

# Solar Bulletin

APR 2 1972

Publisher:

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION  
540 NORTH CENTRAL AVENUE  
RAMSEY, NEW JERSEY, U.S.A.



Volume 28 Number 3

March 1972

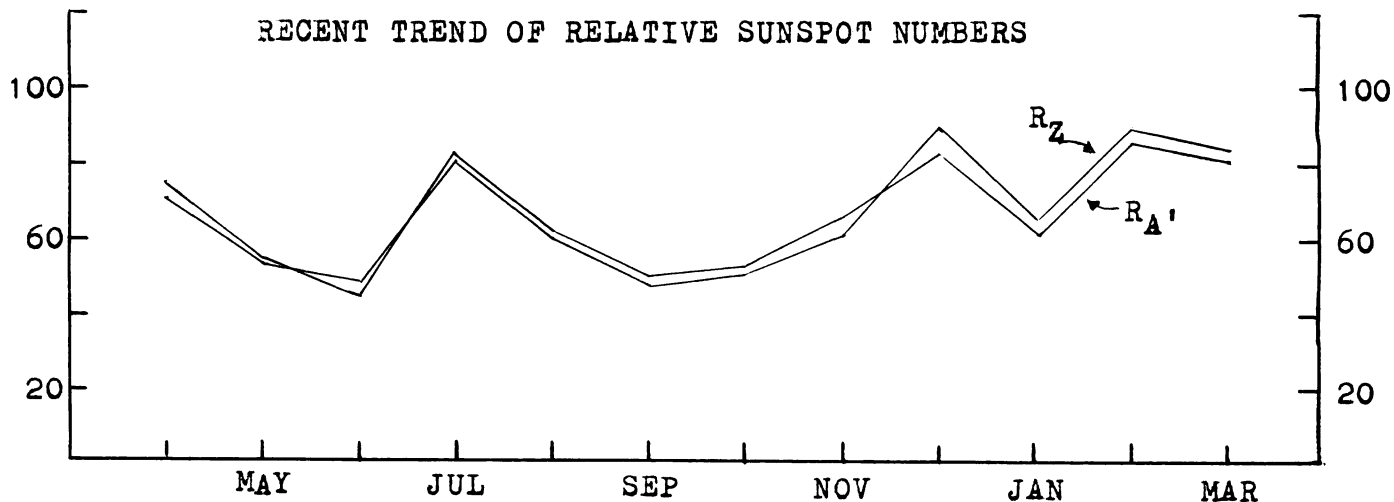
Twenty-eight ionospheric disturbances were recorded by the Solar Division's observers with all events being recorded before the 25th. This correlates very well with the sharp decline in sunspot numbers for that date.

One of the more widely recorded events is reproduced on page two as recorded by the SEA (Sudden Enhancement of Atmospherics) method. This chart also includes the morning transition from night to day, called the "sunrise effect" which varies from day to day with the SEA method. This chart was recorded by one of our newer observers, A32.

The event of the 24th, another widely recorded event, is shown as recorded by observer A30, using the SES (Sudden Enhancement of Signal) method. This recording has two unusual effects. First it is "inverted" with signal decreasing instead of being enhanced. Secondly, the response is very large, giving a "supersensitive" trace. While this type of response is not too common and appears to be dependent on a relationship of frequency/distance and a "short path" signal, it is normal and usual for A30 who is using a very short path signal from a radio transmitter operating at 37.2 kHz.

In February, there were so many events, there was no space to give reproduction of charts, so some events recorded on the 14th February are shown. Two SES recordings are shown as made on the same chart. The top trace is from a station operating at 34.5 kHz, which normally gave an enhanced response, while the lower trace is from a station at about 74 kHz, which normally gave an "inverted" response, making for an unusual pattern where the traces appear to repel one another as a SES is recorded.

The monthly mean of the American sunspot numbers for March fell slightly to 80.8 with numbers often over 100 from the 13th to the 25th.



