar to that described in the report on Km-observatory visits to be published in the next issue of the IAGA-Bulletin No. 32.

Note: The table of aa for the year 1968 is reprinted for completeness only. Small differences in the mean values are caused by a change in procedure for the computation of these mean values.

	JAN.				FEB.				MAR.				APR.				MAY				JUNE					
	N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M			
1	36	32	39	29	18	14	12	20	18	20	18	20	45	34	38	41	21	22	9	35	31	20	16	36		
2	42	69	57	55	33	32	26	39	21	23	21	24	25	23	22	27	24	22	33	13	36	21	25	34		
3	16	11	18	10	26	27	26	28	27	28	15	41	24	19	23	21	21	12	22	11	36	22	24	34		
4	16	9	9	16GKK	23	30	42	11	34	25	22	38	16	13	18	12	12	6	11	7GCK	18	15	15	18		
5	19	22	12	29	19	14	9	24	K	28	29	28	29	50	40	9	81	8	4	6	7GCK	16	5	9	13GCK	
6	37	21	26	32	6	2	5	3GCK	17	11	12	16	54	57	65	47	8	5	5	8GCK	12	7	7	12GCK		
7	18	12	19	11	10	6	3	14GCK	10	10	10	10GCK	16	21	24	13	66	76	82	61	18	21	16	23		
8	13	11	11	12GCK	29	28	29	29	11	6	8	10GCK	6	6	8	4GCK	15	8	13	10	C	29	12	14	29	
9	5	7	4	8GCK	28	30	29	29	10	5	7	8GCK	5	4	3	8GCK	36	31	30	38	22	11	16	17		
10	10	16	17	10GCK	60	56	25	91	29	24	22	27	18	10	11	17	K	21	12	15	18	50	46	50	47	
11	26	21	8	40	60	81	84	58	16	13	20	10	22	15	17	21	30	24	31	24	119	83	123	79		
12	28	26	21	33	23	19	24	18	18	13	13	19	K	42	27	29	40	29	19	27	22	50	44	48	46	
13	20	13	21	13	28	28	22	34	10	7	11	6GCK	4	27	29	40	29	19	23	18	38	37	37	39		
14	24	14	16	23	10	13	11	12GCK	4	5	7	8GCK	40	43	41	42	25	15	23	22	20	9	11	18		
15	21	16	10	27	51	37	28	60	47	37	39	45	23	25	19	29	20	12	18	14	20	9	11	18		
16	24	23	14	34	24	27	21	30	42	29	28	43	29	20	24	26	21	18	19	20	27	18	12	34		
17	25	25	24	27	41	23	20	44	23	16	22	18	26	20	20	26	29	22	11	41	30	30	46	14		
18	20	21	27	14	42	38	33	47	19	15	19	16	18	17	20	16	36	17	13	40	24	18	16	28		
19	26	22	16	33	21	11	26	5	20	22	25	17	5	5	7	4GCK	26	18	12	33	28	30	29	29		
20	24	25	30	19	50	70	70	50	35	26	35	26	5	4	5	4GCK	36	33	39	30	14	7	10	11	C	
21	13	15	17	12	45	30	38	37	16	11	13	14	10	7	7	11GCK	42	27	23	46	9	4	5	8GCK		
22	16	24	17	24	16	13	19	11	12	8	11	9GCK	32	17	19	19	32	17	29	21	25	21	23	23		
23	23	14	14	23	10	5	5	11	CC	21	15	7	29	24	21	27	19	26	14	13	27	19	13	19	13	
24	23	17	13	28	12	7	12	8	CC	43	34	31	46	21	8	18	13	K	31	20	29	22	5	2	3	4GCK
25	11	8	9	11GCK	10	5	6	9GCK	35	39	38	36	15	9	5	19	K	14	8	8	14	CC	12	4	4	12GCK
26	25	30	13	43	10	4	4	9GCK	26	24	23	28	42	29	21	50	8	3	6	5GCK	30	17	24	24		
27	20	18	18	21	21	13	9	26	26	24	24	26	32	33	39	27	10	4	5	9GCK	24	19	18	25		
28	34	17	16	36	51	45	21	75	26	19	23	23	26	29	36	19	19	5	9	15	CK	16	6	9	13	C
29	27	17	21	24	29	24	33	21	25	22	19	28	26	29	27	28	22	16	16	22	26	15	9	33		
30	23	16	24	16	48	44	43	50	48	44	43	50	17	7	13	11	C	21	14	17	19	28	18	26	21	
31	15	27	30	12	32	30	20	43	32	30	20	43	17	7	13	11	C	22	13	17	19					
22.0					27.8				25.3				24.1					25.1			28.8					
	20.1				25.2				21.1				20.2					17.5			20.7					
		21.1			26.5				23.3				22.3					21.4			24.9					

	JULY				AUG.				SEP.				OCT.				NOV.				DEC.							
