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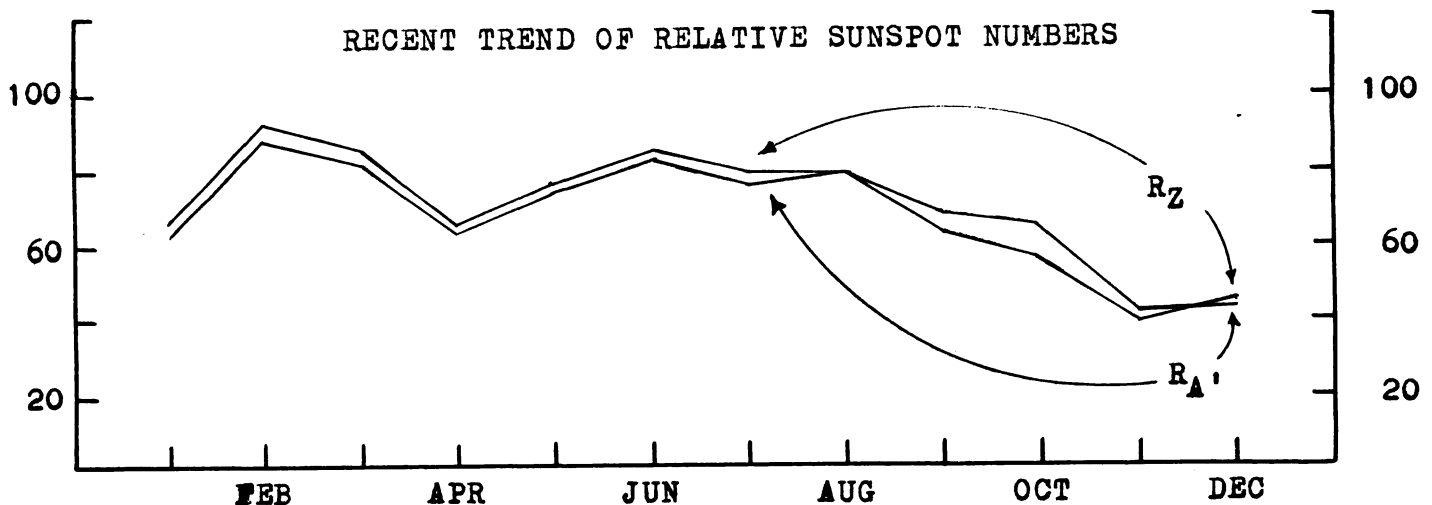
December 1972

Seven ionospheric disturbances were recorded by the Solar Division's observers during December, indicating a relative low activity.

Reproduced on page two are recordings of three events from various observers. The first event on the 8th is shown as recorded at Sunnyvale, California using SES (Sudden Enhancement of Signal) method at a frequency of 37.2 kHz received over a "short signal path" of about 500 kilometers. This is an inverted recording, that is, the amplitude of the signal decreases rather than increases, as is normal, during the solar flare. The second reproduction is of the event of the 11th as recorded at Louisville, Kentucky by the SEA (Sudden Enhancement of Atmospherics) method. The third reproduction is of a quite large event early on the 16th. This recording is unusual in that the chart was made with the peak of the event being almost four hours after sundown at Missoula, Montana. The recording of this event was possible since a radio signal at 22.3 kHz was being received from a station in North West Cape, Australia. This gave a very long signal path of approximately 15,000 kilometers (about 9,400 U.S. miles). At the time of this event, the sun was very nearly over the same longitude as that of the radio transmitter, so the signal path was subject to the influence of the sun's radiations for about 10,500 kilometers of its path or approximately 70% of the total path. The events recorded on the 31st were also recorded by using this transmitter in Australia at 22.3 kHz.

The mean of the American sunspot numbers rose slightly to 42.3.

A sunspot group first seen at the northeast limb on 6th was a bit puzzling after it had rotated into full view. Magnetic polarities showed this to be actually two groups which were close together. The northern part of the central cluster of spots was the follower of the easterly group and the southern part had leading polarity and belonged to the other group.



AMERICAN (R_A) AND ZURICH (R_Z) RELATIVE SUNSPOT NUMBERS, DECEMBER 1972

DAY	R _A	R _Z		DAY	R _A	R _Z
1	32	35		16	61	66
2	30	23		17	59	76
3	27	20		18	42	51
4	19	20		19	46	38
5	14	18		20	52	54
6	21	18	Monthly Means	21	80	70
7	27	24		22	44	57
8	31	33	R _A = 42.3	23	47	60
9	41	42		24	40	43
10	47	51	R _Z = 42.5	25	43	39
11	65	59		26	37	32
12	69	60		27	32	31
13	73	63		28	21	26
14	71	60		29	19	20
15	53	64		30	29	29
				31	39	37

SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING DECEMBER 1972

DAY	MAX	SEA	SES	DEF	OBSERVERS	DAY	MAX	SEA	SES	DEF	OBSERVERS
8	2310		1+	5	A21,30,31,37	16	0348		2	2	A31
9	1616	1+	2-	5	A1,19,21,26,30,31,32, 33,34,36,37,*	16	2102	1-	1-	5	A21,26,31,33, 34,36,37
11	1728	1	1+	5	A1,8,19,21,26,28,33, 34,35	31	0235		1+	4	A31
						31	0436		1+	2	A31

*Event reported by letter by Dr. V. Barocas, Preston, U.K. (England)