AMERICAN ( $R_A'$ ) AND ZURICH ( $R_Z$ ) RELATIVE SUNSPOT NUMBERS, MARCH 1972

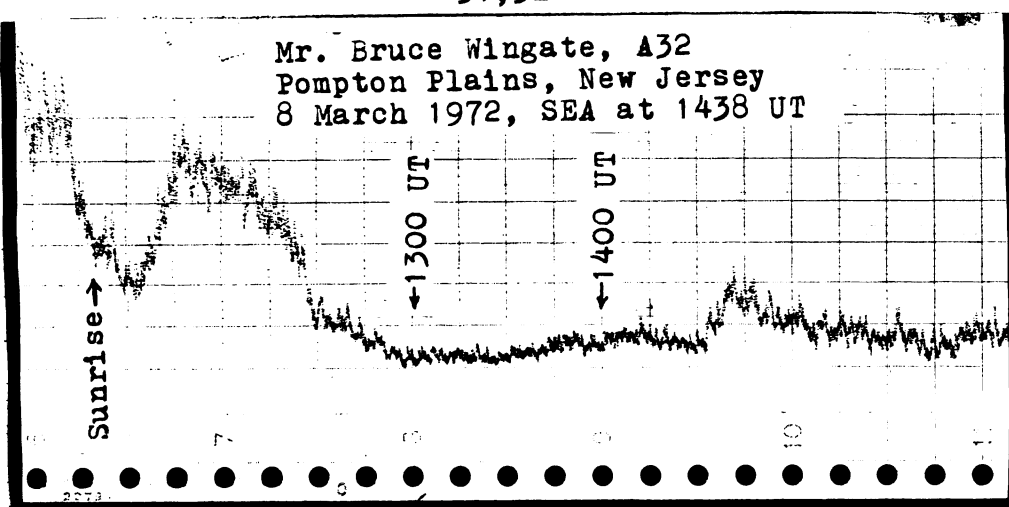
DAY	$R_A'$	$R_Z$	DAY	$R_A'$	$R_Z$
1	82	74	16	99	104
2	80	89	17	111	114
3	82	96	18	107	110
4	77	84	19	95	112
5	70	72	20	100	113
6	67	64	21	90	110
7	84	74	22	88	113
8	91	84	23	114	119
9	93	81	24	102	119
10	91	81	25	75	112
11	81	68	26	43	55
12	95	80	27	28	34
13	104	91	28	27	25
14	110	104	29	31	29
15	111	114	30	39	42
			31	38	37

Monthly Means  
 $R_A' = 80.8$   
 $R_Z = 84.0$

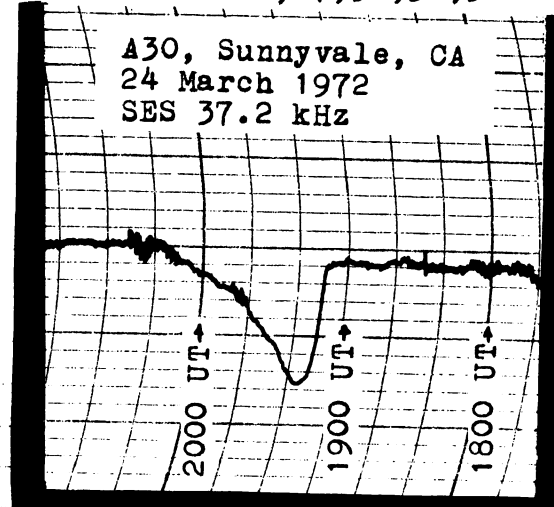
SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING MARCH 1972

DAY	MAX	SEA	SES	DEF	OBSERVERS	DAY	MAX	SEA	SES	DEF	OBSERVERS
1	1606		1	5	A1,19,21,27,30,31	9	2341		1	5	A30,31
1	1906		1-	5	A1,21,27,31	11	1516	1-	1-	5	A1,17,19,27,30
1	2052	1	1+	5	A1,19,21,22,27,31,32	11	1852		1-	5	A1,19,21,27,30,31
2	0829		2	1	A31	12	2052		1-	5	A1,21,27,30,31
2	1818	1+	2	5	A1,18,19,21,22,26,27,31,32,33	13	2037		1-	5	A1,30,31
2	2225		1	5	A1,21,30,31	14	1518		1-	4	A1,19,27
3	1828		1-	5	A1,21,27,31	14	1728	1-	1-	5	A1,19,26,27
3	2318		1-	5	A1,30,31	15	1747		1-	5	A1,19,21,27,30,31
4	1929	1-	1-	5	A1,19,21,26,27,30,31	18	1726	1-	1-	5	A1,18,21,26,27,30,31
5	0608	1	1+	3	A17,31	18	2154	1-	1-	5	A1,19,21,26,30,31
5	2113		1-	5	A1,21,31	21	0118		1-	5	A30,31
6	0306		1	2	A31	22	1551	1-	1-	5	A1,18,19,21,26,27
8	0413		1	1	A31	23	2238		1-	5	A1,21,31
8	1438	1	1	5	A1,18,19,21,22,27,31,32	24	1920	1-	1	5	A1,18,19,21,22,26,27,30,31,32

Mr. Bruce Wingate, A32  
 Pompton Plains, New Jersey  
 8 March 1972, SEA at 1438 UT



A30, Sunnyvale, CA  
 24 March 1972  
 SES 37.2 kHz



A27, Pleasant Unity, Pennsylvania 14 February 1972

