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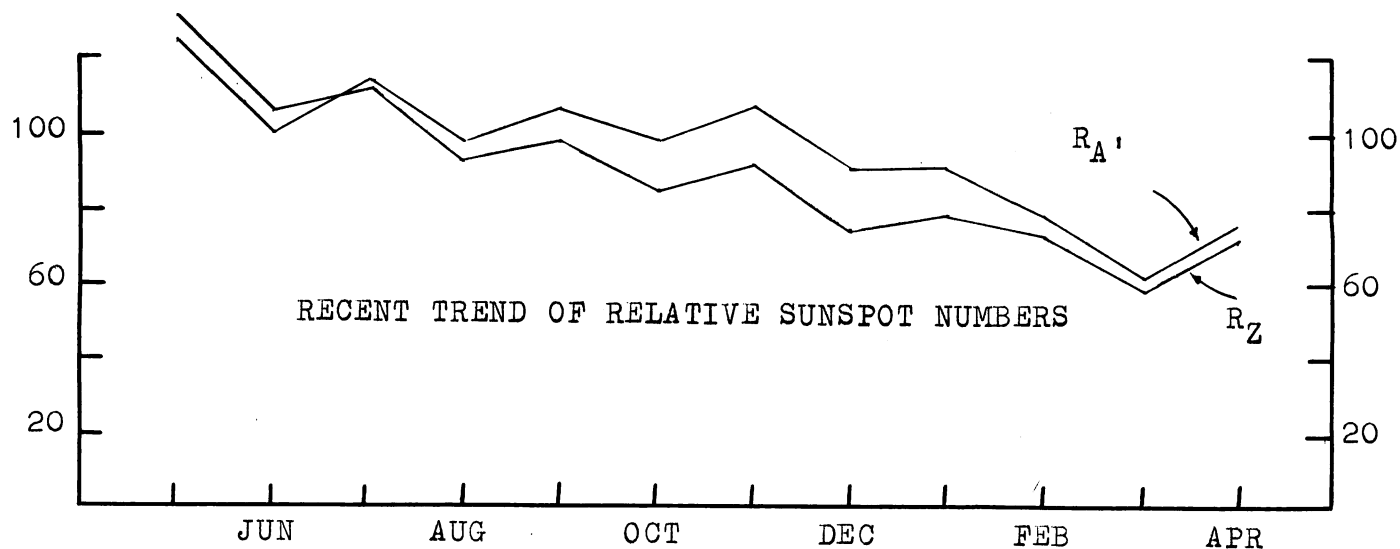
April 1971

SOLAR ACTIVITY DURING APRIL

Eight ionospheric disturbances were recorded by the Solar Division observers during April. This increase over last months' activity is not as significant as the numbers might indicate, since the two events of the 1st day were minor. Major activity was from the 20th to the 23rd.

On evening of April 14th, many observers along the eastern coast of United States, as far south as Virginia, viewed an aurora display. Extracts from a description of this display written by Mr. John E. Bortle, a well known AAVSO variable star observer, follows: "The aurora was first noted during twilight, at about 7:45 pm EST, appearing as a continuation of the twilight arc extending around the northern horizon . . . Soon after 8:00 pm, numerous rays began to appear . . . Near 8:30 pm a startlingly brilliant homogeneous arc formed slightly south of the zenith, running east-west about forty degrees. This feature was among the brightest this observer has ever witnessed . . . By this time, most of the sky below altitude 50° to the north was alive with rayed arcs and bright spots . . . soon after 9:00 pm . . . another very bright homogeneous arc formed to the east of zenith and three similar ones stretched up out of the west as if to join with it . . . Soon after 9:30 pm activity noticeably declined and the display shrank to a glow . . ." In addition to being spectacular, as is indicated in the above narration, this display is unusual from the standpoint that it was not preceded by any identified class M or X Solar Flare on the visible disc of the sun nor any identified ionospheric disturbance. Data available at this time indicates that this aurora was caused by an event beyond the east limb.

The mean of the American sunspot numbers rose slightly to 74.9 from 61.1 in March, primarily due to the sharp rise that peaked near the middle of the month.



