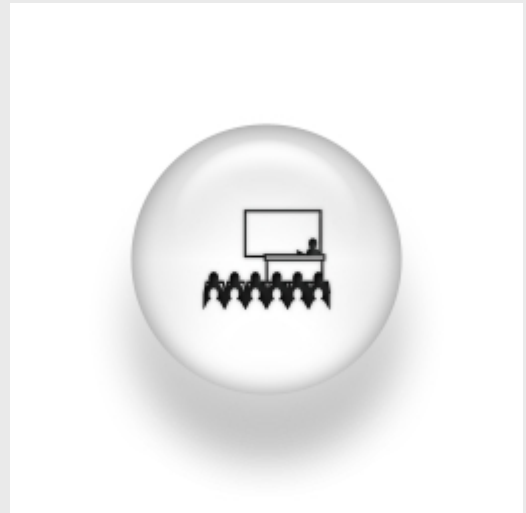


Pi-phases and triplet pair correlations in s-wave superfluids as signatures of the FFLO-type states

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ABSTRACT:

I will introduce FFLO (Fulde-Ferrell-Larkin-Ovchinnikov) physics and review the present status of its experimental evidence. Cold atomic physics provides an analog to Superconducting-Ferromagnetic (SF) hetero-structures. As in SF, the order parameter oscillates from positive to negative values (pi-phases). I will show the connection of these states to FFLO-physics. All FFLO-type states show a substantial triplet-mixing in the Cooper pair wave-function. This mixing can be used as an independent test of their existence.