

COMMISSION 35: STELLAR CONSTITUTION (CONSTITUTION DES ÉTOILES)

Report of Meetings

PRESIDENT: E. Schatzman.

A. Administrative Session, August 22, 1973

- (a) Election of the new Organizing Committee, and President and Vice-President.
- (b) Examination of the list of proposed new members of the Commission and new proposals
- (c) Draft reports.

The following motion was carried:

'Commission 35 feels that conditions have developed in such a way as to make future draft reports of the Commission undesirable. If however, the IAU decision is to retain draft reports Commission 35 would wish to present a brief report on trends in the subject of stellar constitution'

- (d) Commission Rules.

The following motion was carried:

'Commission 35 intends to carry out its activities responsibly, fairly and with maximum scientific effectiveness, but prefers to operate without formal rules other than those prescribed by the By laws of the IAU.'

- (e) Consultants.

It was agreed that many physicists who are not IAU Members make substantial contribution to the subjects studied by the Commission, and that the Commission President should arrange for some of them to be Consultant.

B. Scientific Meetings

The following topics have been discussed:

- (1) The solar neutrinos.

P. Demarque gave a report mainly based on his work on the effect of fast rotating cores on evolution and neutrino fluxes. *P. Ledoux* discussed the possibility of local instabilities near the center of the Sun and their effect on overall stability. An extensive discussion followed. *W. F. Huebner* gave information on the opacity library, to which access will be possible in 1974.

- (2) Transport problems.

G. Michaud gave a report on microscopic transport (diffusion). *J. P. Zahn* gave a report on macroscopic transport (overshooting, transport in radiative zone: Goldreich Schubert Fricke instability and shear flow instability (linear and non linear regions)) (based on work by Gough, Latour, Spiegel, Toomre and Zahn). *E. E. Salpeter* presented some results on convective overshoot and *A. V. Maeder* on evolutionary sequences with mixing in a small zone above the convective core.

- (3) Informal discussion of the limits of the mixing lengths theory.

- (4) Star formation and cloud fragmentation: (Joint Meeting with Commission 34).

Review paper by *T. Arny* (read *in absentia* by E. Schatzman).

Invited paper by *R. B. Larson*, centered on numerical methods in hydrodynamical studies of fragmentation (including a short invited paper by *Quirk* on the condensation of fast rotating discs)

Three other short papers were presented by *D. Mc Nally*: Interstellar gas cloud collapse; *Savedoff* and *Taff* (read by Savedoff): Coalescence model; *Appenzeller*: Massive protostars.