Abstract Submitted
for the FWS14 Meeting of
The American Physical Society

Mechanical Manipulation of Atomic Spin JOSE VALENCIA, CRIS MONTOYA, ANDREW GERACI, University of Nevada, Reno — The atomic spin of cold atoms can be measured and manipulated through micro-mechanical resonators, e.g cantilevers. This method could allow single-spin sensitivity and submicron spatial resolution enabling new studies of decoherence and quantum control. We describe our experiment that manipulates the spin of trapped, cold Rb atoms using magnetic material on a cantilever.

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Date submitted: 10 Oct 2014 Electronic form version 1.4