

Abstract Submitted  
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**Dynamics of out-of-equilibrium domain walls in an ultra-cold Bose gas** JEFFREY MCGUIRK, DORNA NIROOMAND, Simon Fraser University  
— A gas of  $^{87}\text{Rb}$  atoms does not support spin domains above its critical temperature for degeneracy. However, quantum symmetries during atom-atom collisions can preserve localized spin domains over longer periods of time than would be expected classically, allowing for studies of spin domains in a thermal gas. Here, we create spin domains in a nondegenerate gas using optical patterning techniques. We report progress towards observing the precession of these domains, leading to rapid spin inversions, as well as towards understanding the route to equilibrium.

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