

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR DIVISION

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## American Relative Sunspot Numbers, $R_a$ , for June 1997

Date	$R_a$ Final		Date	$R_a$ Final		Date	$R_a$ Final
1	33		11	10		21	3
2	27		12	20		22	1
3	22		13	24		23	7
4	16		14	22		24	15
5	16		15	23		25	23
6	18		16	25		26	22
7	23		17	18		27	14
8	21		18	21		28	9
9	17		19	14		29	2
10	11		20	10		30	0

**Monthly Mean = 16.2**

(Based on 1031 observations contributed by 63 observers.)

So far as visual sunspot observations are concerned, it is not possible yet to say that solar cycle 22 has ended, short of artificial curve-fitting to the previous data. There is a little evidence of a new spot cycle beginning in relatively high heliocentric latitudes.

Betty Stephenson

## Sudden Ionospheric Disturbances (SIDs)

We are pleased to announce that Casper Hossfield has become the SID coordinator of the AAVSO Solar Division. From now on, please submit all SID observations directly to Cap rather than sending them to AAVSO Headquarters. His address is:

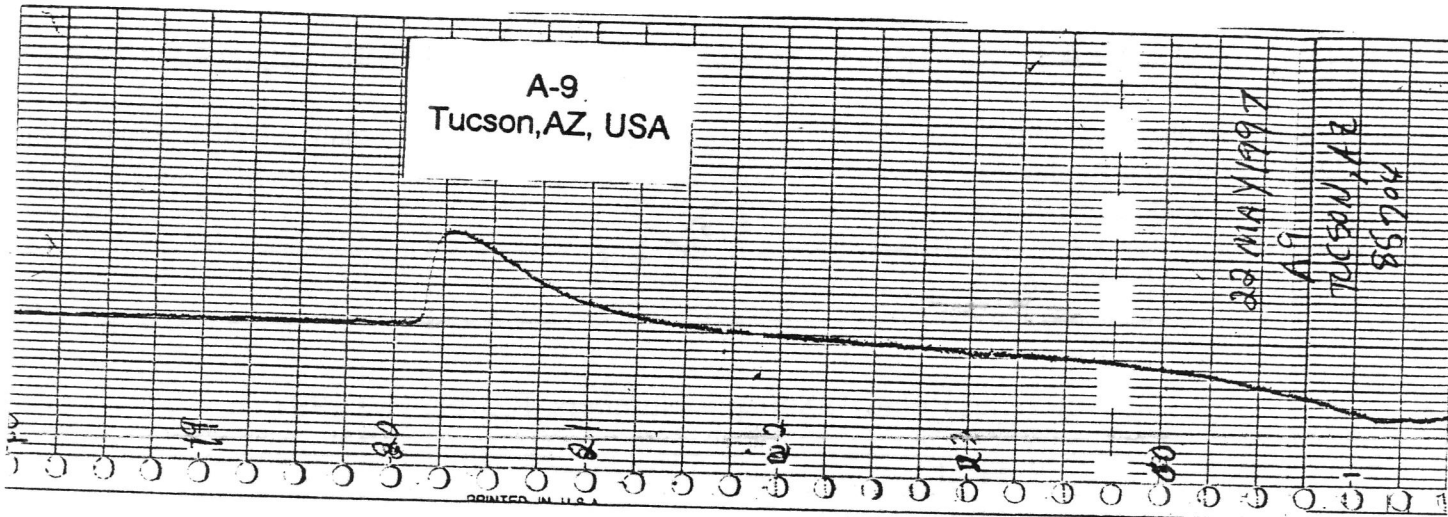
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*please turn over*

# Sudden Ionospheric Disturbance Report

prepared by Casper H. Hossfield



The above strip chart recording is an excellent example of the signature of a solar flare as a sudden ionosphere disturbance, SID, that increased the signal strength of a very low frequency, VLF, radio station. It was made by Werner Scharlach, A-9, recording the signal strength of NLK, a US Navy radio station in Jim Creek, Washington, USA, transmitting on 24.8 kHz. The normal level of the signal is measured by the straight line that is interrupted at 2007 UT when the flare began and rose to a maximum at 2017 UT. By 2130 UT the signal had returned to its normal level. The recording was made with an "Art Stokes" receiver adjusted to produce an interference-free trace of true signal strength. The chart speed is 1-inch per hour.

### SUDDEN IONOSPHERE DISTURBANCES RECORDED DURING MAY 1997

Day	Start	Maximum	End	Importance	Definiteness
21	2006	2017	2130	3	5
27	0940	1000	1010	1	5
27	1550	1605	1620	1	5

### SUDDEN IONOSPHERE DISTURBANCES RECORDED DURING JUNE 1997

Day	Start	Maximum	End	Importance	Definiteness
1	1417	1422	1440	1	1
2	0456	0500	0515	1	1
7	1528	1550	1640	1	1
12	1500	1505	1520	1	1
15	0320	0328	0340	1	1
16	1506	1510	0540	1-	2
16	0505	0512	0540	2	1
28	1527	1528	1600	2	3
29	1430	1432	1459	1+	2

Reports were received from: A-6, Scharlach, Arizona / A-40, Parke, California / A50, Winkler, Texas / A52\*, Overbeek, South Africa / A-63, Ellerbe, Spain, / 69\*, Rosenberg, Arizona / A-80, King, UK / A-81\*, Landry, New Hampshire / A-84, Moos, Switzerland ( \* denotes observers who analyzed their own charts, from which the above report was prepared )