Impact of long- and short-range atomic ordering on the functional properties of Sodium Niobate based ceramics

Thesis submitted in partial fulfillment
for the Award of
DOCTOR OF PHILOSOPHY
in
PHYSICS

by

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Under the supervision of

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2025

Dedicated to my mother

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It is certified that the work contained in the thesis titled **"Impact of long- and short-range atomic ordering on the functional properties of Sodium Niobate based ceramics"** by **Mr. Harsh Kumar**, Roll Number **19171002**, has been carried out under my supervision, and this work has not been submitted elsewhere for a degree.

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I, **Harsh Kumar**, certify that the work embodied in this thesis is my own bona-fide work and carried out by me under the supervision of **Dr. Saurabh Tripathi** from July 2019 to June 2025 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 credit to the research workers whenever and wherever their works have been cited in my work in this thesis. I further declare that I have not wilfully copied any others' 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.

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Harsh Kumar

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