Acknowledgment

I would like to express my sincere and heartfelt gratitude to late Dr. G. V. Vijayagovindan who was my supervisor during the first half of research. He inspired me with his great personality and scientific knowledge. It is unfortunate he is not here to accept my love, appreciation and gratitude, but I believe that his memories and influence will live with me all through my life.

I thank Dr. Indulekha, who "adopted the lost sheep in the wilderness” and did that earnestly, offering support, encouragement and knowledge when I needed it most. She encouraged me to think independently and to share whatever I learn with the community by organizing related events.

My co-guide, Prof. Ajit Kembhavi, has influenced me in a number of ways. He helped me sharpen my understanding of astronomy, helped me to give talks and make myself comfortable and expressive in my presentations, taught me time management and the need for quality time. He considered me like an IUCAA student and allowed me to visit IUCAA whenever I wanted. He tried to make me independent which helped me to find time to learn many things. Without his support I would not have reached anywhere.

My collaborator Dr. Yogesh Wadadekar is the one who added a sense of direction to my Ph.D.. Apart from being a good friend, I found in him the wealth of information, perhaps better than google! He could figure out what was in my mind and could always provide me the exact answer I always searched for. He is one of the coolest persons I have ever met and have given me confidence talking to. I thank him for all the favours he was graciously showering on me.

I thank Minu chechy, who becomes my elder sister and friend during my IUCAA days. She supported me whenever I felt bad and encouraged me to focus on my work. She always encouraged me and tried to make me proud of whatever small things I could achieve or develop as part of my research. The saying “a friend in need is a friend indeed” aptly goes with my gratitude towards her.
I thank Dr. Ninan Sajeeth Philip, Dr. Ranjeev Misra and Dr. Swara Ravindranath, Dr. Gulab Devangan for the scientific discussions we had during my stay at IUCAA. This has greatly helped me to develop ideas that directly reflected in my research achievements.

I thank Dr. C. Venugopal, Dr. Cyriac Joseph, Dr. N. V. Unnikrishnan, Dr. Saji Augustine, all teachers and staff at School of Pure and Applied Physics and IUCAA for their constant support.

I am thankful to CSIR for providing me fellowship for the last five years, supporting my research.

I thank Charles Jose who made my stay in IUCAA interesting during the last two years. I thank Noble, Azad, Dr. Joe Jacob, Dr. Rabbi, Kamal, Vineesh, Sunil, Sreekumar, Prathyush, Toney, Sijoy, Vivek, Mudit, Abhishek, Laxmikanth, Santhosh, Shaji, Shine, Jomon and all my friends in Mahatma Gandhi University and IUCAA for making my Ph. D. time wonderful.

I thank the creators of IRAF, Python, stsci_python, SExtractor, GAlFIT, numpy, Matplotlib, scipy, vim, Ubuntu, R, NED, Multimission Archive at STScI, CADC archive, vizier, \LaTeX and tcsh without which most of the work reported in this thesis would not have been possible.

Finally, I thank my parents, ammamma, sister, brother-in-law, Prasannan uncle and all my relatives, without whom I would not have been able to find my way to earn a Ph. D.