Extending universal three-body physics to finite energies: Efimov features for $a < 0$[1] YUJUN WANG, B.D. ESRY, Department of Physics, Kansas State University — We have identified universal features in the energy dependence of the three-body recombination rates for cold atoms. These features can be traced to Efimov physics and are modified near a narrow Feshbach resonance. In particular, these features, found when the scattering length is negative, are not changed by the higher partial wave contributions. We have systematically studied the Efimov features in heteronuclear three-body collisions and have identified systems and parameters that facilitate experimental observation of multiple Efimov features. We have also found that the thermal averaging necessary at temperatures above the ultracold regime has little effect on the energy-dependent features, which opens the opportunity to use the same kind of loss experiments that have been so successful in observing ultracold scattering length dependent Efimov features.

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