	N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M					
1	25	13	20	18	11	3	7	8GCK	20	12	20	12	30	26	31	26	136	132	49	220	19	22	16	26				
2	25	18	24	19	9	4	6	8GCK	23	23	20	26	57	57	68	46	81	86	92	75	12	16	12	19				
3	31	26	41	16	28	18	26	21	40	23	24	40	40	47	78	8	50	41	44	47	37	27	26	38				
4	23	15	23	16	13	7	15	5	C	25	24	29	21	7	5	5	7	CC	42	47	49	41	43	38	35	46		
5	19	11	17	13	30	18	18	30	19	22	20	21	6	7	8	5GCK	15	8	9	15	C	38	29	37	30			
6	16	6	14	8	CK	36	22	36	23	34	32	25	41	16	14	17	14	16	11	7	21	14	11	18	8	K		
7	18	11	17	13	K	24	24	29	20	32	30	23	39	36	24	20	40	26	20	35	12	10	8	7	12GCK			
8	13	9	12	10	CC	28	18	26	21	40	23	24	40	40	47	78	8	50	41	44	47	37	27	26	38			
9	11	7	7	12GCK	26	16	17	26	29	18	27	21	19	11	11	19	4	42	51	53	40	17	14	12	19			
10	54	46	45	56	18	12	16	15	14	16	20	11	9	6	11	4	CK	28	25	20	34	25	30	42	13			
11	22	14	19	17	15	7	15	7	CC	9	6	12	3	CC	5	10	7	8GCK	21	23	25	19	17	14	9	22		
12	21	5	12	14	C	13	6	9	10	CC	33	30	13	80	68	74	67	75	8	5	10	40GCK	14	18	21	11		
13	37	21	11	48	25	10	5	30	62	42	47	58	47	34	46	34	14	10	10	14	CC	13	10	8	15	CC		
14	38	28	39	27	47	34	41	39	45	45	45	46	29	21	24	27	8	9	6	11GCK	7	7	7	8GCK				
15	21	10	16	15	38	37	39	36	52	39	43	48	11	9	10	11	C	5	10	11	4GCK	18	17	16	19			
16	22	15	13	25	64	59	39	84	21	16	23	15	11	15	9	18	K	29	36	17	48	23	20	22	21			
17	16	7	9	14	C	50	54	95	50	12	8	13	8	CC	19	19	19	20	32	43	27	49	11	8	13	7GCK		
18	24	14	17	22	45	32	39	38	9	5	5	9GCK	15	14	21	8	34	30	41	24	16	15	13	18				
19	19	13	13	19	19	17	22	14	18	18	27	10	33	20	12	42	13	14	19	9	24	31	28	26				
20	15	4	12	7GCK	12	13	11	15	CC	13	10	14	10	KK	15	12	19	9	26	39	27	39	8	7	11	5GCK		
21	20	7	8	20	8	7	9	7	CC	21	18	17	22	5	5	7	4GCK	15	13	10	18	27	35	25	37			
22	34	24	32	27	12	7	5	14	CC	24	15	14	26	4	3	3	4GCK	13	9	8	14	C	28	20	25	24		
23	27	17	25	19	26	21	17	31	33	29	29	34	7	7	7	4	10GCK	11	12	17	7	CC	29	27	18			
24	9	3	6	6GCK	40	32	46	26	9	4	4	9GCK	15	15	8	23	K	11	12	8	16	KK	18	13	19			
25	18	7	9	17	KK	10	2	4	9	CK	6	4	4	6GCK	12	17	12	17	22	14	16	20	37	57	77	17		
26	32	17	21	29	8	7	7	9	CC	10	7	9	9GCK	11	8	7	13	C	16	13	10	20	7	11	10	8GCK		
27	25	18	29	14	11	5	10	6	CC	6	4	5	5GCK	15	14	18	12	K	20	15	19	16	28	31	42	18		
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29	11	5	9	8GCK	5	3	3	5GCK	20	14	16	18	68	57	38	88	10	11	12	10GCK	22	17	11	29				
30	18	7	9	16	CC	6	2	3	5GCK	14	10	4	21	K	27	27	19	35	6	4	2	7GCK	15	12	12	15	C	
31	14	7	14	7GCK	27	31	21	38					126	140	98	169					24	14	15	24				
22.4					23.0				24.1				25.5					26.3			20.5							
	13.3																											

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	JAN.			FEB.			MAR.			APR.			MAY.			JUNE												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
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2	8	11	9	10	CC	88	75	8	155	18	15	22	11	28	28	15	41	50	31	14	67	11	13	12	CC			
3	4	6	4	5QCC	81	74	62	94	4	6	4		30	21	23	29	24	32	29	27	18	7	11	15	CC			
4	5	13	7	11	CC	24	26	22	29	17	8	2	22QCK	22	21	20	24	19	16	15	21	10	10	10	CC			
