

Abstract Submitted
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Topological excitations of a spinor BEC by inhomogenous magnetic fields RYAN OLF, G. EDWARD MARTI, GABRIEL DUNN, DAN STAMPER-KURN, University of California, Berkeley — Inhomogenous magnetic fields, such as those produced by the common spherical quadrupole configuration, couple spin and motional degrees of freedom in neutral spinor Bose-Einstein condensates, in direct analogy to the coupling of a magnetic field to an electric charge. Such gauge fields for neutral atoms have been of interest due to their ability to create interesting topological states, such as vortices, quantum hall and spin quantum hall states, and skyrmions. In this talk we report on the use of time-varying inhomogenous magnetic fields to create topological excitations in $F=1$ ^{87}Rb confined to an optical trap.

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