Forum de Physique Statistique @ ENS

Mercredi 11 Décembre 2019, 12 :00
LPENS, Conf. IV
Domaines : cond-mat.stat-mech

Titre : *On the quest for universality in the out-of-equilibrium dynamics of quantum systems.*

Orateur : **Luca Tagliacozzo (University of Barcelona)**

Résumé : *In this talk I will review the relationship among robust physical phenomena and our ability to describe them with approximate numerical methods. I will use tensor networks as a paradigmatic example. I will show that even though tensor network methods are designed to work for slightly entangled states, they can be used as an approximate tool in the scaling region of a quantum critical point. There the constituents are strongly entangled. Out of equilibrium, tensor networks algorithms typically fail due to the large amount of entanglement that is generated among the constituents. However, if we are able to identify the equivalent of a scaling region, we can try to use tensor networks (or other approximate algorithms) in order to characterize the universal part of the dynamics. I will discuss partial results in this direction.*