

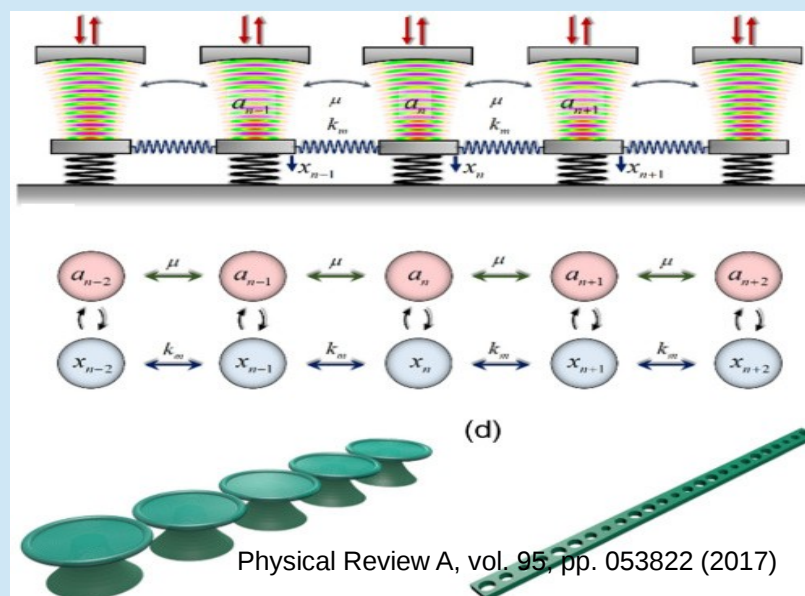
Monthly Colloquium

Optomechanical Arrays for quantum simulation of Non-equilibrium Dynamics

Invited Speaker:

Dr. Sadegh Raeisi

Department of Physics, Sharif University of Technology



We propose a tunable quantum simulator based on Optomechanical arrays, which can exploit dynamical properties of Optomechanical arrays to simulate non-adiabatic evolution of many-body systems.

We first investigate the non-equilibrium dynamics in Optomechanical arrays and find how driving the system out of equilibrium can generate excitations. We then propose a specific simulator for studying the quench dynamics and the topological phase-transition in the Su-Schrieffer-Heeger model (SSH). The applications of this simulator are not limited to this model and can easily be generalized to more complicated models. As such, we believe that this work could lead to new ways for investigating non-equilibrium dynamics in many-body systems.

Wednesday, 26 Ordibehesht 97 (16th May, 2018), 4-5 pm
Farmaniyeh Building, Conference Hall