ACKNOWLEDGEMENTS

I express my gratitude to late Prof. M.K.V. Bappu, without whose valuable guidance this work would have been impossible. I consider myself fortunate for having his encouragement and inspiration although for a short period only.

I consider it my duty to remember that I was introduced to the field of Astronomy by Prof. J.C. Bhattacharyya. He, after the timely death of Prof. Bappu in 1982, shouldered the responsibility in the completion of this work. I am indebted to the valuable suggestions and guidance provided by him for the successful completion of this work as well as to Dr. M.N. Anandam, of the Department of Physics, Central College, Bangalore.

As a member of the Indian Institute of Astrophysics, I thank the Director and other staff, who have helped in this work directly and indirectly.

I thank the distinguished members of the Doctoral Committee, of K.N. Kuchela, Prof. P. Paramasiviah, late Prof. N. Madiah, of N.G. Puttaswamy, Prof. N. Devaraj of the Physics Department, Central College and Dr. R. Nityananda of the Raman Research Institute, Bangalore.

I gratefully acknowledge my colleagues, especially Drs. Kameswara Rao, R. Rajamohan, M. Parthasarathy, D.C.V. Mallik, Sivaram, G.S.D. Babu, T.P. Prabhu and R.K. Kochhar, for their support and continued encouragement in the completion of this work.
Very valuable suggestions during the course of this work were provided by Prof. K.D. Abhayankar & Dr. G.C. Kilambi, Osmania University, Hyderabad, Prof. D.J. Stickland, Oxford, U.K., Prof. R.F. Garrison, David Dunlop Observatory, Ontario, Canada, Prof. C. de Loore, Vrije Universiteit, Brussels, Belgium, Dr. W. Schmutz & Prof. H. Nussbaumer, ETH Zentrum, Zurich, Switzerland.

It is my duty to acknowledge the staff of the Kavalur Observatory, especially Mr. K. Kuppuswamy, Mr. K. Jayakumar, Mr. M. J. Rosario, A. Muniyandi and Mr. M. Appakutty, for their help and cooperation at the telescope. I thank Mr. A. Charles, Mr. F. Gabriel, Mr. V. Chinnappan and Mr. A. Santhanam, for their help in making the best use of clear skies with the automated spectrum scanner. Mr. M. N. M. Rao, Mr. A. V. Ananth, Mr. S. Chandramouli and Mr. V. Kutty are acknowledged for help in reducing the data with TDC-316. Further analysis was carried out with the VAX 11/780, where Dr. S. Giridhar, Mr. Chandramouli and Dr. K. K. Ghosh rendered great help. The drawings incorporated here were prepared by Mr. Muthukrishnan and Mr. Hari Inbaraj, for whom thanks are due. Ms. A. Vagiswari, Ms. Christina Louis and Mr. H. N. Manjunath and other staff of the Library are acknowledged for their kind cooperation.

Assistance at various stages, during the course of this work were provided by Mr. K. Thiyagarajan and the staff of the Faculty Office, Mr. S. Rajasekharan, Mr. M. Batcha, Ms. Meena Krishnan, Ms. B. G. Pramila, for whom I extend my thanks. The final editing by Ms. Sandra Rajiva was immensely helpful.
Thanks are due to Mr. Prabhakar and Mr. Elangovan for help at the copying machine and to Mr. Krishnamoorthy for the binding work.

Finally, I am grateful to my mother Rathnamma, father Ba.Na. Sundara Rao, brothers, Jagadeesha Chandra and Rama Prakash, sisters, Uma Devi and Nethravathi, and brother in law, Abhirama Murthy, for their encouragement and cooperation during the course of this work.

B.S. Shylaja