

Thermalization and many-body localization in systems under dynamic nuclear polarization

mercredi 15 juin 2016 11:30 (45 minutes)

A generic isolated quantum system has two possible fates at long times: it thermalizes or it remains many-body localized close to its initial state. So far only few systems showing experimentally relevant consequences of many-body localization have been reported in cold atoms and in trapped ions. In this talk, we show that the phenomenon is relevant in quantum magnets, and we discuss how the two dynamical phases can affect the driven state of quantum magnets. In particular we will focus on Dynamical Nuclear Polarization - a technique used to hyperpolarize nuclear spins- and show that its efficiency strongly depends on the tendency of the interacting spins to thermalize.

Orateur: ROSSO, Alberto (CNRS and LPTMS)

Classification de Session: Morning Session 2