

# Solar Bulletin

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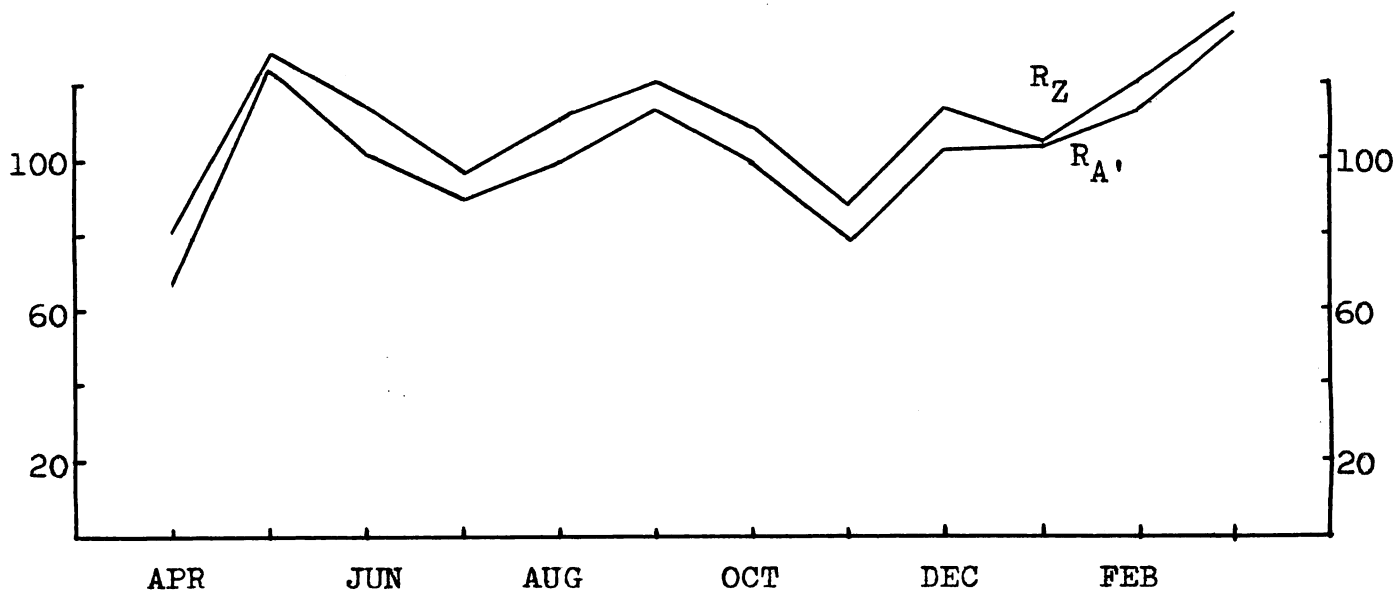
March 1969

## SOLAR ACTIVITY DURING MARCH

March was a month of remarkable solar activity. Twenty nine separate ionospheric disturbances were recorded by Solar Division observers. This was by far the greatest number recorded any month during the present cycle maximum. A pair of disturbances separated by a little over two hours on the 12th were the most widely recorded of all. One recording of these is reproduced on page two. It was made by Russell Maag of St. Joseph, Missouri who recently succeeded in getting his SEA receiver into operation to become our newest observer. What was probably the most intense disturbance this month occurred on the 21st at 1337 UT during the early morning hours for most observers. It takes a very strong disturbance to produce a large SEA under such conditions when the sun is low on the horizon. A reproduction of this event as recorded at Wellesley, Massachusetts is reproduced on page two of this bulletin.

Sunspot activity also reached its highest level this month. The mean of the American sunspot numbers rose to 134.0 the all time high for the cycle. The highest daily number, 224, occurred on the 18th when most observers counted about 15 separate sunspot groups. This was also the highest daily number this cycle.

