Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

The Mass of a Spin Vortex, in a Bose Einstein Condensate ARI TURNER, University of California Berkeley — Ferromagnetic condensates can have both spin-current and charge-current vortices. A moving charge-vortex experiences the Magnus force, perpendicular to its motion, when it moves. This effective "magnetic field" is so strong that it dominates the inertial term in Newton's law; therefore it is not possible to set a charge-vortex moving at an arbitrary speed relative to the condensate. As we will show, a spin-vortex *can* move "inertially" through a condensate and resists acceleration with a mass.

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Date submitted: 18 Nov 2008 Electronic form version 1.4