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Quench dynamics of two ultracold atoms Q. GUAN, D. BLUME, University of Oklahoma, V. KLINKHAMER, R. KLEMT, P. PREISS, S. JOCHIM, Heidelberg University — Ultracold atoms provide an ideal platform for studying quantum correlations with single atom resolution. This contribution considers the simplest non-trivial system, namely two interacting atoms. Starting from a well-defined initial state, the system is quenched by instantaneously weakening the external confinement while simultaneously modifying the trapping geometry. The time evolution following the quench is characterized by the formation of an intriguing fringe pattern. Experimental and theoretical results are compared and a physical picture for the quench dynamics is developed.

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