

## PREFACE

The International Astronomical Union Symposium No. 70 on Be and Shell Stars, the Merrill-McLaughlin Memorial Symposium, was held in Bass River (Cap Cod), Massachusetts, U.S.A., from September 15th through 18th, 1975. Fifty-three astronomers from Argentina, Belgium, Canada, Czechoslovakia, France, Israel, the United Kingdom, the United States, and the Vatican attended and participated in the Symposium. This volume, which parallels the actual program closely, contains the papers presented at the Symposium plus most of the discussion following the papers.

New observational techniques and fresh theoretical ideas have resulted over the past few years in a renewed interest in Be and shell stars. At IAU Symposium No. 51 on Extended Atmospheres and Circumstellar Matter in Spectroscopic Binary Systems, the Otto Struve Memorial Symposium, in Parksville, British Columbia, Canada, three years ago, a number of participants expressed the wish to organize a symposium on Be and shell stars. If we wish to identify an official 'Father of IAU Symposium No. 70', it would be Mirek Plavec who, in his capacity as President of IAU Commission 42 (Photometric Double Stars) requested and received the cooperation of Commissions 29 (Stellar Spectra) and 36 (Stellar Atmospheres), suggested an Organizing Committee, and wrote to the IAU General Secretary in 1973 requesting that the IAU Executive Committee approve the proposed conference as an IAU Symposium. Approval was granted at the IAU General Assembly in Sidney, where a number of members of the Organizing Committee first met to make preliminary plans for the Symposium and drew up a tentative program. Subsequently, Anne Cowley, as Secretary of the Scientific Organizing Committee, also served as a kind of 'one-person local organizing committee', and personally handled much of the planning and arrangements for this Symposium. The success of IAU Symposium No. 70 is due largely to her efforts and those of the other members of the Scientific Organizing Committee.

I should like to acknowledge also financial support from the International Astronomical Union and from the National Science Foundation which provided travel assistance for ten of the Symposium participants. The Dominion Astrophysical Observatory and the Ohio State University were also most generous in providing many services necessary for planning and carrying out this Symposium.

The contributions by Paul Merrill and Dean McLaughlin to our understanding of Be and shell stars are treated in Mirek Plavec's Introductory Address, but I would like to acknowledge my personal debt to each. It was my privilege to have known Merrill while I was a guest investigator at the Mount Wilson Observatory in the 1950's, and I met McLaughlin often at meetings of the Ohio Neighborhood Astronomers. It was always a pleasure and a source of stimulation to discuss spectroscopic problems, and specifically emission-line spectra, with each of them.

The framework of IAU Symposium No. 70 is formed by the review papers, chosen to represent the most important aspects of Be and shell star research, with special

emphasis on recent observational techniques. Contributed papers were also given following each review paper, but these were necessarily shorter because of limitations of time. The program was planned from the outset to leave ample time for discussion and was generally successful in this respect. A special session was designated for general discussion at the end of the Symposium.

All of the discussion was recorded on tape by George Sonneborn and subsequently transcribed, after editing, by Mrs Delores Chambers. We are grateful to both for their help. We are also indebted to the chairpersons of the various sessions for keeping all of us on the track; these were R. Herman, J. F. Heard, D. N. Limber, A. P. Cowley, L. Goldberg, J. P. Swings, and A. Feinstein. The hard-working Symposium participants were allowed one afternoon off to visit Nantucket Island, where Dorrit Hoffleit very kindly provided a tour of the Maria Mitchell Observatory for us.

I would also like to express my appreciation to my wife, Connie, for her help and advice at various stages of preparing for the Symposium and editing these Proceedings.

The cooperation and help of the management and staff of the Red Jacket Beach Motor Inn, where the Symposium was held, is also gratefully acknowledged.

Finally, I would like to thank all the participants for their friendly cooperation both during the Symposium and in preparing these Proceedings for publication.

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