Arnabesh Samadder

Curriculum Vitae

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Personal Cell Phone: +91 8274967526
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Personal Email:arnabeshsamadder@gmail.com
Nationality: Indian
Languages: English, Bengali and Hindi.

Current Affiliation: IISER Kolkata, India at the position of a Research Scholar(PhD. Student)

Education

- 2023—Present — **Indian Institute of Science Education and Research Kolkata, Mohanpur, India**
  Presently a PhD. student with research interests in Theoretical Condensed Matter Physics.
- 2020—2022 — **Presidency University, Kolkata, India**
  M.Sc. in Physics. With special papers in Condensed Matter Physics and Non-Linear Physics. I secured a CGPA of 8.35.
- 2017—2020 — **Presidency University, Kolkata, India**
  B.Sc. with a major in Physics. I secured a CGPA of 7.23.

Research Experience

- 2021—2022 — **Masters Project: Characterisation of Spin Chains with two Ising symmetries**
  Supervisor: Dr. Atanu Rajak, Dept. of Physics, Presidency University
  - Realized the distinct topological phases of parallely stacked Kitaev chains.
  - Numerically observed majorana edge modes for the special case of a simple Kitaev chain.
  - Demonstrated that for a spin-system being a Jordan-Wigner dual of the Kitaev chains, in the presence of interactions, we get eight phases that are topologically distinct to each other.
- 2020 — **Undergraduate Project: Prelims of Quantum Hall Effect**
  Supervisor: Prof. Arunava Chakrabarti, Dept. of Physics, Presidency University
  - Explained the phenomena of the Integer Quantum Hall Effect using the concept of Landau Levels and band theory.
  - Realized the requirement of Low temperature and High magnetic field for observing Integer Quantum Hall Effect.
  - Developed an intuition for the said phenomena.

Computational Skills

- Primarily, I use **Python** and associated packages viz. **NumPy, SciPy, QuSpin, CuPy** and **Matplotlib**. Also, I am comfortable with **FORTRAN** , **MATLAB™**, **C++** and Java.
- I am comfortable with **LINUX** systems.
- I know markup languages like **LaTeX**, HTML and CSS.

National Level Test(India)

- Joint CSIR–UGC National Eligibility Test(NET), Paper appeared – Physical Science
  - AIR: 204 (Lectureship Qualified)
  - Scored 60.875 out of 200.
- Graduate Aptitude Test in Engineering (GATE) 2022, Paper appeared – Physics
  - AIR: 8314
  - GATE score: 201
  - Number of Candidates appeared: 19375

Conferences Attended

- Participated as audience in **International Conference on Condensed Matter and Statistical Physics 2022(Online)** at Presidency University, Kolkata.