

OpenQMBP2023: New perspectives in the out-of-equilibrium dynamics of open many-body quantum systems



ID de Contribution: 55

Type: **Non spécifié**

On the dynamics of fractional quantum Hall clouds

jeudi 29 juin 2023 14:30 (1 heure)

I will first present recent results on the dynamics of anyonic molecules, namely composite objects emerging from the binding of a massive impurity with a quasi-hole excitation in a fractional quantum Hall fluid. In particular, I will highlight how the angular cross section for the scattering of such polarons gives direct information on the fractional statistics in the underlying fluid. I will then present a nonlinear chiral Luttinger liquid theory of the quantum Hall edge and I will discuss basic features of its quantum dynamics in response to external perturbations. The exciting perspectives towards extending the concepts of quantum nonlinear optics to chiral excitations on the quantum Hall edge will be finally sketched.

Orateur: CARUSOTTO, Iacopo (Pitaevskii BEC Center, INO-CNR and Università di Trento)