

The Superfluid Mass Density and the Landau Criterion for Superfluidity

Gordon Baym

University of Illinois at Urbana-Champaign
gbaym@illinois.edu

This talk will focus on the theory of the superfluid mass density in superfluids. Topics to be discussed include: the microscopic theory of the superfluid mass density; why the Landau criterion for superfluidity is neither necessary nor sufficient; and the superfluid mass density in ultracold bosonic and fermionic atomic systems.