

COMMISSION 33:  
STRUCTURE AND DYNAMICS OF THE GALACTIC SYSTEM  
(STRUCTURE ET DYNAMIQUE DU SYSTÈME GALACTIQUE)

Report of Meetings, 22, 25, 27 and 28 August 1973

PRESIDENT: S. W. McCuskey.

SECRETARIES: K. C. Freeman, A. G. D. Philip.

22 August 1973

SPIRAL GALACTIC STRUCTURE

Joint Meeting with Commissions 34, and 40.

Invited speakers were:

Th. Schmidt-Kaler: Introductory Remarks

K. C. Freeman: Report on Some Highlights from Symposium No. 58 *Formation and Dynamics of Galaxies* (Canberra).

Th. Schmidt-Kaler: General Review and Optical Observations.

K. Rohlf's (read by Prof. O. Hachenberg): Radio-Astronomical Observations.

W. W. Roberts: Theoretical Aspects of Galactic Spiral Structure.

Considerable discussion followed, including brief papers by Wielebinski (Continuum Observations of M31); van Woerden (H-Line Observations of M101); Simonson (A Density-Wave Map of the Galactic Spiral Structure); Piddington (Galactic Spiral Arms and Evolution); and Mark (An Amplifier of Galactic Density Waves). Two papers read by title were: A Simple Model of a Spiral Wave at the Center of a Galaxy by E. Athanassoula-Georgala, and Periodic Orbits in Barred Spiral Galaxies by M. Michalodemitrakis.

25 August 1973

A. JOINT MEETING WITH COMMISSIONS 8 AND 24

B. J. Bok: Report on IAU Symposium No. 61 *New Problems of Astrometry* (Perth).

This comprehensive report was followed by comments from W. Fricke, President of Commission 8 and S. Vasilevskis, President of Commission 24. Resolution No. 1 of IAU Symposium No. 61, concerning needs and priorities in the fields of astrometry was strongly endorsed by Commission 33. Note was taken also, but no action was deemed appropriate, on a resolution to be proposed by Commission 24 regarding the importance of the Yale-Columbia program for determination of proper motions in the southern hemisphere.

B. BUSINESS MEETING OF COMMISSION 33

(1) The new officers and Organizing Committee members for the period 1973–1976, proposed by the present O.C., were duly elected. (2) Guide-lines and rules of operation for the Commission were discussed. The consensus of opinion was that freedom of action and a minimum of rules were essential. Application of the simple procedures given in *IAU Trans. XIVB*, p. 200 were deemed sufficient. (3) A lengthy discussion regarding the presentation to the IAU and ICSU of a list of 'priorities' for the work of the Commission was followed by a unanimous vote that no such list should be formulated. (4) It was agreed by acclamation that a wide-reaching and detailed report, such as those prepared by the Commission in 1970 and 1973, is a most desirable feature and should be continued.

(5) A memorandum from The Moscow Variable Star Bureau concerning the GCVS, its format and inclusion of new material was called to the attention of the Commission. Copies of the memorandum were available to members but lack of time prevented discussion.

**27 August 1973**

Joint Discussion III. *Kinematics and Ages of Stars Near the Sun.* (Included in the *Highlights of Astronomy 3*.)

**28 August 1973**

THE GALACTIC DISTANCE SCALE

Invited speakers were:

S. V. M. Clube: The Galactic Distance Scale.

W. F. van Altena: The Distance of the Hyades Cluster.

I. Iben, Jr.: The Cepheid Zero-Point.

The invited speakers presented evidence that the distance  $R_0$  from the Sun to the galactic center is likely to be nearer 7 kpc than the 10 kpc now usually assumed. In the discussion period Oor summarized the new results by Plaut on the distribution of RR Lyr stars, which indicate  $R_0 \sim 7.8$  kpc Feast pointed out that the number-apparent magnitude distribution of these stars would indicate a value  $R_0$  nearer 8.0 kpc. Bok mentioned that  $\langle M_v \rangle = +0.6$  mag. for the RR Lyr stars, obtained by Graham for stars in the Magellanic Clouds, would also be of importance here. Van den Berg reported on the large number of very faint stars, presumably in the galactic bulge, now being observed with the 200 in. telescope. These are probably main sequence stars and may lead to another estimate of  $R_0$ .

We record here our appreciation to Dr L. Perek and his committee for the excellent program of the Joint Discussion; to Dr Th. Schmidt-Kaler for organizing the program on Spiral Galactic Structure; and to Dr S. V. M. Clube for the program on the Galactic Distance Scale.