Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Averaged collision and reaction rates in a two-species gas of ultracold fermions ALEXANDER PIKOVSKI, JILA, NIST and Department of Physics, University of Colorado, Boulder, CO 80309 — Reactive or elastic two-body collisions in an ultracold gas are affected by quantum statistics. We study ensemble-averaged collision rates for a two-species fermionic gas, where the two species may have different masses, densities, and temperatures. It is shown in what way Fermi-averaged collision rates deviate from Boltzmann-averaged ones, particularly for a gas with strong imbalance of masses or densities. The results are independent of the details of the collision process.

Alexander Pikovski
JILA, NIST and Department of Physics,
University of Colorado, Boulder, CO 80309

Date submitted: 12 Nov 2013 Electronic form version 1.4