SEMPARIS – Séminaires en région parisienne

http ://string.lpthe.jussieu.fr/semparis/

Forum de Physique Statistique @ ENS

Mercredi 24 Novembre 2021, 14 :30
LPENS, Zoom(please ask xiangyu.cao@ens.fr for a zoom link)
Domaines : cond-mat.stat-mech

Titre : *Quantum criticality and out-of-equilibrium scaling in long-range systems and beyond*

Orateur : **Nicolò Defenu (ETH Zurich)**

Résumé : *The seminar is meant to present an bird's eye view on the field of long-range interacting quantum systems, following the path followed by N. Defenu in his research. The talk we start with a brief overview of critical phenomena in systems with power law interactions* $1/r^{\alpha}$ *in the "weak" long-range regime* $\alpha > d$. *Then, it will describe the peculiar out-of-equilibrium dynamics observed in "strong" long- range systems. Finally, it will deal with the seemingly unconnected physics of 2- components fermi gases confined in 2D. The connection between this topic and the previous studies of long-range interactions will be outlined.*

[1] A. P. Millán, G. Gori, F. Battiston, T. Enss, ND, Phys. Rev. Research 3, 023015 (2021).
[2] ND, Proc. Nat. Acad. Sci. 118, e2101785118 (2021).
[3] P. A. Murthy, N. Defenu, L. Bayha, M. Holten, P. M. Preiss, T. Enss, S. Jochim, Science 365, 268-272 (2019).