

PREFACE

My voyage toward this dissertation began in late 2010 after I joined the Department of Physics, University of North Bengal as a Junior Research Fellow in the UGC-NET fellowship scheme, under the supervision of Prof. Malay Kumar Das. These six years have been a challenging as well as an exciting learning experience with ups and downs. I was fortunate that during this phase I have the opportunity to acquire an in-depth understanding on the subject matter as well as hands-on experience on operation of different sophisticated instruments. There was the collaboration of a number of people in the period in-between, whose support and inspiration have helped me to reach so far. Therefore, I would like to avail this opportunity to thank each and every of them for their role in realizing this wonderful journey.

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Anish Chakraborty
Anish Chakraborty

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