

Solar Bulletin

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THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION

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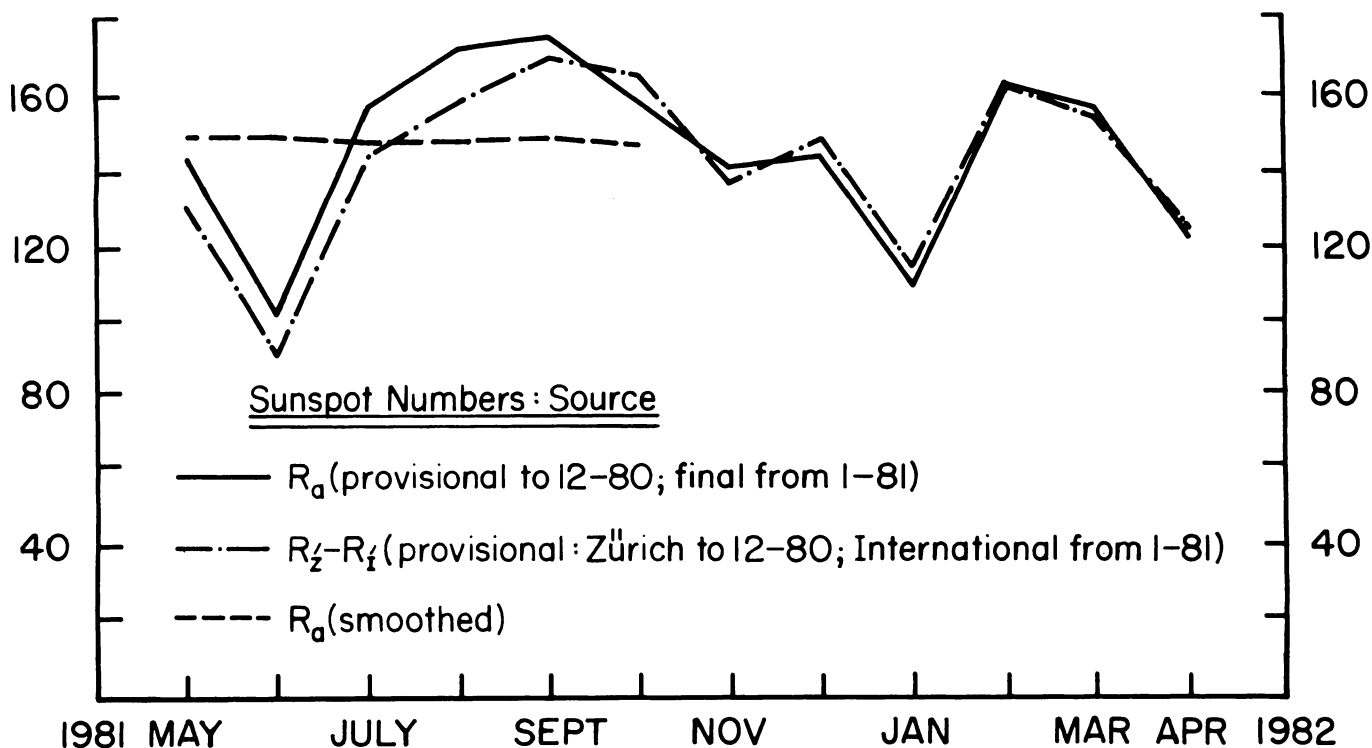
Number 4

April 1982

SOLAR ACTIVITY DURING APRIL 1982

Sunspot data appear in the table of sunspot numbers (R_a and R_i' by days) on page 2 and in the graph at the bottom of this page. Overall sunspot activity fell during April 1982, with the monthly mean for AAVSO sunspot numbers decreasing to 121.9 from 155.5 in March. After a brief rise for two months, the smoothed mean resumed its decrease, dropping from 147.8 for September 1981 to 146.1 for October. Although daily sunspot numbers during April were lower, there was a considerable variety of activity. Fluctuations in spot numbers were evidenced by the daily high of 152 which occurred twice, on the 11th and again on the 24th, while the low of 84 occurred on the 18th and the number nearly reached this level again on the 30th, when it dropped to 87. Two distinctly different types of activity produced the two daily highs: on the 11th, there were 15 small groups scattered about the disc, none with more than 15 individual spots; on the 24th, there were only 11 groups, 6 forming a tight cluster near the central meridian, 3 with 25+ to 60+ individual spots.

