

PREFACE

IAU Symposium No. 75 on "Star Formation" took place from 6 - 10 September 1976 at the University of Geneva, immediately following the 16th General Assembly of the International Astronomical Union. It was organized under the auspices of Commissions 34 and 35 by a Local Organizing Committee consisting of M. Golay (chairman), B. Hauck and A. Maeder. The organisation was financially supported by the Executive Committee of the IAU, the Swiss Academy of Sciences and the Universities of Geneva and Lausanne. All sessions were held in one of the well-equipped spacious Lecture Halls of the University of Geneva. The Scientific Organizing Committee consisted of G.B. Field (chairman), G.H. Herbig, F.J. Kerr, A. Maeder, L. Mestel, G. Neugebauer, S.B. Pikel'ner, E.L. Schatzmann, P. Thaddeus and H. van Woerden. The Symposium was dedicated to the memory of S.B. Pikel'ner who until his death served as a member of the Scientific Organizing Committee.

The Symposium brought together about 150 astronomers and astrophysicists from 17 different countries. The wide range of interests and expertise of the participants - all in some way or other related to the problem of star formation - is reflected in the great variety of topics that were discussed ranging from radio, millimeter and infrared observations of molecular clouds and protostars to theories of collapse and fragmentation of rotating gas clouds.

The last previous major collection of papers related to the problem of star formation was published in 1970 as the proceedings of the 16th Liège Symposium "Evolution stellaire avant la sequence principale". Since then the situation has changed drastically, in particular as far as the observations are concerned. This can be deduced for instance from the fact that of the few hundred references that are quoted in these proceedings only two refer to papers presented at the 16th Liège Symposium. On the observational side the field has been revolutionized by observations at millimeter wavelengths of molecular clouds and by observations at infrared wavelengths of protostars (or extremely young stars) quite often still embedded in their placental cloud. On the theoretical side new insight in the process of star formation has come from calculations of more-dimensional gas dynamics. However, although quite a lot of progress has been made over the last seven years, the reader of these proceedings will find out that many of the fundamental problems of star formation still remain. We hope that this book will help to put some of these old problems into new perspective and to point at new exciting problems to be attacked by a new generation of astronomers and astrophysicists.

The proceedings of this Symposium have been edited according to the new rules for publication of IAU Symposia set by the Executive Committee of the IAU at its 40th meeting. According to these rules (i) the proceedings are produced from a camera-ready manuscript, (ii) only invited papers and the discussions following them are to be published, (iii) no contributed papers will be accepted for publication in the proceedings, (iv) the proceedings shall not exceed 300 pages. The manuscripts of the invited reviews for these proceedings were prepared by the review speakers and are published as such. Only obvious typing errors and editorial inconsistencies have been occasionally corrected by us. The editing of the discussions, including the short contributions, was entirely our responsibility. We have produced the discussions from the sheets on which the discussion contributors wrote their remarks. These were typed during the meeting and handed back to the contributor for correction. In the final editing we have freely used our almost dictatorial power by rearranging the discussions in order to enhance their coherence and consistency and thus, as we hope, their readability. In view of the strict page limit we were forced to omit several contributions that were of dubious relevance to the topic of star formation. Some contributions were shortened, others (rarely) reworded. Wherever we made changes (either by omission or by condensation) this is indicated in the text by square brackets. We are prepared to take all the blame for scars that may have been caused by our verbal surgery.

In the preparation of the manuscript for publication we were very ably assisted by the secretarial staff of the Observatory of Geneva and of the Astronomical Institute of the University of Amsterdam.

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