

Abstract Submitted
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Feshbach Resonances in Lithium-6 CHRISTIAN H. SCHUNCK, MARTIN W. ZWIERLEIN, CLAUDIU A. STAN, SEBASTIAN M.F. RAUPACH, WOLFGANG KETTERLE, MIT, ANDREA SIMONI, EITE TIESINGA, CARL J. WILLIAMS, PAUL S. JULIENNE, NIST, Gaithersburg, MIT-HARVARD CENTER FOR ULTRACOLD ATOMS, AND RESEARCH LABORATORY OF ELECTRONICS, CAMBRIDGE, MA COLLABORATION, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, GAITHERSBURG, MD COLLABORATION — Feshbach resonances in lithium-6 were experimentally studied and theoretically analyzed. In addition to two previously known s-wave resonances, we found three p-wave resonances. Four of these resonances are narrow and yield a precise value of the singlet scattering length, but do not allow us to accurately predict the location of the broad resonance near 83 mT. Its position was previously measured in a molecule-dissociation experiment for which we will discuss systematic shifts.

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