

### Theory of the continuous spectrum of gaseous nebula of pure hydrogen.

H. GEROLA AND N. PANAGIA

*Dto. de Física - Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires and Laboratorio di Astrofisica dell' Università di Roma.*

*Abstract:* It has been studied the formation of the continuum of nebular hydrogen when ionizations are due to radiation and to collisions.

Two photon emission and continuous emissivity in the reaction of formation of  $H^-$  have been included. The continuum results extremely sensitive to the relative amount of the two types of thermal excitation.

### A model for radiogalaxies.

J. L. SÉRSIC

*Observatorio Astronómico, Córdoba y CNICT, Buenos Aires.*

*Abstract:* Through a convenient model, it is shown that galaxies with a condensed nuclear body breaking in two pieces develop transient annular optical structures resembling those found in typical radiogalaxies. A complete account of the theory will be found in.

— J. L. Sérsic: *Transient Annular Structures in Exploding Galaxies*, Proc. Symposium on Stability, Resonances and Periodic Orbits, Sao Paulo, 1969 (in Press).

### The luminosity function obtained from bright stars.

J. C. MUZZIO \* AND C. JASCHEK

*Observatorio Astronómico - La Plata*

*Abstract:* As a preliminary step to derive the luminosity function the underlying hypothesis involved in the mean absolute magnitudes method have been analyzed. The study of the material published by Cowley, A. P., Hiltner, W. A. and Witt, A. N. (A. J., 72, 1334, 1967) shows that the hypothesis of a linear relationship between the mean absolute magnitude and  $H$ , as well as the hypothesis that such a relationship does not depend on the apparent magnitude, have little influence on the obtained values. The shape of the luminosity function is not biased either by the adopted shape of the relative distribution function of absolute magnitudes for each  $H$ , but it depends critically on the number of stars in each magnitude and proper motion interval.

### The velocity ellipsoid for giants and dwarfs.

ANA GÓMEZ AND CARLOS JASCHEK

*Observatorio Astronómico, La Plata*

*Abstract:* The solar motion and the velocity ellipsoid are derived from samples of stars of different spectral types and luminosity class.

The equations used are those of the radial velocity component of motion, including the  $K$ -term and galactic rotation corrections. The results obtained are compared with the published ones. The complete paper will be published elsewhere.

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