

Abstract Submitted
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Measuring Two Body Inelastic Losses in a Rb-87 Condensate¹ J.

W. MERRILL, K. M. MERTES, D. S. HALL, Amherst College — Bose-Einstein condensates (BECs) in the $|F = 1, m_F = -1\rangle$ and $|F = 2, m_F = 1\rangle$ in ^{87}Rb form a unique and controllable interpenetrating superfluid system. It is important to understand and take into account the inelastic loss processes in the binary condensate in order to create an accurate numerical model of its dynamics. Loss rates due to three-body recombination have been reported previously for the $|1, -1\rangle$ state. We describe here a measurement of the $|2, 1\rangle$ inelastic loss rate in both condensates and thermal atoms, observing that losses are dominated by two-body processes, and that the condensates show the loss rate suppression expected of a coherent system of identical bosons.

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