

Laboratoire de Physique Théorique et Hautes Energies

Unité Mixte de Recherche (UMR 7589) de Sorbonne Université et du CNRS

SEMINAIRE du LPTHE

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LPTM Cergy

aldane phases (and more) with ultra-cold fermions in double-well optical lattices

Topological phases exist beyond the standard Ginzburg-Landau paradigm that dominated the understanding of phases and phase transitions in condensed matter systems.

Paradigmatic examples have been derived to establish a new theoretical basis that takes into consideration these topological aspects. The spin 1 Haldane phase is one of them for the unidimensional case. The seminar presents a way to implement this phase as well as its suggested generalizations by focusing using ultracold fermionic alkaline-earth atoms, that involve an internal $SU(N)$ symmetry. The model describing the experiment is called the double-well model and depicts a lattice of two interacting chains. The model is analysed at weak coupling, strong coupling and using a numerical tool : DMRG.

Bibliothèque du LPTHE, tour 13/14, 4^{ème} étage

*N.B. La liste de tous les séminaires en région parisienne est disponible sur
<http://semparis.lpthe.jussieu.fr>*

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