

Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

Bose-Einstein Condensate in solid helium¹ SOULEYMANE DIALLO, HENRY GLYDE, University of Delaware — Neutron scattering measurements at high momentum and energy transfers, often referred to as deep inelastic neutron scattering (DINS), is the most effective tool to explore the dynamics of single particles in condensed matter. In liquid and solid helium for example, these measurements reveal the Bose-Einstein condensate (BEC) fraction and the average single-particle kinetic energy. In this talk, I will present recent DINS measurements of BEC in solid ⁴He at temperatures below the reported ‘supersolid’ transition temperature of 200 mK. Within our current instrumental precision, we find that the BEC fraction, n_0 , is consistent with zero.

¹Support of this work by the US-DOE under grant DE-FG02-03ER46038 and the ISIS facility is gratefully acknowledged.

Souleymane Diallo
University of Delaware

Date submitted: 29 Sep 2007

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