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Progress in Quantum Information Processing with Trapped Ions at NIST

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This talk will provide an overview of the progress in quantum information processing (QIP) with trapped ions at NIST. In particular, improvements of ion transport and cooling within a scalable architecture for QIP, experiments entangling the internal states of ions held in separate trapping wells and the realization of Bell-state pumping, where an entangled steady-state of two ions emerges as the result of partly dissipative interactions, will be discussed.

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