SEMINAR ANNOUNCEMENT

國立中山大學物理系113學年度第二學期專題演講

Integrating Graphene-Based Superconducting Quantum Circuits in 3D Cavities

卓嘉立 博士候選人

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Abstract:

Integrating 2D materials into superconducting quantum circuits opens exciting possibilities for both quantum information processing and fundamental material studies. In this talk, I will present our recent work on building a flux-tunable superconducting quantum device that integrates a graphene-based Josephson junction (in a SQUID geometry) with a 3D microwave cavity. This setup enables both DC and microwave access, allowing us to study the junction's properties through flux-modulated cavity responses. I will discuss how we extract the SQUID's critical current and symmetry information, and how this platform could serve as a stepping stone toward studying topological Josephson junctions using fast, quasiparticle-safe readout techniques.

Time: **8 May, Thu. 14:10**

Venue: **PH2006**