

Abstract Submitted  
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**Dynamics and Stability of a Superradiant Laser**<sup>1</sup> JAMES THOMPSON, JUSTIN BOHNET, ZILONG CHEN, JOSHUA WEINER, KEVIN COX, JILA, Dept. of Physics, University of Colorado — We have realized a cold-atom Raman laser operating deep into the bad-cavity (or superradiant) regime, where the atomic linewidth is much narrower than the cavity linewidth. Here we present our studies on the stability of this active oscillator to external perturbations. We report on the robustness of such an oscillator when implemented in an atomic system with extra degrees of freedom beyond the simple three level model of recent theoretical proposals.

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