Abstract Submitted for the DAMOP12 Meeting of The American Physical Society

Ion traps for quantum information and simulation at ETH JOSEBA ALONSO, LUDWIG DECLERCQ, BEN KEITCH, DANIEL KIEN-ZLER, FLORIAN LEUPOLD, FRIEDER LINDENFELSER, HSIANG-YU LO, JONATHAN HOME, ETH Zürich — We are developing two new experimental setups for quantum information processing, simulation and state engineering with trapped atomic ions. The systems are designed to simultaneously trap both beryllium and calcium ions. The first system comprises a segmented linear Paul trap which will be run at room temperature. The second consists of a micro-fabricated surface trap which will operate at 4 Kelvin.

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Date submitted: 26 Jan 2012

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