

Abstract Submitted
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Bragg spectroscopy of spin-orbit coupled BEC¹ M.A. KHAMEHCHI, MAREN MOSSMAN, PETER ENGELS, Washington State University — Spin-orbit coupling plays an important role in many physical systems. In Bose-Einstein condensates, spin-orbit coupling can be induced using Raman coupling schemes. We report on our experiments utilizing Bragg spectroscopy to probe the excitation spectrum of a spin-orbit coupled BEC. The measurements reveal a roton-like minimum in the spectrum that can be modified by changing the Raman laser parameters. We will discuss the current status of the experiment and our progress toward understanding the implications of this dispersion spectrum.

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