## Solar Bulletin

Publisher:

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION

540 NORTH CENTRAL AVENUE

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Volume 23 Number 7

RAMSEY, NEW JERSEY, U.S.A.

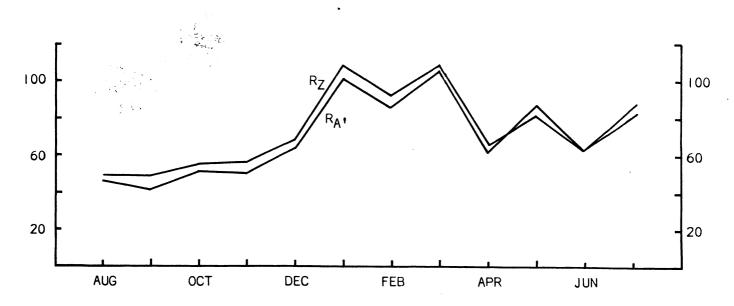
July 1967

## SOLAR ACTIVITY DURING JULY

Solar activity remained at a low level throughout most of July but picked up at the end of the month. A sunspot group first seen at the northeast limb on the 21st developed rapidly into a large F-type group which produced many small flares. Six ionospheric disturbances were recorded on the 25th by the Solar Division's indirect flare patrol. Recordings of these are reproduced on page two. The Durban (A-17) record shows an SEA starting at 1428 UT. Two very small SEA's can also be seen at 1055 UT and 1215 UT at the time of known flares. The West Nyack (A-20) record shows three SES's starting at 1320 UT, 1518 UT and 1620 UT. The small 1215 UT event seen on the Durban record can also be seen as a small SES on the West Nyack record although the 1428 event is not present.

Sunspot activity was up from the previous month. The mean of the American sunspot numbers rose from 62.3 to 82.4. The highest numbers occurred at the end of July when the large F-type group was near the central meridian. A drawing of most of the Sun's disk on 30 July is reproduced as a supplement to this issue of the Bulletin. The drawing, showing magnetic polarities, was made by Thomas Cragg.

## RECENT TREND OF RELATIVE SUNSPOT NUMBERS

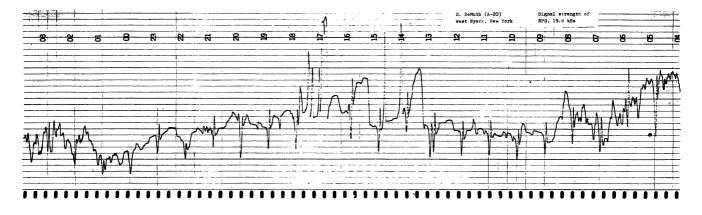


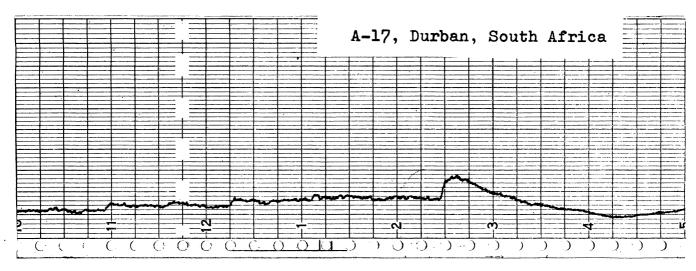
American	(R <sub>A</sub> ,)	and	Zurich	$(R_7)$	relative	sunspot	numbers,	July	1967
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R <sub>A</sub> ,	$\mathtt{R}_{\mathbf{Z}}$		day	R <sub>A</sub> ,	$\mathtt{R}_{\mathbf{Z}}$
60 76 76 80 87	69 83 87 92 98		16 17 18 19 20	77 68 57 29 33	73 67 78 61 41
87 76 74 73 57	97 70 78 67 5 <del>4</del>		21 22 23 24 25	61 61 73 82 94	62 73 93 90 106
53 52 55 81 82	53 59 53 66 80		26 27 28 29 30 31	115 143 153 144 151 143	116 122 164 154 165 152
	R <sub>A</sub> , 60 76 87 876 437 55 55 51	R <sub>A</sub> , R <sub>Z</sub> 60 69  76 83  76 87  80 92  87 98  87 97  76 78  77 76  74 78  73 57  53 59  53 59  53 59  53 66	R <sub>A</sub> , R <sub>Z</sub> 60 69 76 83 76 87 80 92 87 98  87 97 76 70 74 78 73 67 57 54  53 53 52 59 55 81  66	R <sub>A</sub> , R <sub>Z</sub> day  60 69 16  76 83 17  76 87 18  80 92 19  87 98 20  87 97 21  76 70 22  74 78 23  73 67  57 54 25  53 53 26  52 59  55 53 28	R <sub>A</sub> , R <sub>Z</sub> 60 69 16 77  76 83 17 68  76 87 18 57  80 92 19 29  87 98 20 33  87 97 21 61  74 78 23 73  73 67 24 82  57 54 25 94  53 53 53 26 115  52 59 55 53

July mean  $R_{A^{\dagger}} = 82.4$ 

July mean  $R_Z = 87.8$ 





Recordings of sudden ionospheric disturbances caused by solar flares that occurred on 25 July 1967. Details on page one