5	4	7	8	4	CC	20	17	24	14	23	20	23	21	20	21	22	19	23	21	18	26	14	7	13	8	CC		
6	2	4	4	2QCK	26	24	39	12	36	29	25	40	23	22	14	31	16	15	15	17	12	4	4	12QCC				
7	15	26	15	27	22	23	20	25	36	30	24	43	36	24	32	28	11	10	17	4QCK	18	10	14	14				
8	16	19	18	17	24	15	22	18	26	25	29	23	16	11	13	14	K	15	8	6	18	KK	32	17	26	24		
9	9	12	13	9	CC	7	8	8	8QCC	27	19	17	30	22	24	15	32	28	14	19	24	26	17	13	31			
10	6	7	6	8QCC	26	25	14	37	15	12	20	8Q	14	18	12	20Q	22	15	20	18	22	13	20	15				
11	11	12	8	16	CK	81	86	61	106	36	43	21	58	12	16	17	11	11	6	9	8QCC	18	11	18	12			
12	11	23	18	15	20	12	11	22	50	48	67	32	22	16	8	32	17	8	4	21	K	34	19	30	24			
13	4	9	8	6QCK	19	18	17	21	20	11	14	18	35	42	32	45	56	56	53	58	33	26	27	33				
14	18	20	17	22	21	18	19	21	17	14	9	23	23	22	21	24	69	49	40	79	59	41	51	49				
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17	38	36	32	41	9	7	9	8QCK	64	56	58	62	31	32	27	36	24	20	23	22	40	21	38	24				
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19	27	26	29	25	12	17	11	19	K	29	21	13	37	12	7	7	12QCK	26	13	18	22	15	7	10	12	C		
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21	13	13	15	11	C	14	10	17	8	KK	21	21	23	19	16	9	16	10QK	28	24	29	23	15	10	9	15	KK	
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24	25	22	6	41	13	12	15	11	C	63	79	119	23	18	11	16	13	20	12	14	19	25	17	21	22			
25	50	59	53	57	15	10	19	7	K	30	38	34	35	20	15	22	14	16	7	13	11	CK	23	13	10	16		
26	36	51	50	37	24	34	37	21	20	18	17	22	14	10	9	16QCC	10	7	10	7QCC	14	17	15	16				
27	23	25	18	31	45	54	37	62	14	7	13	9QCC	26	18	26	19	7	5	6	7QCC	14	10	10	14	CK			
28	11	9	12	9	C	30	33	30	33	12	12	11	14QCC	66	64	79	51	18	12	14	16	K	12	4	8	9QCC		
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30	13	15	19	6	KK				29	22	21	30	48	34	43	40	24	19	17	26	10	6	6	11	C			
31	15	12	11	18	K				33	21	22	32					26	22	19	29								
	16.7				26.4				28.7					24.9				28.2				19.9						
		18.7			25.0				25.8					22.1				22.1				13.2						
			17.8		25.8				27.3					23.6				25.2				16.7						

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.															
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M													
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2	12	11	18	5	K	15	4	4	15	CC	4	3	6	9QCC	50	44	55	40	26	17	15	29	7	6	4	9	CC				
3	7	4	4	8	CC	22	22	13	31	11	8	8	12	CC	33	29	27	35	27	25	22	31	10	8	3	15	KK				
4	6	3	4	4QCC	29	23	30	22	12	7	10	10	CC	24	16	18	23	8	10	12	7	C	13	18	14	41					
5	7	4	5	6QCC	18	17	20	15	32	30	6	57	16	14	15	16	13	15	12	17	C	37	27	23	18						
6	14	6	4	17	CC	14	6	14	6	CK	33	33	44	22	29	23	21	31	7	7	6	8QCC	33	25	31	28					
7	19	8	10	17	K	17	12	14	15	C	23	21	16	29	12	12	15	9	C	23	20	19	25	13	10	10	13	C			
8	17	6	6	17	CC	22	14	15	22	29	30	43	16	9	10	8	12QCC	22	29	14	37	16	10	11	15	C					
9	17	12	14	15	15	23	16	22	18	21	26	15	32	31	11	7	34	55	67	70	53	21	19	23	18						
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11	15	7	6	16	C	10	5	4	11QCC	17	17	18	17	22	17	19	21	18	23	28	18	34	19	25	27	17					
