ACKNOWLEDGEMENT

I express my deep sense of gratitude to my research guide Dr.G.R.Pandya for his valuable guidance, admirable patience and constant inspiration during my research study. Especially his encouragement and constructive suggestion have provided me insight into the intricacies of experimentation involved in the work.

I take this opportunity to express my grateful thanks to Dr. C.F.Desai, Dr. R.C.Shah and all teaching staff members of the Physics Department, Facaulty of science, M.S.University of Baroda, Vadodara, for their inspiring attitude towards me and elaborate discussion and co-operation.

I would also like to express my special thanks to Prof. D.R.S.Somayajula. Head Physics Department, for providing the necessary administrative support and to Dr. C. J. Panchal, Applied Physics Dept., Faculty of Technology and Engineering for giving an access to their laboratory for some of the observations.

I am highly indebted to Prof. V.P.Bhatt (Retd.) Physics Department, Faculty of Science, M. S. University of Baroda and to Prof. M.K.Agarwal (Retd.) Physics Department, S.P.University, V.V.Nagar, for their valueable suggestions. I am also thankful to my research colleagues Dr. T.M.Jani,

Dr. S.M. Vyas, Dr. P.H. Soni, Kamal Shah, Manish Gadkari, Naresh Patel,

Harshvadan Panchal, Mitesh Sarkar, Sumi Dhar, Dhiren Shah, Keyur Vyas,

B. P. Shah and Sonal Gupte for extending their kind co-operation in the

laboratory in one way or another. I am also thankful to the Central

Workshop staff for their co-operation whenever required during the course

of my work.

I can never forget the moral support given to me by Brother Mehul

Bhavsar and Bhabi Anupama Bhavsar and my all other friends. I am also

thankful to Jitendra R. Patel for taking all the strains in preparations of my

thesis in the final form. I am also thankful to Mukesh Solanki for

photography.

Place: Vadodara

Date : 17/01/2000

[Saurabh R. Bhavsar]