

## *Acknowledgement*

*First and foremost, I express my respectful gratitude to Prof. N. Chaudhury to whom I am deeply indebted for his wise guidance and watchful supervision throughout the performance of the experiment and preparation of this thesis. Prof. Chaudhury was, till recently, the Director of High Energy & Cosmic Ray Research Centre (HECRRC), North Bengal University, and also the Principal-investigator of the research project in which the experiment being reported was performed.*

*I am also thankful to Dr. S.K.Sarkar, Sr. Scientific Officer of HECRRC, for his useful suggestion and keen interest while preparing this report. Similarly, the helps and suggestion rendered by other senior scientific staff of the Centre, Dr. B.Ghosh, Dr. S.Sanyal and Dr. A.Bhadra, at different stages of the experiment and the subsequent analysis of data are thankfully acknowledged. My thanks are also due to Mr. A.Chhetri and Mr. P.Tamang, technical staffs of the Center, whose helps were frequently sought during the experiment and were always forthcoming.*

*I should also thank Mr. B.Kunwar, presently a colleague of mine in Sikkim Government College, for sending some very useful papers (especially those related with QGS model of high energy particle interaction) from the library of Tata Institute of Fundamental Research, Bombay, when he was a Research Scholar there. Mr. L.Rai of G.B.Pant Institute of Environment and Ecological Studies, Sikkim, also deserves my sincere thanks for allowing me to use his personal computer at the final stage of preparation of this thesis.*

*Apart from those perennial and most invaluable moral support of my parents, similar support from some friends and colleagues of mine, Mr. B.K.Pradhan, Mr. M.Giri, Dr. D.Pradhan and Dr. M.P.Thapa are always there to acknowledge.*

*The financial support from the Department of Atomic Energy and University Grants Commission, Government of India, by providing Junior Research Fellowship and Teacher Fellowship are also duly acknowledged.*

*Last but not least, I express my sincere thanks to Mr. S.Pradhan and Mr. R.K.Pradhan, Scientific Officers of National Informatics Center, Sikkim for their enormous help in composing, editing and printing of this thesis.*