

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Pulling Fluxes Away from Particles in Quantum Hall States of Atomic Gases¹ WEIRAN LI, TIN-LUN HO, The Ohio State University — Quantum Hall states are often described as states with magnetic fluxes attached to the particles. In the case of rapidly rotating atomic gases, we show that by deforming the trapping potential of a rotating cluster, one can in fact pull the fluxes away from the particles in their quantum Hall state, as a consequence of the balance between rotational energy and interaction energy. This phenomenon can be revealed clearly from the density profile of the clusters after releasing the atoms from the trap, as well as from photoassociation experiments which measure the short range correlations.

¹Work supported by Grants from DARPA and ARO through the OLE Program

Weiran Li
The Ohio State University

Date submitted: 19 Nov 2010

Electronic form version 1.4