

OBSERVATIONS ON PHOTOSPHERIC BRIGHTNESS SURROUNDING SUNSPOTS

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A film of the Sun taken with a 4-inch refractor at the Manila Observatory in integrated light through an orange filter at 23.43 U.T. on 1959 March 25 shows the phenomenon of the bright ring which sometimes encircles large sunspots. To investigate the phenomenon, an enlargement was examined section by section for the number of granules per unit area of 169 square mm. Of the total solar area 0.77 per cent was covered, when account was taken of foreshortening at $\cos \theta$ of 0.9533, and when the area covered by the sunspots was deducted. The 8281 granules which were counted works out to 1 076 000 granules on the whole sunspot-free solar surface, a number satisfactorily in agreement with the commonly accepted round number of one million.

Fig. 1 shows the granule count in the squares into which the enlargement was divided. The double dashed line about the spots shows the boundary

27	25	20	27	25	26	27	25	26	27	29	24	27	26	26	27	28	27	26
30	29	29	26	25	27	29	27	29	27	30	27	30	24	22	26	22	24	26
25	30	28	28	29	23	24	30	29	28	30	29	30	29	25	31	30	26	30
30	28	25	32	30	29	31	22	26	31	31	32	31	30	28	28	23	28	30
29	29	32	37	27	30	31	25	29	37	25	31	39	32	36	34	28	33	31
29	30	32	30	30	37	31	22	29	33	30	33	33	34	29	33	31	30	
35	35	36	30	29	27	22	30	31	21	30	34	28	30	25	31	29		
31	28	29	31	31	29	20	20	29	28	32	32	27	28	30	30			
27	32	33	33	34	32	30	27	25	28	40	33	34	29	32	31			
35	36	34	37	33	27	26	31	30	30	25	34	33	37	30	33	34	28	
29	33	30	36	35	30	26	31	31	26	31	30	30	31	30	32	32	30	
31	34	36	34	34	36	32	34	31	33	29	32	31	35	35	34	31	29	33
32	30	35	32	30	30	34	27	28	29	30	26	27	35	33	31	34	33	28
31	36	37	36	37	36	37	32	30	27	29	26	26	28	35	37	29	29	30
35	32	30	39	34	33	30	30	30	33	30	27	32	31	31	33	32	29	31

FIG. 1. Numbers are granule count at corresponding places on the enlargement. Double-dashed lines indicate facular limits. Sunspots are sketched near the middle of the figure.