Cohen, M. H. and Schiffmacher, E. R. Some solar observations with the Cornell narrow-band radio polarimeter.

A correlation-type radio polarimeter has been constructed at the Cornell Radio Observatory. The center frequency is 201.5 mc; bandwidth, 9 kc; antenna, a 17-foot paraboloid with crossed dipoles diplexed to give simultaneous right and left circular components. The instrument has been in partial operation since 15 December 1956, and observations have been made of the sun on both quiet and active days. This instrument has a substantially narrower bandwidth than the polarimeter used by Hatanaka *et al.* (1955), 100 kc at 200 mc, and the polarization measuring interferometer used by Payne-Scott and Little (1951), 150 kc at 97 mc, but to date no significant bandwidth effects have been observed. In particular, many unpolarized bursts have been seen, some of them in time association with small flares. Several outstanding events with polarizations changing rapidly with time have been recorded.

Hatanaka, T., Suzuki, S. and Tsuchiya, A. 1955, *Proc. Japan Acad.* **31**, 81.

Payne-Scott, Ruby and Little, A. G. 1951, *Aust. J. Sci. Res.* **4**, 508.

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Deutsch, Armin J. A method for mapping the surfaces of some magnetic stars.

Certain stars are known to be periodic magnetic variables, and to show synchronous changes in line strength and radial velocity. The hypothesis has been made that the atmosphere of such a star is in rigid rotation, and that it is characterized by a permanent magnetic field and associated abundance irregularities. The magnetic potential and the local equivalent widths have been developed in spherical harmonics, and the Laplace coefficients of these expansions have been related to the Fourier coefficients of the observed curves. The theory has been applied to the star HD 125248 in an attempt to verify the original hypothesis and to map the magnetic field and abundance anomalies over the surface of the star.

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de Vaucouleurs, G. A survey of bright galaxies south of -35° declination.

A survey of the bright galaxies listed in the Shapley-Ames Catalogue south of -35° declination has been carried out between 1952 and 1955 with the 30-inch Reynolds reflector of the Australian Commonwealth Observatory, Mount Stromlo. New or revised types and dimensions were determined for 210 of the 230 S-A objects listed, for 120 other NGC and IC objects, and also for 130 uncatalogued objects.

Morphological types were assigned in a revised classification scheme including four main *classes*: ellipticals E, lenticulars So, spirals S and irregulars I; two *families* of lenticulars and spirals: ordinary SA and barred SB, with intermediate objects SAB; two main *varieties* of lenticulars and spirals: ringed r and spiral s, with intermediate objects rs; four or five *stages* along the spiral sequences: early a, intermediate b, late c,d and magellanic m, the latter forming the transition toward the magellanic irregulars Im. Three stages, early So⁻, intermediate So^o and late So⁺, are also distinguished in the lenticular sequences. Outer ring-like structures R are frequently observed near the transition stage So/a between lenticulars and spirals (de Vaucouleurs 1957).

Dimensions reduced to standard conditions are given for the bright inner regions and the faint outer regions; statistical data are collected on axial ratio and concentration. Relative distances based on apparent diameters are determined for seven clouds or regions. Relative diameters reduced to unit distance are discussed. Pairs and triplets are classified according to the visibility or non-visibility of tidal distortion in the components. Two colliding systems, NGC 1487 and NGC 3256, are described; neither of them is a radio source.

Details will be published shortly in the *Mem. Commonwealth Observatory*, No. 13, including illustrations of 48 objects.

de Vaucouleurs, G. 1957, *A. J.* **62**, 13.

*Lowell Observatory,
Flagstaff, Arizona.*

DeWitt, John H., Hardie, Robert H. and Seyfert, Carl K. A seeing compensator employing television techniques.

Short time variations in atmospheric refraction cause the apparent position of an object to vary