

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Experimental predictions based on LOAF theory in dilute Bose atomic gases BOGDAN MIHAILA, Los Alamos National Laboratory — We discuss possible new experimental signatures of correlations in dilute Bose gases with tunable interactions within the framework of LOAF theory. The leading-order auxiliary field (LOAF) theoretical framework is a non-perturbative approximation treating the contributions of the normal and anomalous densities on equal footing [Cooper et al. Phys. Rev. Lett. 105, 240402 (2012)]. LOAF is a conserving and gapless approximation, satisfies Goldstone's theorem, yields a Bose-Einstein transition that is second order, and can be applied outside the regime of weakly-interacting particles.

Bogdan Mihaila
Los Alamos National Laboratory

Date submitted: 12 Dec 2012

Electronic form version 1.4