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Three-Body-Recombination Interference Minima in the Midst of Three Overlapping Feshbach Resonances E.L. HAZLETT, Y. ZHANG, R.W. STITES, K.M. O'HARA, The Pennsylvania State University, University Park, PA 16802 — We report on our investigation of three-body recombination (3BR) in a three component ^{6}Li gas between 700 and 800 G. Over this field range, two of the three scattering lengths are large and positive and the third is large and negative due to three broad Feshbach resonances centered at 690, 811 and 834 G. In this situation, there can exist 3BR to either deep dimers or one of two shallow dimers. The release in binding energy from these 3BR events can result in atom loss and/or heating. In our experiment, the dipole trap is sufficiently deep that shallow dimers produced in 3BR events remain trapped and only cause heating, whereas 3BR into deep dimers primarily result in loss with minimal heating. Thus, a measurement of the heating rate provides a sensitive technique for discriminating between 3BR events to shallow dimers and those to deep dimers. We see two minima in the heating rate at 752 and 762 G. The location of these minima are in agreement with theoretical predictions for Stückleburg interference minima associated with the Efimov effect in ^{6}Li.

Kenneth O'Hara
The Pennsylvania State University

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