Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Finite-size and confinement effects in spin-polarized trapped Fermi gases[1] MARK KU, UBC Department of Physics & Astronomy/TRIUMF, JENS BRAUN, ACHIM SCHWENK, TRIUMF — We calculate the energy of a single fermion interacting resonantly with a Fermi sea of different-species fermions in anisotropic traps, and show that finite particle numbers and the trap geometry impact the phase structure and the critical polarization. Our findings contribute to understanding some experimental discrepancies in spin-polarized Fermi gases as finite-size and confinement effects.

[1]This work was supported in part by the Natural Sciences and Engineering Research Council (NSERC) and by the National Research Council of Canada.

Mark Ku
UBC Department of Physics & Astronomy/TRIUMF

Date submitted: 21 Jan 2009 Electronic form version 1.4