

Abstract Submitted  
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**Quantum quenches and spin dynamics in spin-orbit coupled Bose-Einstein condensates**<sup>1</sup> PETER ENGELS, CHRIS HAMNER, Washington State University — Spin-orbit coupled ultra-cold atoms provide an intriguing new avenue for the study of rich spin dynamics in superfluids. We investigate non-equilibrium spin dynamics in a spin-orbit coupled Bose-Einstein condensate that are induced by sudden quantum quenches of the Hamiltonian yielding dynamics analogous to Zitterbewegung as well as excited band dynamics. Current and ongoing research will be presented.

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