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SOLAR ACTIVITY DURING DECEMBER

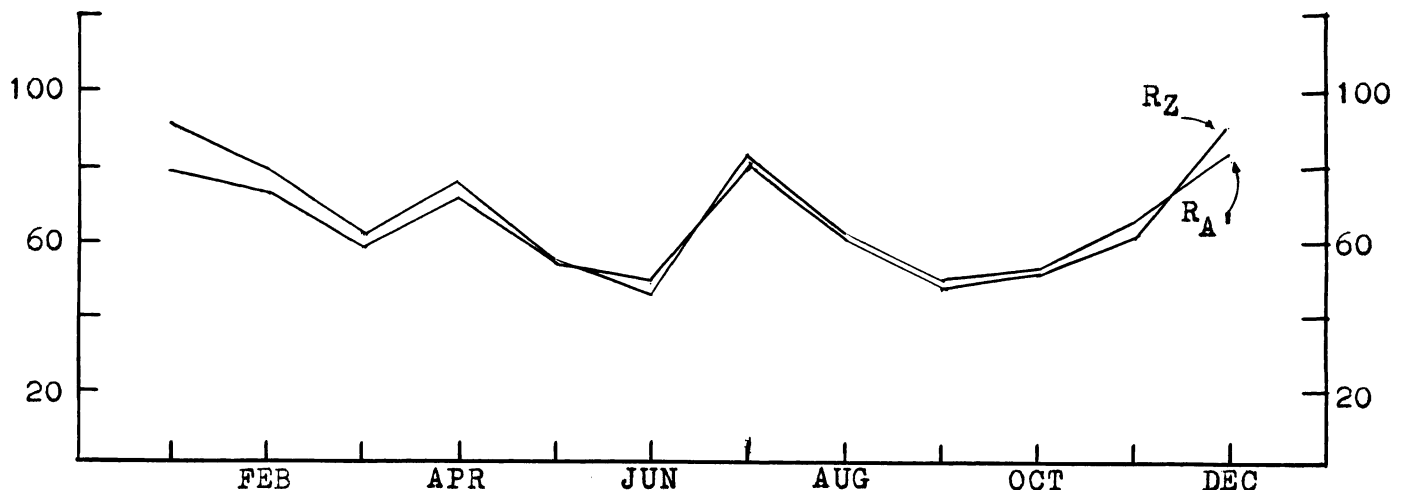
Twenty-one ionospheric disturbances were recorded by the Solar Division observers during December. This was an increase of eight over the number of events recorded last month, however, the importance or size of the events were smaller this month with less than one third being rated above a minor (1-).

On page two is a reproduction of two of the events recorded on the 16th by the SEA (Sudden Enhancement of Atmospherics) method, showing the normal "roughness" of the trace at night followed by the "sunrise effect" and the two events.

The general change in ionospheric response to the propagation of radio signals at the low and very low frequencies continued to expand into the longer signal paths and lower frequencies used by the observers for SES (Sudden Enhancement of Signal) method, suggesting that the effect may be either seasonal and/or sun cycle related. This effect tends to decrease signal strength at some locations and increase it at others, for intervals of a few hours up to several days. It appears to also increase and at other times decrease the sensitivity of the signal in response to ionospheric disturbances. On page two is reproduced the three events recorded on the 17th while using 34.5 kHz as a signal source during a period that the signal appears to be quite sensitive to ionospheric disturbances.

The mean of the American Sunspot numbers rose again, for the third consecutive month, to a high of 83.0, which equals the peak of 83.0 in July 1971.

RECENT TREND OF RELATIVE SUNSPOT NUMBERS



AMERICAN (R_A) AND ZURICH (R_Z) RELATIVE SUNSPOT NUMBERS, DECEMBER 1971

DAY	R _A	R _Z	DAY	R _A	R _Z
1	94	64	16	100	89
2	60	69	17	112	131
3	42	80	18	120	126
4	33	63	19	105	119
5	59	70	20	100	105
6	83	92	21	90	99
7	81	107	22	89	94
8	87	83	23	99	84
9	118	108	24	118	97
10	100	117	25	84	91
11	92	125	26	52	76
12	90	115	27	72	82
13	85	95	28	62	70
14	84	85	29	60	60
15	90	98	30	54	54
			31	59	52

Monthly Means
 R_A = 83.0
 R_Z = 90.3

SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING DECEMBER 1971

DAY	MAX	SEA	SES	DEF	OBSERVERS	DAY	MAX	SEA	SES	DEF	OBSERVERS
2	0120		2	4	A31	16	1621	1	1	5	A1,18,19,21,26,27,30,31
2	1420	1	1	5	A1,26	16	1806	1	1	5	A1,18,19,21,22,26,27,30,31,4
2	1640		1-	5	A1,19,30,31	16	2135		1-	5	A21,30,31
2	1850		1-	5	A1,30,31	17	1915		1-	4	A1,19,27,31
2	2019		1-	5	A21,30,31	17	2010		1-	4	A1,19,21,27,31
2	2222		1-	5	A21,30,31	17	2050		1-	4	A1,19,27,31
2	2340		1-	5	A30,31	18	1926	1-	1-	5	A1,21,26,30,31
3	1737		1-	4	A1,31	29	2317		1-	5	A21,31
11	1724		1-	4	A1,4,21,31	30	2030		1-	4	A1,31
14	1610	1	1-	5	A1,19,21,26,27,30,31	30	2258		1+	5	A31
14	1927	1-	1-	5	A1,19,26,27,30,31						

