

Abstract Submitted
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Towards bottom-up assembly of strontium atom arrays IVAYLO
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ENDRES, California Institute of Technology — We report on progress towards
controlling single strontium atoms in large, defect-free arrays of optical tweezers.
Strontium has both bosonic and fermionic species with narrow optical transitions
and magic wavelengths, which enable robust cooling, trapping, and coherent manip-
ulation. By using state of the art light shaping technologies and long vacuum-limited
lifetimes, we expect to create defect-free arrays of several hundred atoms. We also
explore strategies for sideband cooling and non-destructive imaging in optical dipole
traps.

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