Acknowledgment

I am deeply indebted to my supervisor Professor K N Joshipura and, its a great pleasure of mine to express my utmost feelings of gratitude and respectful acknowledgement of invaluable guidance, encouragement and immense help which helped me in the time of my research and writing this thesis. I am thankful to my friends Minaxi and Bobby who were always with me with a helping hand. It is wonderful working with them.

Thanks to Professor A R Jani, Head, Department of Physics who helped me with all the academic and administrative facilities required during my research. I also acknowledge the help from all other faculty members of this department.

I am grateful to Professor P C Vinodkumar who shared with me his knowledge and experience and provided useful suggestions and friendly encouragement.

Professor Nigel Mason (Open University, UK) has helped me with his stimulating suggestions, discussion and hospitality during my visit in July 2003. My sincere thanks are due to him.

I am thankful to Dr. A S Gor, principal, P S Science & H D Patel Arts College, Kadi, and former principals Shri D J Patel and Shri J N Patel for their support and encouragement. I also thank S V Kelavani Mandal, Kadi for giving me necessary permission for higher learning. My sincere thanks are due to my colleagues Shri S B Patel and Shri C A Patel for their help and inspiration.

I would like to thank my friends, Rekha madam, Ajay, Bhushit, Chirag, Sumona, Anand, Mukesh, and Sachin for their help and good will.

My parents and family, receive my deepest gratitude and love for their constant support during my research.

Vallabh Vidyanagar

Chetan G. Limbachiya

August 2005