Abstract Submitted
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Fermionic molecule formation by ramps across Fano-Feshbach resonance[1] CHEN ZHANG, Department of Physics and JILA. University of Colorado, Boulder, SHINICHI WATANABE, University of Electro-Communications, Japan, CHRIS GREENE, Department of Physics and JILA. University of Colorado, Boulder — This project is a theoretical investigation of properties of a gas of fermionic diatomic molecule, including the molecule formation from bosonic ^{87}Rb and fermionic ^{40}K gases by magnetic field ramps across a Fano-Feshbach resonance. We also studied molecule-atom oscillatory quantum beats created during experiments with time-dependent magnetic field ramps. We have approached the problem from various viewpoints: including quantum mechanical pairing theories, the adiabatic thermodynamic limit estimation, and statistical Monte Carlo simulations. Preliminary results will be shown at the meeting including a comparison with available experimental data [1].

[1] M. L. Olsen, J. D. Perreault, T. D. Cumby, and D. S. Jin, Phys. Rev. A **80**, 030701(2009)

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