## RECENT TREND OF RELATIVE SUNSPOT NUMBERS



AMERICAN (R<sub>A</sub>) AND ZURICH (R<sub>Z</sub>) RELATIVE SUNSPOT NUMBERS, MARCH 1969

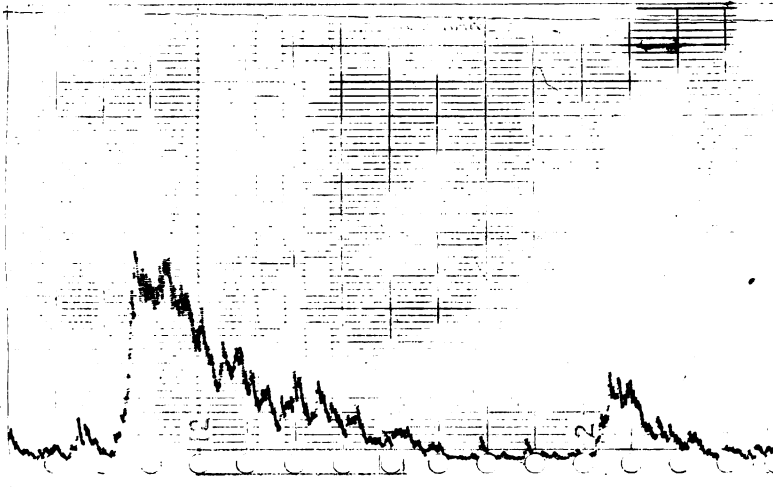
day	R <sub>A</sub>	R <sub>Z</sub>	day	R <sub>A</sub>	R <sub>Z</sub>
1	131	132	16	167	158
2	117	111	17	201	170
3	114	103	18	224	211
4	115	108	19	203	192
5	112	117	20	198	196
6	101	123	21	214	204
7	92	115	22	200	207
8	88	108	23	154	157
9	112	113	24	137	146
10	106	107	25	130	152
11	84	101	26	120	149
12	84	85	27	126	156
13	91	88	28	125	141
14	108	90	29	119	142
15	122	114	30	128	158
			31	131	138

March mean R<sub>A</sub> = 134.0

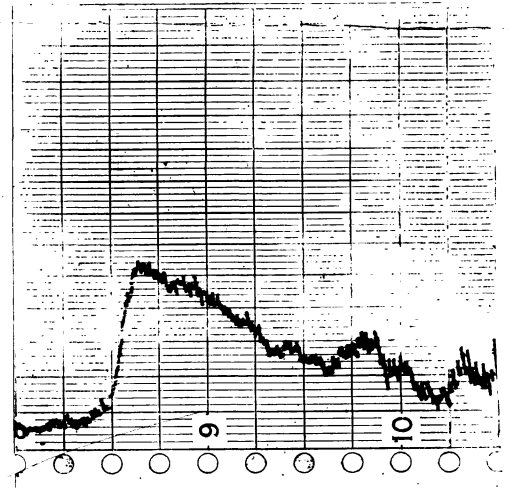
March mean R<sub>Z</sub> = 138.5

SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING MARCH 1969

DAY	MAX.	SEA	SES	DEF.	OBSERVERS	DAY	MAX.	SEA	SES	DEF.	OBSERVERS
1	2009	3+	1+	5	A-19,22,21,1	15	1513		1+	4	A-20,1
1	2150	3+	2	5	A-19,22,21,1	18	0637	2-		5	A-17
2	0535	3+		4	A-17	20	1636	3+	2+	5	A-19,22,1
3	2225		2	5	A-21,1	21	1337	3+	3	5	A-19,22,1,17
8	1822		1	3	A-21	24	1458	1		5	A-22
9	1924	3	1+	5	A-19,20,1,21	27	1335	2+	2+	5	A-22,1
10	1330		1	3	A-20,1	27	1857	2	1	5	A-22,21
10	1900		1+	3	A-21	28	0100		2+	5	A-21
12	1748	3+	3+	5	A-22,19,23,1,21	28	1921	1+	1+	4	A-22,21,1
					20,6,4	28	2257		1+	3	A-21
12	2014	2+	2+	5	A-22,19,21,20,4	29	1906	2-		4	A-22
13	1325		1+	4	A-1	29	1926		1+	4	A-21,1
13	2258		2+	5	A-21	29	2005		1+	5	A-21,1
14	2233		1+	3	A-21	30	0248		1+	4	A-21
14	2215		1+	3	A-21	30	2153		1-	3	A-21



A-23, St. Joseph, Missouri  
SEA's start at 11:32 CST and 2:03 CST  
= 1732 UT and 2003 UT 12 March 1969



A-22, Wellesley, Massachusetts  
SEA starts 8:30 AM, EST=1330 UT  
21 March 1969