

Abstract Submitted
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Testing quantum electrodynamics in the lowest singlet state of neutral beryllium-9 WILL WILLIAMS, MELODY CAO, EMILY KAPLAN, Smith College — We present high precision spectroscopic results on the $2s2p$ $J=1$ singlet state in neutral beryllium-9. Combined with theoretical predictions this measurement serves as a test of quantum electrodynamics and various theoretical methods for predicting the energy of this state. Our experimental setup consists of an oven at 1200C that produces a beam of beryllium atoms. The singlet state is probed transverse to the atomic beam with 235nm light from a frequency quadrupled titanium sapphire laser, where the frequency doubled light at 470nm is stabilized to an ultra low expansion cavity. We also present our progress on spectroscopy on the lowest triplet states and the ionization threshold.

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