

Abstract Submitted
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Studies of Ultracold Collisions in ^{86}Sr and ^{88}Sr P.G. MICKELSON, Y.N. MARTINEZ, S.B. NAGEL, T.C. KILLIAN, Rice University — We survey recent experiments with ultracold strontium performed in our group. Trapping and cooling occurs in three stages: successive magneto-optical traps (MOTs) operating on the 461 nm and 689 nm transitions of strontium, respectively, are loaded to cool atoms to a temperature of 1 μK . Finally, atoms are loaded into a far-off-resonance optical dipole trap. Photoassociation spectroscopy near the 461 nm line is performed directly in the 689 nm MOT, while other photoassociation experiments make use of the optical dipole trap. Various experiments reveal interesting physics of ultracold collisions in strontium.

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