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16	25	14	19	21	9	7	5	11	CK	15	14	18	11	15	10	4	21	KK	6	8	5	9	CC	25	27	29	24				
17	10	7	8	10	CK	16	9	17	8	KK	24	25	13	36	13	7	7	14	K	6	7	5	9	CC	9	6	8	8	CK		
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19	4	3	4	3QCC	25	24	18	31	17	10	18	10	21	26	29	19	13	13	7	20	KK	7	8	7	9	CC					
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22	22	14	13	23	12	6	5	13	C	8	6	10	4QCC	16	22	16	22	16	19	21	14	K	14	23	18	19					
23	16	9	5	20	K	22	21	24	19	26	8	37	11	8	7	12	C	10	13	8	16	CC	26	23	17	33					
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28	10	6	10	7	CK	15	9	11	13	CK	69	74	75	13	14	12	15	18	17	21	15	8	8	5	11	CC					
29	7	3	4	4QCC	9	7	7	10QCC	85	93	67	111	8	5	8	6	CC	26	25	17	35	8	8	11	6	CC					

	JAN.			FEB.			MAR.			APR.			MAY			JUNE												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
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2	43	44	39	48	32	25	23	34	22	21	27	16	13	13	10	16	C	19	14	18	16	23	24	27	20			
3	22	16	26	12	15	14	22	7	35	25	18	43	19	23	25	17	25	14	11	29	23	17	18	23				
4	7	8	6	10GCC	26	25	17	34	32	30	24	39	16	18	22	12	16	10	14	12	C	22	16	15	23			
5	12	13	11	15	KK	19	12	17	15	27	30	21	36	21	17	17	22	20	18	15	23	11	8	13	6	CK		
6	10	14	14	12	KK	6	5	7	4	CC	46	41	46	33	28	37	24	14	6	7	13	C	7	5	9	3GCC		
7	10	11	6	16	KK	5	2	3	4GCC	54	48	32	70	17	20	29	8	17	9	12	14	CC	19	10	6	24		
8	13	12	7	19	K	5	5	4	7GCC	183	161	58	286	23	17	28	13	11	4	4	11GCC	23	26	35	15			
9	18	21	24	16	5	4	5	4	CC	63	57	54	66	26	23	23	27	8	4	5	8GCC	12	6	8	11	CC		
10	14	6	14	6	KK	13	14	8	20	K	13	14	15	13	10	4	5	9GC	2	2	2	2GCC	11	11	10	13	CC	
11	8	7	8	7GCC	6	9	9	50CC	5	4	2	6	CC	13	12	17	9	CC	6	3	2	7GCC	13	7	5	150CC		
12	15	13	13	15	C	8	6	5	9	CC	8	13	15	7	CK	11	12	10	13	CC	31	25	21	36	14	7	10	12GCC
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14	6	8	7	7	CC	21	18	25	14	6	4	7	4	CK	7	4	6	5GCC	29	20	19	31	17	9	11	15	K	
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17	18	10	20	8	20	20	11	29	10	11	6	15	CC	43	32	39	36	25	20	32	13	24	22	15	31			
18	10	14	13	11	CC	18	15	17	17	12	14	12	15	CC	28	35	24	40	12	9	15	6	CC	40	54	36	58	
19	13	10	6	17	KK	9	7	10	7	CC	11	9	9	11	CC	30	35	46	19	14	11	14	12	C	19	13	20	
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21	11	15	12	15	K	5	5	5	50CC	5	4	4	50CC	92	103	53	142	22	16	15	23	34	20	34	21			
22	12	8	11	9	CC	4	3	2	50CC	4	6	7	40CC	45	34	70	9	15	20	16	19	9	6	5	10GCC			
23	14	7	10	12	CC	7	7	4	11	CC	9	13	9	CC	25	29	20	31	15	10	8	17	C	8	4	4	7GCC	
24	16	11	14	13	CC	19	22	13	28	5	13	4	4	50CC	31	30	24	37	18	11	12	17	14	7	5	16	CC	
25	5	4	5	50CC	7	10	12	5	2	C	6	4	4	60CC	28	32	34	26	15	16	23	9	K	15	10	12	13	C
26	5	4	4	50CC	17	15	11	21	K	11	7	10	8	CK	23	16	14	26	5	4	3	60CC	22	18	15	16		
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31	14	11	17	9	K	70	76	81	65	12	9	9	13	C	12	9	9	13	C									
14.5					13.1				26.9				24.2					18.8					20.1					
14.1					12.2				25.8				21.9					14.3					16.4					
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	JULY			AUG.			SEP.			OCT.			NOV.			DEC.												
