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A coherent superposition of Feshbach dimers and Efimov trimers.

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We show a powerful experimental technique to study Efimov physics at positive scattering lengths in a gas of ultracold atoms. We use the Feshbach dimers as a local reference for Efimov trimers by creating a coherent superposition of both states. Measurement of its coherent evolution provides information on the binding energy of the trimers with unprecedented precision and yields access to previously inaccessible parameters of the system such as the Efimov trimers' lifetime and the elastic processes between atoms and the constituents of the superposition state.

Primary authors: Mr YUDKIN, Yaakov (Physics Department, Bar Ilan University); Mr ELBAZ, Roy (Physics Department, Bar Ilan University); Mr GIANNAKEAS, P. (Max Planck Institute for the Physics of Complex Systems); Prof. GREENE, C. H. (Department of Physics and Astronomy, Purdue University); KHAYKOVICH, Lev (Physics Department, Bar-Ilan University)

Presenter: KHAYKOVICH, Lev (Physics Department, Bar-Ilan University)

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