

Quantum Devices

(Candidates with a strong background in nanofabrication leading to the exploration of novel quantum functionalities)

Technologies based on quantum phenomena are rapidly emerging. They will play an essential part in the future technologically driven world. Understanding the physics of these emerging quantum functionalities and associated devices is crucial.

The physics department of IIT Madras aims to create a cutting-edge hub for quantum science and technology (QuST), wherein we are currently focused on superconductivity, quantum defects in solids, 2D materials and photonics. In view of this, we seek candidates with a strong background in experimental physics, with expertise in nanofabrication and sensitive measurements, leading to the development of quantum devices. These devices can be in any emerging novel platforms which could be based on superconductors, ion traps, spin qubits, nanoscale/quantum transport, photonics, etc.

We expect the successful candidate to benefit by working in tandem with the department's vibrant condensed matter groups. The research plan of the candidate should clearly indicate how it will enhance and complement the existing QuST expertise in the department. The successful candidate will have to teach undergraduate and graduate courses in the department.

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