

# Symmetry protected topological phases and ultracold alkaline-earth fermionic atoms in one dimension

*lundi 22 février 2016 16:00 (3 heures)*

Alkaline-earth and ytterbium cold atomic gases make it possible to simulate  $SU(N)$ -symmetric fermionic systems in a very controlled fashion. Such a high symmetry is expected to give rise to a variety of novel phenomena in many-body quantum physics.

We describe the main exotic properties of alkaline-earth and ytterbium fermions loading into a one-dimensional optical lattice. In particular, a special emphasis will be laid on the nature of one-dimensional symmetry-protected topological phases with an  $SU(N)$  symmetry that one can stabilize with these fermions.

**Auteur principal:** Dr LECHEMINANT, philippe (LPTM Cergy-Pontoise university)

**Orateur:** Dr LECHEMINANT, philippe (LPTM Cergy-Pontoise university)

**Classification de Session:** Poster session