

Dilution Refrigerator Technology - Cool path to Quantum computing

Abstract :

Cryogenics plays a huge role in quantum computing. Dilution Refrigerators are the unsung heroes enabling the operations of superconducting Qubits. They can achieve the temperatures in the millikelvins essential for quality and stability of qubits. Quantum bits are extraordinarily sensitive to environmental noise—heat, electromagnetic radiation, and vibrations can all cause **decoherence**, collapsing the fragile quantum states needed for computation. Cryogenic cooling addresses this in several ways.

In this talk the speaker will take you through the working of dilution refrigerators and will highlight important technologies involved in such operations.