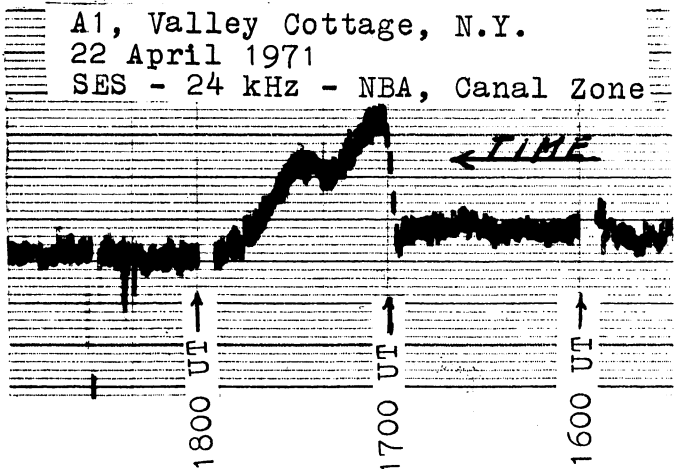
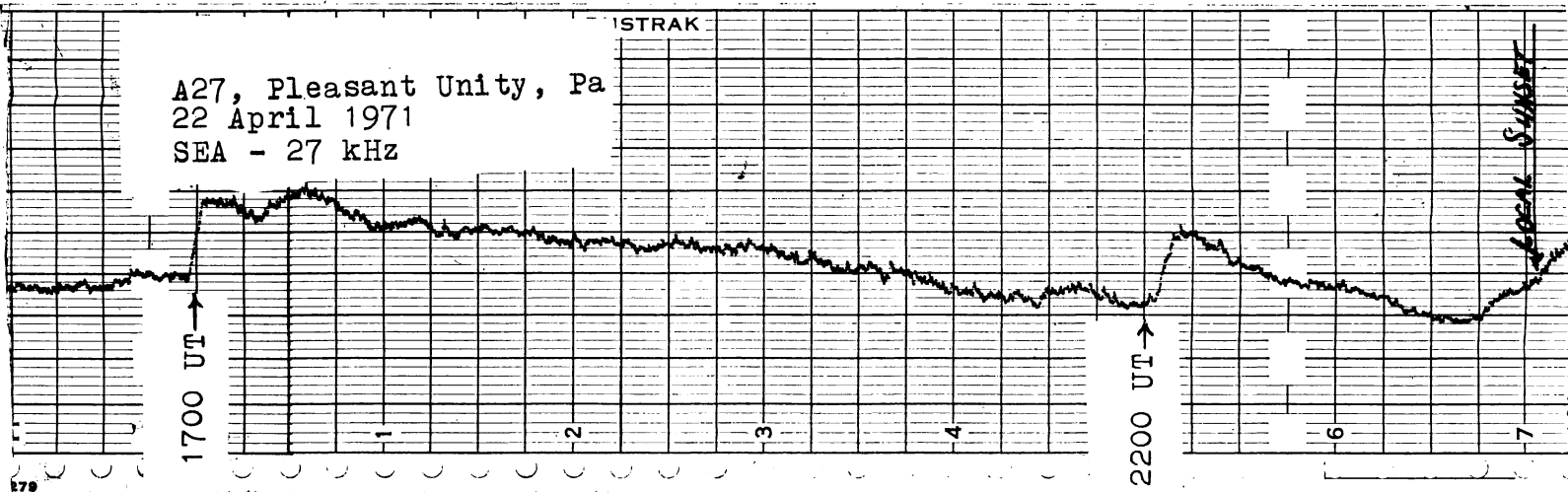
AMERICAN (R_A') AND ZURICH (R_Z) RELATIVE SUNSPOT NUMBERS, APRIL 1971

DAY	R_A'	R_Z	DAY	R_A'	R_Z
1	55	59	16	127	104
2	59	56	17	115	98
3	62	58	18	112	104
4	55	56	19	115	110
5	56	65	20	111	103
6	56	58	21	90	98
7	55	59	22	74	82
8	55	61	23	49	55
9	41	43	24	42	50
10	58	52	25	56	44
11	50	46	26	64	53
12	85	86	27	62	50
13	117	100	28	60	49
14	136	113	29	48	48
15	135	126	30	46	36

Monthly Means
 $R_A' = 74.9$
 $R_Z = 70.7$

SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING APRIL 1971

DAY	MAX	SEA	SES	DEF	OBSERVERS	DAY	MAX	SEA	SES	DEF	OBSERVERS
1	1733		1-	4	A1,21	20	1940	1+	1	5	A1,21,22,27
1	1902		1-	4	A1,21	22	1701	2-	1+	5	A1,6,21,23,27
6	0950	1		3	A17	22	2208	2	1+	5	A1,6,21,22,23,27
20	0524	1+		5	A17	23	0730	1		3	A17



The first event on the 22nd, peaking at about 1701 UT, is shown both above, as recorded by SEA and to the left, as recorded by SES. This 2nd burst starting at about 1715 UT was noted on all charts by observers recording this event. These 2nd "bursts" are not unusual and sometimes correlate with direct measured radiations from the sun. At other times this correlation appears to be absent or at least is not recorded.