



Colloquium

Developing a Superconducting Quantum Computer

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Date: 2024/12/24(Tue)

Venue: S4-625

Time: 14:00-16:00

Abstract : Quantum computers have the potential to solve complex problems beyond the reach of today's most powerful computers. While fault-tolerant quantum computers have not yet been achieved, many countries are fervently pursuing their development. Superconducting quantum computers, which employ Josephson junction qubits, are emerging as particularly promising options. In my presentation, I will explore the core principles of quantum gates and demonstrate how to construct a 5-qubit superconducting quantum computer. Additionally, I will initiate a discussion on the intricate processes involved in qubit initialization and calibration, paving the way for the seamless integration of quantum processing units (QPUs) with various data processing technologies. Such integration holds the potential to significantly enhance our ability to tackle complex challenges.