

Defence Seminar

Seminar Title	: Localization Transition in Non-Hermitian Quasi-Periodic System
Speaker	: Aruna Prasad Acharya (Rollno : 517ph6001)
Supervisor	: Prof. Sanjoy Datta
Venue	: Google Meet link: https://meet.google.com/ipd-bufa-ckm
Date and Time	: 05 Jul 2024 (11:00 A.M)
Abstract	: Anderson localization, the phenomenon of wave function localization, has been extensively studied in Hermitian systems. However, the exploration of localization in non-Hermitian quasiperiodic systems remains relatively unexplored. In this study, we investigate the delocalization-localization (DL) transition in a generalized non-Hermitian lattice with asymmetric hopping and complex quasi-periodic potentials. Through analytical calculations and numerical simulations, we accurately predict and map the phase diagrams for different parameters. Furthermore, we explore the interplay between spin-orbit coupling (SOC) and non-Hermitian effects, shedding light on the potential emergence of novel physical phenomena. Our findings not only deepen our understanding of non-Hermitian quasiperiodic systems but also bridge the gap in understanding between non-Hermitian systems and SOC, providing valuable insights into fundamental principles. Moreover, exploring the interplay between SOC and non-Hermitian systems could pave the way for advanced spintronic devices with unprecedented features, revolutionizing the field of spintronics.