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PHS :

Dated: 15.08.18

DEPARTMENT SEMINAR NOTICE

SPEAKER: Dr Tobias Gulden
Post Doctoral Fellow
Department of Physics
Technion Israel Institute of Technology
Israel

TITLE: Universal prethermal states in slowly driven many-body systems

DATE & DAY: 20 August 2018, Monday

VENUE: Seminar Hall

TIME: 4.00 P.M.

Abstract

A key challenge in the search for new non-equilibrium phases of matter is the tendency of closed many-body systems to indefinitely absorb energy from a driving field. Generically this leads to an infinite temperature state where any interesting quantum, and in particular topological, effects are washed out. Here we show that in fact heating can be used as a resource for establishing universal prethermal behavior which exhibits topological phenomena. The prethermalization regime which we consider occurs for low driving frequencies, and persists throughout a long time window. Recently such prethermal states were found in one dimensional topological pumps [Lindner, Berg, Rudner, PRX 2017]. We provide bounds on the lifetimes of states, study different manifestations of universal prethermal behavior in a variety of systems, and discuss probes for observing topological properties

About the Speaker:

Dr. Gulden did his Bachelor of Physics from University of Regensburg (Germany) and Ph.D from University of Minnesota. He worked on topological phase transitions and a semi classical theory of non-Hermitian operators. Presently he is working on driven quantum systems

All interested are cordially invited to attend.

Chairperson