Souvik Ghosh

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Experimental research

Quantum Circuit Lab, Department of Physics, National Sun Yat-sen University, Taiwan. Advisor: Assoc. Prof. Kuei-Lin Chiu.

Graphene/hBN heterostructure fabrication for graphene-based superconducting transmons, circuit QED, dilution refrigerator operation and qubit characterization.

Education and earlier research

M.Sc. Physics (condensed matter), Adamas University, 2024.

Dissertation: *Tunable Andreev Reflection in a Metal–Superconductor Junction with an AAH Spacer*.

Earlier research in mesoscopic transport at the S. N. Bose National Centre for Basic Sciences, Kolkata.

Independent research

Vishwa Vigyan Labs. Non-Hermitian topology and quasiperiodic localization in SSH/AAH chains, spectral stability in neural-network training, and mesoscopic transport including Landauer conductance and local partial density of states.

Selected journal article and preprints

Negative Local Partial Density of States
Kanchan Meena, Souvik Ghosh & P. S. Deo · Journal of Condensed Matter · 3(1), 16–21 · DOI 10.61343/jcm.v3i01.113

Non-normal spectral signatures of instability in neural network training dynamics
Souvik Ghosh · arXiv:2605.23476

Competing skin effect and quasiperiodic localization in the non-Hermitian Su-Schrieffer-Heeger chain: Reentrant delocalization, spectral topology destruction, and entanglement suppression
Souvik Ghosh · arXiv:2603.20330

Reinterpreting Landauer conductance, solving the quantum measurement problem, grand unification
Kanchan Meena, Souvik Ghosh & P. Singha Deo · arXiv:2512.09709

Exploring Topological and Localization Phenomena in SSH Chains under Generalized AAH Modulation
Souvik Ghosh & Sayak Roy · arXiv:2506.10195