Chakradhar Rangi

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Education

PhD in Physics — *Louisiana State University*
Graduate Research Assistant — *August 2021 – Present*
Studying low-dimensional strongly correlated condensed matter systems using Functional Renormalization group and quantum-embedding theories like DMFT and its extensions with Dr. Ka-Ming Tam and Prof. Juana Moreno.

BS-MS — *Indian Institute of Science Education and Research Bhopal*
Major in Physics — *May 2015 – July 2020*
Thesis: Development of a Python Code for modelling Trajectory Surface Hopping on Ab Initio Potential Energy Surfaces

Internships and Projects

Boston University — *June 2022*
Research Visitor — *Boston, USA*
Acquired comprehensive understanding of the concepts behind the finite frequency Functional Renormalization Group formalism

Jawaharlal Nehru Center for Advanced Scientific Research — *July 2021 - December 2021*
Research Visitor — *Bengaluru, India*
Worked on computing analytical results for the time evolution of Kitaev-Chain under piece-wise noise using Transfer Matrix Method

Publications

1. C. Rangi, Tam KM, Moreno. J, *Engineering non-Hermitian Second Order Topological Insulator in Quasicrystals*, arXiv:2307.03178

2. R. Pant, P. K. Verma, C. Rangi, E. Mondal, M. Bhati, V. Srinivasan, S. Wüster, *A measure for adiabatic contributions to quantum transitions*, arXiv:2007.10707

Conferences Attended

APS March Meeting 2023 — *March 2023*
Oral Presentation — *Las Vegas, Nevada*
Abstract: Numerical study of Integer quantum Hall transition in Harper-Hofstadter model with local random disorder

Localisation 2022 — *August 2022*
Oral Presentation — *Sapporo, Japan*
Abstract: Local density of states of the Harper-Hofstadter model with random disorder

APS March Meeting 2022 — *March 2022*
Oral Presentation — *Chicago, IL*
Abstract: Local density of states of the Harper-Hofstadter model with random disorder

Technical skills

Programming Languages	Python, Julia, C, Git, LaTeX, HTML
Libraries	Numpy, Matplotlib, MPI4PY, Keras, VPython

Awards

INSPIRE	Awarded by Govt. Of India for academic excellence in Grade XII
Coates Conference Travel Award	Awarded by Dept of Physics & Astronomy at LSU to present the results of my doctoral research in APS March meeting 2023