

## PREFACE

These papers given during the fifth in the series of Los Alamos and Goddard Conferences, held August 12-15, 1980 at Los Alamos, are for the first time being published as an official IAU Proceedings. The IAU sponsorship has resulted in more participation than ever and more papers. All these contributions except an informal presentation by J. D. Fernie on R CrB and 89 Her are included here, in many cases shortened sometimes severely from the original presentation due to space limitations.

The editors wish to thank all the authors for the rapid preparation of their papers. Readers are asked to excuse the occasional typographic errors in some of the camera ready manuscripts due to the short time of 6 weeks between the end of the conference and the submission deadline at Los Alamos. A full month more was needed to get the tape recorded discussion condensed to a manageable length. We hope the condensation (unedited by the participants) does not too greatly distort the flavor of the very lively discussion sessions.

Previous proceedings are available for all these conferences except the first one on July 26, 27, 1971. They are "Cepheid Modeling" NASA report SP-383 (July 1974), "Proceedings of the Solar and Stellar Pulsation Conference" LASL Report LA-6544-C (August 1976), and "Current Problems in Stellar Pulsation Instabilities" NASA Technical Memorandum 80625 (June 1978).

Our thanks to Dr. Donald M. Kerr, the Director of the Los Alamos Scientific Laboratory, who gave the conference an enthusiastic welcome. The 15 session chairmen were R. S. Stobie (1D, 2D, and 3D Collapse of Interstellar Clouds), S. G. Starrfield (Solar Pulsations), M. Jerzykiewicz ( $\beta$  Cephei and 53 Persei Variables), W. S. Fitch ( $\delta$  Scuti and Dwarf Cepheid Variables), D. S. King, J. O. Petersen, and P. Smeyers (Cepheids of Populations I and II), W. H. Sparks (Red Variables), L. A. Balona (RR Lyrae and BL Herculis Variables), J. D. Fernie (R Coronae Borealis Pulsations), W. M. Tscharnuter and S. A. Colgate (Supernova), J. P. Cox (White Dwarf Pulsations), K. Nomoto (Novae), and A. N. Cox (Effect of Rotation and Magnetic Fields on Pulsations). Keith Despain and Joel Tohline helped keep track of who participated in the discussion. Sumner Starrfield, Steve Hodson, and Dean Pesnell collected key slides and viewgraphs for mounting on a bulletin board for later discussion over coffee. The registration desk and many other aspects were handled in a very expert manner by Marcella Martinez. Travel and accommodations were arranged by Luz Woodwell, and the meeting rooms were readied and maintained by Floyd Archuleta. Eric Jones supplied the wit in an after dinner talk.

Our many quests, foreign and from the United States, many with some IAU monetary support, had a profitable conference which sparked many future collaborations. Hopefully, this group can meet again in two years to continue the unravelling of mysteries in stellar hydrodynamics

Arthur N. Cox

David S. King

November 3, 1980