

SMALL QUANTUM SYSTEMS FOR LARGE-SCALE PROCESSING

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Experimental implementations of quantum information protocols has seen rapid progress in a variety of systems. In all cases, increasing the number of effective qubits in a given system remains a challenge in complexity. I will consider approaches to joining together such systems, where there may exist a limiting natural scale above which operations (such as measurement and entanglement generation) are extremely faulty. New devices to interconnect different quantum systems and new protocols to implement fault-tolerant computing will be considered.