
Declaration by the Candidate

I, **PRINCE KUMAR GUPTA**, certify that the work embodied in this thesis is my own bonafide work and carried out by me under the supervision of **PROF. SANDIP CHATTERJEE** and **PROF. DRBA PRASAD GIRI** from **JULY , 2013** to **MAY, 2019**, at the **DEPARTMENT OF PHYSICS**, Indian Institute of Technology (BHU), Varanasi. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma. I declare that, I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not will fully copied any other's work, paragraphs, text, data, results, etc., reported in journals, books, magazines, reports, dissertations, theses, etc., or available at websites and have not included them in this thesis and have not cited as my own work.

Date:

Signature of the Student

Place:

(Prince Kumar Gupta)

Certificate by the Supervisors

It is certified that the above statement made by the student is correct to the best of my/our knowledge.

Supervisor

(Prof. Sandip Chatterjee)

Co-Supervisor

(Prof. Debaprasad Giri)

Signature of Head of Department