Abstract Submitted
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Efimov Physics in Quenched Unitary Bose Gases[1] JOSE D'INCAO, JILA, Dept of Physics, Univ of Colorado and NIST, JIA WANG, Centre for Quantum and Optical Science, Swinburne University of Technology, VICTOR COLUSSI, Eindhoven University of Technology — We study the three-body physics in quenched unitary Bose gases, focusing on signatures of the Efimov effect in macroscopic observables. Using a local-density model, we solve the three-body problem and determine three-body decay rates at unitary, finding density-dependent, log-periodic oscillations characteristic of the Efimov effect. These oscillations violate the continuous scaling invariance in the problem. Studying the earliest stages of evolution after quenching the interaction to unitarity, we find the growth of a substantial population of Efimov states for densities beyond where the interparticle distance is comparable to the size of an Efimov state. This finding is consistent with a recent analysis by Colussi *et al.* [1] on the early-time dynamical growth of three-body correlations at unitarity By varying the sweep rate away from unitarity, we find a departure from the usual Landau-Zener analysis for the formation of states within the non-equilibrium regime. [1] V. E. Colussi, J. P. Corson, and J. P. DIncao, arXiv:1710.10580

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Jose D'Incao
JILA, Dept of Physics, Univ of Colorado and NIST

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