SEMINAIRE MATERIAUX QUANTIQUES
Groupe NFMQ, Laboratoire Léon Brillouin
Mercredi 6 Avril 2022 à 14h30 salle 15

Lien visio : https://meet.goto.com/755223525

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Microscopical Theory Of a Novel Superfluid State With 3 Competing Intertwined Orders And of its Precursor Phases

We explore a novel quantum state characterized by three intertwined orders, two superfluid orders and one diagonal Long Range Order. All orders are spontaneous and are in competition when varying parameters. Their intertwining results in a remarkable non-conventional dynamics. Their competition ends by two quantum phase transitions into a one-component superfluid phase and anormal but ordered phase with a diagonal LRO. The phenomena are characteristic for quantum multi-level (n>2) systems with breakdown SU(2) symmetry of cooperative interactions. Potential applications range from condensed matter to atomic/molecular physics.