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3	37	33	36	33	10	5	8	70CC	22	25	15	33	30	20	19	32	21	17	14	25	7	10	11	7	CK			
4	41	41	73	9	11	8	5	140CC	24	23	24	24	36	36	48	25	15	12	14	13	C	11	12	9	15	C		
5	26	30	29	27	7	3	5	40CC	19	17	13	24	20	12	19	13	20	12	15	23	16	29	25	20				
6	29	22	36	16	18	10	10	18	C	12	9	5	160CC	13	11	12	13	CC	20	27	25	22	11	24	20	16		
7	11	6	5	120CC	35	15	13	37	14	10	7	18	KK	8	5	6	80CC	71	69	97	43	17	15	10	23			
8	16	12	8	20	34	44	36	43	15	23	11	27	5	3	4	4GCC	15	11	16	11	C	25	30	36	19			
9	75	105	74	111	37	31	48	20	12	12	8	160CC	4	4	4	4GCC	15	17	15	18	11	10	14	7	CK			
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16	17	15	17	15	K	33	18	10	41	15	17	19	13	45	54	23	77	12	17	10	20	6	8	8	7	CC		
17	20	13	6	28	144	110	164	89	14	17	18	14	62	37	29	70	12	16	20	8	6	6	7	50CC				
18	12	6	9	90CC	47	49	43	53	21	18	20	20	52	41	64	29	31	37	12	56	6	7	2	10	KK			
19	10	6	8	90CC	26	19	24	21	31	33	30	34	21	15	21	16	22	30	48	5	21	24	20	25				
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25	90	99	128	62	13	13	12	14	C	8	9	12	6	CC	14	13	11	16	KK	27	17	18	28	11	13	9	17	CC
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29	52	71	72	52	19	14	22	12	10	13	12	120K	28	25	16	38	4	6	5	80CC	26	26	17	36				
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	JAN.			FEB.			MAR.			APR.			MAY			JUNE														
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22.9						22.6					22.2					23.7					23.3					18.3				
24.1						19.5					19.8					24.1					18.6					15.5				
23.5						21.2					21.1					23.9					21.1					17.0				

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.													
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	JAN.				FEB.				MAR.				APR.				MAY				JUNE							
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7	9	7	7	10QCC	19	13	10			59	83	102	40	14	20	14	20	7	4	5	5QCK	20	15	15	20			
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31	14	11	7	19	KK					34	22	23	34									23	17	23	18			
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	21.8		21.9		17.9		18.3		20.7		21.5			17.6		18.1		14.0		16.6		19.4			21.5			

	JULY				AUG.				SEP.				OCT.				NOV.				DEC.									
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4	8	3	4	7	CC	202	158	125	236		10	9	12	8	CC	11	11	18	5	KK	12	8	10	12	CC	6	9	9	7	CC
5	7	3	5	5QCC	194	236	261	170		9	6	8	8QCK	4	4	3	5QCC	9	6	7	9	CC	4	4	4	4	QCC			
6	8	3	4	7	CC	119	76	123	72		26	14	22	19	4	3	2	4QCC	12	12	12	13	CK	5	5	4	6QCC			
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	JAN.				FEB.				MAR.				APR.				MAY				JUNE							
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3	5	7	4	80CC	34	29	27	37	28	16	27	17	38	36	43	31	16	13	19	11	30	19	25	25				
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7	14	15	9	21	24	30	19	36	12	16	13	15	6	7	10	40CC	31	19	25	26	7	4	6	50CC				
8	26	27	18	36	38	37	34	41	13	12	6	19	K	11	11	8	15	KK	30	33	24	40	16	6	9	13	CC	
9	34	30	23	41	31	28	34	26	19	19	23	16	12	7	11	9	CK	18	24	18	25	2	8	10	21			
10	52	37	43	47	21	19	17	24	16	14	12	19	4	4	3	50C	13	13	15	12	C	42	30	15	58			
11	40	30	31	40	15	18	20	14Q	15	19	15	20	31	43	45	30	14	8	10	12	CC	44	54	43	55			
12	44	41	29	55	16	13	12	17	C	25	19	19	27	5	5	4	70C	14	10	11	13	C	52	47	46	34		
13	25	34	30	28	5	8	4	90CK	11	12	11	130K	51	67	61	58	29	25	27	28		39	41	44	36			
14	15	13	20	9	11	16	16	120KK	5	7	7	50CC	71	62	87	46	74	101	92	83		33	32	44	21			
15	15	21	19	17	15	11	16	100C	4	5	4	50CK	14	11	13	12	C	45	47	36	57		26	25	22	29		
16	18	10	16	13	21	15	5	30	22	27	20	29	74	93	87	80	42	48	46	43		22	22	19	25			
17	8	11	10	90CC	28	28	32	24	14	13	10	17Q	66	74	70	70	40	56	51	44		32	25	24	34			
18	4	8	7	50CC	23	18	10	31	30	33	17	46	66	61	58	69	40	36	43	33		47	44	50	41			
19	21	21	7	36	20	18	12	27	93	96	83	106	52	64	58	58	38	32	34	36		62	46	62	47			
20	48	28	48	28	19	19	8	31	111	86	92	104	61	59	58	62	42	52	41	53		34	37	39	32			
21	31	32	45	19	85	66	26	125	68	77	66	79	52	61	59	53	71	77	111	37		11	15	7	C			
22	10	9	8	120C	74	62	39	98	59	71	63	67	45	62	68	39	36	24	36	24		6	2	4	40CC			
23	21	25	23	23	68	77	62	84	73	83	67	89	34	36	41	29	26	40	48	18		21	9	11	19			
24	42	39	31	50	79	69	56	92	60	69	51	79	24	23	27	20	9	6	8	70CC		54	43	38	59			
25	35	36	31	40	56	42	34	64	64	69	63	70	35	16	23	31	14	11	9	170CK		12	7	12	C			
26	46	32	31	48	56	41	38	58	54	38	36	56	54	43	25	72	18	9	18	10		10	7	11	60CC			
27	54	56	48	62	73	61	50	84	46	47	39	55	33	40	44	29	19	14	14	20		8	4	4	80CK			
28	48	44	45	48	29	25	31	24	38	38	26	50	35	35	21	48	21	12	17	16		30	36	30	36			
29	38	32	30	40	5	29	28	36	35	29	28	36	71	57	62	67	6	4	5	50CC		62	56	67	52			
30	25	12	20	17	25	25	22	29	25	25	22	29	27	30	29	29	5	3	2	50CC		48	47	48	48			
31	15	20	19	17	54	51	19	86	54	51	19	86	9	3	4	90CC												
27.4					34.0				37.3				39.2				26.4				29.4							
24.7					31.2				36.5				39.9				25.6				26.1							
26.1					32.7				36.9				39.6															

	JULY				AUG.				SEP.				OCT.				NOV.				DEC.								
