

Thursday June 11, 14:30-15:10:

SPEAKER: Valentina ROS (SISSA, Trieste)

TITLE: "Many body localization and integrals of motion "

ABSTRACT:

Interacting quantum systems in a disordered environment can be in a many-body localized phase, in which transport is suppressed and memory of the initial condition is retained in local observables for arbitrarily long times. In this talk I will introduce the notion of localization for disordered quantum systems, and discuss how it implies ergodicity breaking and absence of thermalization. I will then shortly discuss the existence of conserved quasi-local quantities for many-body localized systems, and comment on the explicit construction of these quantities for a particular model of interacting fermions on the lattice.