

Abstract Submitted
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Real-time imaging of spinor dynamics in ^{87}Rb Bose Einstein Condensates SABRINA R. LESLIE, LORRAINE SADLER, JAMES HIGBIE, SHIN INOUE, ANANTH CHIKKATUR, DAN M. STAMPER-KURN, University of California, Berkeley — We investigate spinor dynamics in a $F=1$ ferromagnetic ^{87}Rb Bose Einstein Condensate, measured in real time. Previous work has used single-shot absorption imaging to determine the ferromagnetic nature of ^{87}Rb . In contrast, we probe the system using non-destructive polarization-sensitive imaging, allowing us to spatially resolve and characterize both the longitudinal and transverse magnetization of a spinor wavefunction. Recent progress toward observation of spontaneous magnetization will be reported.

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