

Abstract Submitted
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Pulse sequences for dynamical decoupling in an optical lattice broadened by temporal frequency drift CHRISTOPHER R. PAUL, CHAO ZHUANG, LUCIANO S. CRUZ, SAMANSA MANESHI, AEPHRAIM M. STEINBERG, Centre for Quantum Information & Quantum Control and Institute for Optical Sciences, Department of Physics, University of Toronto, Canada — Despite the very long internal coherence time, transverse drift through an inhomogeneously broadened lattice leads to a rapid decay of a pulse-echo signal. We use higher-order echoes, or dynamical decoupling, to probe and subsequently eliminate the effects of this drift. We study the optimal structure of these pulse sequences for simultaneously canceling out different orders of the effect.

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