« Atelier sur l'information quantique et mécanique statistique quantique » 15 au 19 octobre 2018

"Workshop on Quantum Information and Quantum Statistical Mechanics" October 15-19, 2018

Classification of phases for mixed states via fast dissipative evolution

David Pérez García*

dperezga@ucm.es

Motivated by Koenig and Pastawski, we propose the following definition of topological quantum phases valid for mixed states: two states are in the same phase if there exists a time independent, fast and local Lindbladian evolution driving one state into the other. The motivating idea is that it takes time to create new topological correlations, even with the use of dissipation. I will present the first steps showing that the proposed definition is a reasonable choice. I will finish with many open questions.

Joint work with A. Coser.

^{*}Facultad de Ciencias Matemáticas, Universidad Complutense de Madrid, Plaza de las Ciencias, 3, 28040 Madrid, SPAIN