The 60 Sudden Enhancements of VLF Signals (SEs) listed on page 2 were detected by members of the AAVSO Indirect Solar Flare Patrol during April, a large drop from 130 in March, and 184 in February. The greatest frequency (9) was noted on the 3rd, with 51 of the 60 SEs occurring in the first half of the month, and 8 days with zero frequency in the second half. There were only 3 events of Importance 3 and none of Importance 4. The shorter list makes it possible to include three quite clear segments of records, from A43, A31, and A52, showing a number of SEs. Note the standard and the inverted forms of two large events on the A31 record.



SUDDEN IONOSPHERIC DISTURBANCES (SEs) RECORDED DURING APRIL 1982

Records were received from A1, 9, 19, 26, 28, 31, 43, 48, 49, 50, 51, 52, 54, 55, 56

Day	Max	Imp	Def	Observers	Day	Max	Imp	Def	Observers
1	02:25	1	5	A43,52,55,56	9	22:23	1-	5	A31,55
1	06:04	1+	5	A43,52,55	9	23:55	1-	5	A31,55
1	11:41	1	5	A19,49	10	02:45	1	5	A31,43,55,56
1	16:23	2+	5	A1,19,26,28,31,48,49,50,51,54,55,56	10	17:08	1	5	A1,31,54
1	19:37	3	5	A1,19,26,28,31,48,49,51,54,55,56	10	23:45	1	5	A31,56
2	15:45	1+	5	A1,19,31,50,55	11	13:07	1-	5	A1,28,31,49,51,54
2	16:01	1+	5	A1,19,26,31,50,54,55	11	13:51	1	5	A1,19,26,28,31,48,49,51,54,55,56
2	17:08	1-	5	A1,9,19,26,28,31,48,49,51,55,56	11	16:52	1+	5	A1,9,19,26,28,31,48,50,51,55,56
2	18:28	1-	5	A1,19,31	11	18:55	2+	5	A1,9,19,26,28,31,48,49,50,51,54,55,56
2	19:38	1-	5	A9,19,31,54,56	11	23:40	2	5	A9,31,43,50,55,56
3	01:43	1+	4	A43	12	12:57	1	5	A19,28,48,51
3	06:21	1-	5	A52	12	16:15	1-	5	A1,19,26,28,31,48,50,51,55,56
3	08:07	2	5	A43,52	12	18:33	1-	5	A31,55,56
3	14:52	1	5	A1,19,26,31,48,51,55	12	19:11	1	5	A9,26,31,55,56
3	15:00	1+	5	A1,9,19,26,28,31,48,50,51,55	13	16:36	1	5	A1,19,31,56
3	18:40	1-	5	A1,9,28,31,48,49,55	13	19:08	1-	5	A55
3	19:02	2+	5	A1,9,19,26,28,31,48,49,51,55	13	19:43	1-	5	A55,56
3	22:47	1-	5	A28,31,55	14	01:08	1	5	A31,55
3	23:08	1-	5	A31	14	02:01	1	5	A31,55,56
4	08:19	2+	5	A31,52	14	03:02	3	5	A31,55,56
4	16:12	1+	5	A1,26,31,48,50,51	14	06:08	1+	5	A31,55,56
4	18:18	1-	5	A9,31,55	16	14:48	1	5	A43
4	21:34	1	5	A9,31,55	16	21:30	1+	5	A1,26,28,31,48,49,50,51,54,55,56
5	16:30	2	5	A1,9,19,31,48,51	17	01:15	1-	5	A55,56
6	06:15	1	5	A52	18	23:05	1	5	A9,31,50,55
7	17:05	1	5	A31,55	19	18:15	3	5	A1,9,19,26,28,31,48,51,55,56
8	17:59	1-	5	A31,55	23	01:47	1-	5	A55,56
9	02:00	1+	5	A43,55,56	28	18:28	1-	5	A19,26
9	14:07	1	5	A1,48,51	28	21:12	1-	5	A9,19,28,31,48,49,50,51,55,56
9	18:52	1-	4	A31	29	19:23	1-	5	A1,19,26,28,48

April 1982		
RELATIVE SUNSPOT NUMBERS (R):		
AAVSO (a), INTERNATIONAL (I)		
Day	R _a	R _i
1	131	145
2	113	115
3	147	151
4	137	137
5	108	112
6	114	117
7	128	130
8	124	131
9	134	132
10	141	138
11	152	152
12	148	142
13	143	148
14	135	136
15	128	127
16	117	122
17	100	108
18	84	91
19	85	87
20	90	93
21	93	91
22	106	109
23	143	138
24	152	145
25	150	149
26	143	150
27	124	126
28	103	90
29	95	85
30	87	75
Mean	121.9	122.5