	N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		
1	32	38	34	37	26	31	36	21	7	7	7	7	16	CC	43	40	48	36	13	11	11	13	CC	8	6	10	40CC		
2	20	16	21	16	31	30	31	31	14	8	7	16	CC	43	40	48	36	13	11	11	13	CC	3	6	5	40CC			
3	16	12	14	14	15	11	10	17	K	13	6	6	14	C	48	61	72	37	9	9	10	80CC	11	13	8	16	KK		
4	9	5	8	60CC	15	12	11	16	KK	27	19	20	27		22	19	15	26	42	28	11	58		51	42	23	70		
5	8	5	6	80CC	19	9	8	21		38	20	24	34		28	15	7	36	21	32	25	28		28	26	26	29		
6	5	5	4	60CC	29	23	28	24	15	15	15	15		28	19	21	26	15	16	12	20		16	18	19	16			
7	6	3	4	40CK	17	18	8	27	16	18	19	15		14	6	14	6	K	50	39	41	48		14	10	12	12	CK	
8	24	33	21	36	20	13	19	15	14	17	11	21		11	12	14	9	CC	15	19	20	15		14	14	12	17		
9	20	25	17	29	9	10	12	7	CC	66	46	23	89		24	14	7	33	19	28	23	24		32	39	27	44		
10	13	8	13	80C	8	7	10	5	CC	47	44	27	65		40	37	34	43	13	13	18	9	K	13	11	16	8	K	
11	14	9	10	13	CC	7	9	13	CC	28	18	22	24		21	19	19	22	9	15	12	13	CC	15	18	17	18	K	
12	14	9	8	16	CK	10	5	3	12	CK	17	10	9	19		25	25	23	27	6	7	7	70CC	4	11	9	7	CC	
13	21	16	15	23	23	17	17	24	17	17	14	20		28	31	37	22	22	21	13	30		7	7	10	4	CC		
14	18	8	12	14	C	22	13	16	19	5	6	7	40CK		16	13	12	17	14	16	13	18		12	17	4	26	K	
15	46	47	37	57	11	7	8	110CC	23	20	13	31		8	11	16	40C	13	23	17	19		9	19	13	15			
16	30	29	38	21	7	4	3	80CC	21	23	29	14		44	45	40	50	20	22	13	30		6	7	6	80CK			
17	11	13	17	8	K	3	3	2	40CC	15	16	18	13		43	45	42	46	31	25	29	28		12	11	10	13	CC	
18	17	6	11	13	CK	8	10	8	110CC	17	13	15	15	K	34	31	23	43	25	30	38	17		5	5	5	60CC		
19	19	19	18	20	13	8	9	13	CK	5	4	4	60CC		27	32	33	26	6	7	7	60CC		32	29	10	51		
20	21	15	18	19	17	18	16	19	24	16	9	31		36	40	36	41	7	10	7	11	CK		59	42	33	68		
21	10	10	10	10	CK	11	9	13	8	CC	24	25	27	23		60	49	44	65	38	41	21	58		54	57	41	70	
22	13	5	11	8	C	25	14	6	34		37	27	15	50		34	28	36	26	9	12	14	8	C	36	36	36	36	
23	28	28	36	20	43	44	26	61	85	83	75	93		11	9	10	10	C	16	17	10	24	K	32	24	26	31		
24	10	14	12	12	C	52	49	69	33	42	41	32	50		12	14	11	15	CC	42	49	12	79		5	7	9	3	CK
25	19	21	25	14	42	45	52	35	38	34	24	48		11	9	10	100CC	55	61	63	53		6	8	4	110CC			
26	48	47	36	60	34	27	33	29	28	44	46	26		7	6	10	30CC	24	24	31	18		6	10	8	9	CC		
27	40	44	44	39	47	36	44	39	16	21	18	20		7	7	5	90CK	22	25	15	32		11	14	9	17	KK		
28	26	25	27	25	47	37	33	52	8	13	9	130CK		36	32	18	50	13	14	13	14		21	23	19	26			
29	35	30	36	29	33	30	36	27	8	7	9	70CC		130	88	75	142	7	9	8	CC		38	32	32	38			
30	31	26	34	34	18	29	30	17	7	6	5	80CC		34	43	42	35	11	7	4	150CC	</							

	JAN.			FEB.			MAR.			APR.			MAY			JUNE											
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M									
