Acknowledgments

Front and foremost I need to thank my university in Iran “Univeristy of Hormozgan” for given me a study leave, which allowed me to come to India and Pune University, and the Iranian Ministry of Science and Technology granted my Scholarship and generously sponsored this work.

My special acknowledgment goes to the Univesity of Pune for giving me this opportunity to conduct my Ph. D research. I feel profoundly obligated to express further thanks to the physics Department authorities.

My deepest acknowledgment goes also to the department of Space Sciences authorities, especially Prof. P. P. Kumar HOD for providing financial support during the course of this study. Space Sciences Department was the place, where my academic character was shaped.

At the outset, I would like to express my gratitude to my supervisor Prof. P. N. Sen for accepting me as a Ph. D student and his invaluable insight into the theoretical approach. With a sense of gratitude and pleasure I acknowledge my Co-Guide Prof. A. D. Tillu for his invaluable help and inspiration.

Cooperation behavior is a product of certain participations. A number of professors enriched my dissertation directly or indirectly. The name of Prof. R. N. Karekar never escapes me. The man who showed tremendous prudence with a Persian student. He has been a diligent guide and a man of honour. The spirit of Prof. Karekar’s instructions merits deep gratitude.
I would also like to thank Mr. D. M Puranik for his thoughtful assistance in software programing and his methodological insight. Most importantly I got indirect facility support from both of them through their Research Scheme Facility, (from PU-ISRO Cell).

IITM was a special fora for me. IITM’s premises and library were so much helpful in the sense that without such promises it would have been imposible for me to achive my research ambitions. I am immensly benefited from Dr. A. K. Sahai and Dr. G. R. Kulkarani, at IITM, to whom I am very much indebted. I sincerely thank both of them.

I am indebted to my friends in the space sciences Laboratory, Viju Oommen John, Makarand A. Kulkarani, Ranade Arvind, Anil Kumar, Bapu M. Bandgar, Vikram Khade, Hemant Chaudhari, Sachin Bhandare and particularly Shailesh Ghatge (who was JRF of the Prof. Karekar and Puranik’s Research Scheme), for their valuable help, love and affection and for providing a healthy and friendly atmosphere at laboratory. With them, I never felt away from my home and my country.

I do not find any word to express my feelings and loves towards my wife “Maryam Mirzadeh” and my daughter “Pardis”, who encouraged me during these years of research study. They have shown exceptional patience during the course of my Ph. D. Thank God for a new gift, the blessing of “Parsa” a healty baby boy. He give me enthusiasm and his arrival in my life helped me to complete my Ph. D work within the proper time.

I want to thank my parents, brothers, and sister, who always want me to be prosperous in my life. It is because of their tireless efforts and sacrifices that I could continue my education. They really have been a role model for me. Finally, I am thankful to those who have contributed in the development and success of this project.

Abolhassan Gheiby