

中国科学院数学与系统科学研究院

量子论与信息论

学术报告

报告题目: Quantum Error Correction: Fault-tolerance
and Universality

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地 点: 腾讯会议 416-492-589

数学与系统科学研究院 南楼 N613

摘 要: There is a big gap between the so-called NISQ (noisy intermediate-scale quantum) and FTQ (fault-tolerant quantum) computing. Recently, we introduced QEQ (quasi-exact quantum) computing, which lies in between NISQ and FTQ computing based on an improvement of approximate codes. This points to a vast space beyond the stabilizer world. We also proposed quantum von Neumann architecture, significantly extending the circuit model to include quantum memory, control, and communication units, belonging to a family of universal quantum computing models well characterized by resource theory.