1	18	17	22	14	68	49	53	64	38	32	36	34	13	10	14	9	C	16	C	46	27	11	62				
2	9	5	6	80CC	46	40	50	36	17	19	21	16	12	6	8	11	CC	30	36	21	45	50	54	72	33		
3	12	21	16	18	21	18	23	17	24	14	15	24	13	9	11	11	CC	34	34	34	34	23	23	22	24		
4	73	54	46	81	18	16	13	22	17	14	17	14	16	12	10	19	C	28	23	25	27	22	23	25	20		
5	59	47	44	62	38	28	22	45	50	47	43	56	21	11	11	21		57	37	45	50	27	31	25	33		
6	51	32	17	66	15	15	14	16Q	34	32	26	41	31	25	19	38		54	47	60	41	26	23	22	28		
7	52	54	84	22	22	25	20	27	5	7	5	70C	44	28	16	57		37	46	30	53	13	9	11	12	C	
8	54	72	66	60	13	11	15	90C	2	4	4	30CC	49	51	31	69		28	23	18	34	9	7	7	100CC		
9	13	13	12	14	C	26	18	22	22	22	14	7	30	68	69	58	79		28	34	21	41	11	9	12	8	CC
10	9	10	14	6	CC	64	54	46	74	100	99	99	101	57	52	53	57		32	32	43	22	6	8	4	100CC	
11	8	8	10	70CC	78	49	38	89	76	77	99	55	50	59	62	48		3	2	3	20CC	25	18	19	25		
12	7	10	8	110C	61	57	55	64	56	64	44	75	40	47	37	50		5	3	2	60CC	45	39	34	50		
13	57	64	54	67	45	36	27	53	54	34	29	58	38	34	46	26		12	7	6	14	CK	26	22	24	25	
14	57	57	47	67	45	37	38	45	47	47	36	58	31	25	32	25		18	24	26	17	19	21	18	22		
15	29	28	21	38	34	29	25	38	27	37	27	37	13	14	10	18		4	4	4	30C	27	26	13	41		
16	45	39	33	52	56	36	36	55	36	52	45	43	7	11	11	8	CC	41	49	36	55	31	30	27	34		
17	43	36	34	45	31	25	25	31	23	21	23	22	11	9	8	130CC		26	29	33	23	23	24	18	29		
18	40	36	29	38	28	24	26	26	32	26	18	41	9	18	10	18	K	18	14	17	16	25	24	27	22		
19	21	21	26	16	19	19	19	20	20	21	11	30	9	8	9	90CC		32	18	22	28	26	21	19	29		
20	20	14	15	20	13	13	18	90K	36	29	25	40	39	32	10	62		34	10	47	18	11	9	8	12	C	
21	15	11	8	19	KK	17	17	13	22	5	5	8	30C	38	27	30	35		24	15	14	26	21	16	12	22	
22	14	13	6	22	15	16	17	15Q	14	13	16	12Q	19	22	23	22		19	22	23	18	9	9	12	7	CK	
23	30	21	18	34	46	66	65	48	19	17	27	9	40	28	36	32		17	12	17	12	8	4	4	80CC		
24	20	16	21	15	30	25	16	39	26	33	17	43	31	23	32	22		10	9	10	9	CC	5	3	5	30CC	
25	10	10	7	140CC	39	34	43	30	13	18	13	18Q	12	13	15	11	C		36	18	14	40	9	10	7	13	CC
26	8	9	9	80CC	13	16	19	10	27	33	31	30	19	16	20	16		24	20	35	9	12	9	12	9	CC	
27	23	27	21	29	9	11	10	100CC	40	52	17	75	8	10	14	50CC		22	21	18	26	10	4	7	80CC		
28	21	22	28	16	29	14	13	31	62	47	52	58	7	3	5	50CC		10	5	7	90C	9	7	8	9	CC	
29	8	12	11	9	CC				29	42	42	30	6	4	6	40CC		26	23	26	23	41	36	14	63		
30	16	17	14	19					17	16	17	17	11	11	12	11	CC		13	10	12	12	CK	45	35	51	29
31	42	34	20	57					25	17	15	28						9	4	4	90CC						
28.6					33.5				32.1				25.6					24.0					22.0				
26.4					28.6				31.8				22.9					21.3					19.3				
27.6					31.1				32.0				24.3					22.7					20.7				

	JULY			AUG.			SEP.			OCT.			NOV.			DEC.												
