

Abstract Submitted
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Cold Chemical Reactions of CaH and Li¹ VIJAY SINGH, KYLE HARDMAN, MEI-JU LU, AJA ELLIS, MUIR MORRISON, JONATHAN WEINSTEIN, University of Nevada — We have observed cold chemical reactions between ground-state molecular CaH ($^2\Sigma$) and atomic Li (2S) at cryogenic temperatures. The molecules and atoms are created by laser ablation of CaH₂ and Li targets, respectively, and cooled by buffer-gas cooling. The densities of the reactants are continuously monitored via laser absorption spectroscopy, and a reaction rate coefficient of 10^{-11} cm³ s⁻¹ is observed for unpolarized reactants. Progress towards controlling the reaction through polarization of the electron spins will be presented.

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