

PREFACE

The IAU Colloquium No. 59, "The effects of mass loss on Stellar Evolution" was held on September 15-19, 1980 at the International Centre for Theoretical Physics, Miramare, Trieste (Italy), under the auspices of the IAU Executive Committee and the Italian National Council of Research.

The planning of this conference began two years ago during the IAU Symposium No. 83 "Mass loss and evolution of O type stars" (Qualicum Beach, Victoria, Canada) when we felt that mass loss and its effects on the evolution of stars was too broad a subject for being confined to O type stars only. Therefore we thought that a conference dealing with the general problem of mass loss across the whole HR diagram would have been of interest to all people working in the field. The main idea was that bringing together Astronomers and Astrophysicists of the widest range of interests and expertise - all in some way related to the problem of mass loss from stars - would have spurred thorough discussions on the many aspects and implications of this topic.

We hope this goal has been achieved.

Furthermore, the most recent observational and theoretical developments on the problem of mass loss from early type stars avoided this meeting to be a simple updating of the Qualicum Beach Symposium as far as this issue is concerned.

On the observational side, the understanding of the stellar wind phenomenon has been shaken by the growing amount of data which often turn out not to easily fit current theories of mass loss. On the theoretical side, new insights have been put forward in order to reach a better understanding of the whole problem. Although a remarkable progress has been made during the last few years, the reader of these proceedings will realize that the situation at the present time is so unsettled and unclear as never before.

The Scientific Organizing Committee appointed by the IAU Executive Committee during the XVIIth General Assembly at the University of Montreal, consisted of I. Iben Jr. (Chairman), J. Cassinelli (USA), C. Chiosi (Italy), P.S. Conti (USA), M. Plavec (USA), D. Reimers (F.R.G.), A. Renzini (Italy), R.N. Thomas (France), J. Ziolkowski (Poland).

The meeting was organized by R. Stalio of the Astronomical Observatory of Trieste, who chaired the Local Organizing Committee, formed by Dr. M.L. Franco, Dr. C. Morossi, Dr. P.L. Selvelli.

The organization of the conference was financially supported by the Executive Committee of the IAU, the Italian National Council of Research (G.N.A.), the International Centre

for Theoretical Physics, and the International School for Advanced Studies of Miramare, Trieste.

The proceedings of the colloquium have been edited from camera ready manuscripts submitted by the authors. The discussion was prepared from handwritten sheets on which discussion contributors wrote their remarks. The preparation of the discussion was assisted by E. Nasi, F. Matteucci and L. Greggio. In order to keep the freshness of the discussion as it was during the meeting, we have typed all contributions in the same order they were orally given. The camera ready copy of the discussion and some editorial work of several contributions was typed by Mrs. L. Canziani. The manuscripts of the invited reviews and contributions are published as prepared by the authors. Only marginal typing errors and editorial inconsistencies have been occasionally corrected by the editors. We took also the responsibility of not shortening any contribution, and not making uniform the typing style of the manuscripts.

Many people contributed to the organization of the conference, and helped during it. There is not enough room here to thank all such persons. We will therefore mention only a few persons who did a major contribution.

Prof. M. Hack, director of the Astronomical Observatory of Trieste, for her constant interest and encouragement, Prof. A. Salam and Prof. P. Budini, for the hospitality at the International Centre for Theoretical Physics, and International School for Advanced Studies, Mr. S. Canziani, who helped in many ways throughout the whole conference, Dr. E. Ricciotto, who took care of the administrative aspect of the conference.

The editors

Trieste, 6 February 1981