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High Intensity 2-Photon Photoassociation Spectroscopy of Strontium S.B. NAGEL, Y.N. MARTINEZ, P.G. MICKELSON, T.C. KILLIAN, Rice University — We perform high intensity, 2-photon photoassociation spectroscopy near the 461 nm $^1S_0$-$^1P_1$ transition of strontium to determine the binding energy of the least bound level in the ground state atomic potential. Previous work by our group has constrained the value of the s-wave scattering length in both ^{86}Sr and ^{88}Sr. This work provides a more precise value of the s-wave scattering lengths using the newly-determined binding energy, thus informing efforts to attain quantum degeneracy in strontium.

Pascal Mickelson
Rice University

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