Acknowledgements

The author is deeply indebted to his supervisor Shri S. K. Gupta, Reader, Department of Physics, Aligarh Muslim University, Aligarh for his inspiring and invaluable guidance, well thought of directions and continued encouragement throughout the course of investigation.

My sincere thanks are due to Prof. Israr Ahmad, Chairman, Department of Physics, Aligarh Muslim University, Aligarh for permitting me to conduct this study and for his continued encouragement.

I am greatly thankful to Shri S. H. S. Rizvi, Scientific Officer and Dr. Arshad Ahmad, Reader, Department of Physics, Aligarh Muslim University, Aligarh for some of their invaluable suggestions resulting in the course of continued interactions and their encouraging words and useful queries.

I am also thankful to Prof. Rais Ahmed, Ex-vice Chairman, UGC, Dr. S. S. Agrawal, Scientist, CEERI Centre, New Delhi, Prof. A. K. Dutta, Indian Statistical Institute, Calcutta, Dr. S. Imtiaz Hasnain and Dr. Mobin A. Khan, Department of Linguistics, Aligarh Muslim University, Aligarh for their scholarly suggestions and involvement in some valuable discussions.

I am also thankful to the staff of the university computer centre, a central facility, for being cordial and considerate.

This research work is financially supported by the University Grants Commission of India under Department of
Special Assistant program, Department of Physics, Aligarh Muslim University, Aligarh.

Last but not the least, I am thankful to my research colleagues Mr. R. K. Upadhyay, A. Gupta, B. K. Gupta and specially Mr. Vijai Krishna who introduced and appraised me of the coding procedure and software developed by him.

I shall be failing if I do not express my gratitude to my other research scholar colleagues and the non-teaching staff of the Department who always helped me, often giving out of way support.

(ISRAR KHAN)