	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M	N	S	M										
1	23	30	30	23	17	11	21	8	18	14	10	22	11	16	21	6	K	13	15	10	18	56	41	41	55			
2	16	11	14	14	13	8	11	11	CC	13	10	14	9	7	3	4	60CC		56	43	26	73	34	44	37	41		
3	15	13	13	15	C	9	6	6	100CC	6	3	3	60CC	18	17	9	26		88	67	73	82	22	22	19	26		
4	15	8	8	16	CC	12	7	6	13	C	6	4	4	60CC	20	10	20	11		68	55	65	58	22	21	19	24	
5	11	7	8	110CC	46	39	48	38	6	5	4	8	CK	12	11	14	8	C		44	34	39	39	17	18	14	21	
6	13	7	4	16	CK	14	11	21	4	K	30	22	26	27	40	38	32	46		21	22	22	21	18	15	9	25	
7	25	22	24	24		12	14	2	23	K	13	7	12	8	C	21	46	59	59		22	21	18	25	9	5	7	80C
8	42	52	55	39	23	21	36	9	14	15	11	19	68	59	48	79		16	11	13	14	35	34	18	51			
9	46	46	48	44	29	28	21	37	43	42	26	60	57	54	67	45		48	60	39	68	30	32	34	28			
10	33	35	31	38	23	26	33	16	38	40	43	36	48	36	44	40		45	23	17	51	13	17	10	21			
11	28	45	48	26	14	11	13	12	KK	52	36	46	41	18	20	13	25		30	32	26	36	9	12	10	12	CK	
12	13	9	8	190C	10	7	3	5	60CC	34	29	34	30	23	18	18	24		14	16	18	13	4	8	8	40CC		
13	19	15	8	26	10	13	11	120C	33	23	39	17	18	12	11	19		6	4	8	30CC	5	6	4	80CC			
14	32	25	28	29	29	29	41	17	21	27	32	16	16	29	20	25		6	7	6	70CC	10	12	7	16	CC		
15	27	29	26	30	34	34	27	41	14	12	11	16	K	7	9	11	60C		7	6	100CC	15	15	17	13			
16	24	27	27	24	13	12	10	16	K	7	6	7	7	CC	21	25	21	25		10	9	11	80CC	26	18	20	25	
17	24	24	23	29	20	17	20	18	22	18	13	27	17	17	19	15		38	35	14	60	16	17	15	19			
18	27	24	26	25	14	10	13	11	CK	24	21	16	29	8	11	5	15	CC		12	15	19	9	13	10	17	C	
19	19	15	12	23	8	7	6	100CC	16	14	15	16	9	6	4	100CC		14	16	20	11	K	13	12	9	16	CK	
20	11	11	15	8	C	25	34	11	48	15	12	9	18	KK	11	8	8	12	CC		21	15	14	23	7	4	7	30CC
21	14	15	11	19	K	31	21	18	35	12	8	8	12	CC	11	9	13	7	CC		30	27	36	22	18	26	10	34
22	13	10	9	14	CC	26	21	27	20	7	5	7	6	CC	14	12	13	14	CC		97	80	57	120	18	20	16	22
23	10	10	12	9	CC	17	18	20	15	9	5	11	4	CC	15	8	13	10	CC		11	18	8	K	15	17	16	16
24	14	11	15	10	C	15	11	7	19	K	4	5	3	40CC	7	6	10	40CC		23	23	10	38	10	5	4	100C	
25	54	59	56	57	18	19	16	22		4	3	3	40CC	6	11	8	90CC		26	23	26	24	29	36	31	34		
26	34	41	30	45	11	6	8	100CC	27	24	13	39	11	9	7	14	KK		21	34	37	18	54	54	43	65		
27	22	25	27	20	11	5	11	5	CC	23	29	28	25	10	9	14	6	CK		10	7	12	60CC	54	46	41	60	
28	20	19	19	21	13	8	8	13	C	16	16	13	19	21	15	6	31		13	15	16	12	26	24	29	22		
29	9	7	7	100CC	47	32	43	36	7	9	11	6	CK	26	14	25	16		60	44	45	60	29	24	27	26		
30	11	9	11	100CC	26	20	33	14	4	4	4	40CC	18	14	17	15		59	43	38	64	17	19	21	16			
31	12	4	5	120CC	17	11	12	16	C					28	29													

1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970

Twelve month's running mean values of aa-indices 1868 - 1977

