## ACKNOWLEDGEMENT

It gives me great pleasure to acknowledge the guidence, help and cooperation I have received from many persons during the preparation of heartfelt thanks are due to Prof. A. B. thesis. My Darji who introduced me to the subject, encouraged and made stylistic improvements through the course of the investigations under out embodying them into the thesis. Perhaps and this would not have been possible without his 'round the clock' supervison.

express my sincere thanks to Dr. M.B. Ι for valuable Sureshkumar his and continuous help experimental during the work and discussion of results. Thanks are also due to Dr. P.M.Shah I owe Dr. N.R.Shah for their cooperation. my staff of Central Workshop for their to the Mr. T.S. Patel and to Mr. Chakraborty indebted I am for computer data processing. Special thanks are due to Dr. Ravindran R. for going through the thesis in the final phase.

My thanks are due to Dr. H.K.Patel, Principal and Shri L. M. Anjaria, Head, Physics

Department of V. P. and R.P.T.P. Science College, Vallabh Vidyanagar for giving me permission and enough leave of absence to carry out my research work.

I am most grateful to Prof. S. K. Shah, Head of the Physics Department, M.S. University of Baroda, Baroda for providing excellent laboratory facilities.

Finally I am greatly indebted to my wife Kantaben, daughter Anjna, son Paresh and brother B.M.Patel for allowing me keep away from the social routine during the course of this work.

## T. M. PATEL