



ICTS

INTERNATIONAL
CENTRE *for*
THEORETICAL
SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Seminar

Title : Many Body Localization in the Random Schwinger Model

Speaker : Shivaji Sondhi, Princeton University, USA

Date : Friday, August 24, 2018

Time : 11:30 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : The Schwinger model describes one dimensional electrons and positrons interacting via the Coulomb force. I will discuss the addition of randomness in its lattice implementation which yields a system with linearly growing interactions and disorder. I will show that this system exhibits (asymptotic) many body localization and as such provides a counter-example to the belief that very long ranged interactions always destabilize localization. I will also describe some interesting features of this system at a commensurate filling such as its evasion of the Imry-Ma theorem on symmetry breaking in the presence of randomness.