Seminar on Condensed Matter Theory

Group of Theoretical Physics at the Department of Condensend Matter Physics of Charles University has a pleasure to invite you to attend the seminar

on 7 January 2021 at 13:00
as an online webinar

Contact K. Carva (carva@karlov.mff.cuni.cz) for the online access information.

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Numerical time-dependent spectroscopy on the optically excited Mott-Hubbard cluster

Recent pump-probe experiments have uncovered a variety of intriguing dynamics in strongly correlated materials such as ultrafast structural transitions in transition metal dichalcogenides. The key feature of these experiments is the time-dependent spectroscopic information. In this talk, I will discuss the time-evolution of various spectroscopic observables in optically excited Mott-Hubbard models. By numerically exact simulations of finite Hubbard clusters, we find that continuous resonant excitation can lead to a prethermal Floquet state with Rabi oscillations for weak field amplitudes [1]. For strong and short excitation, multi-photon excited states show second harmonic oscillations in time-dependent optical conductivity [2].

[1] J. Okamoto, F. Peronaci, arXiv:2010.00326.
[2] J. Okamoto, New J. Phys. 21, 123040 (2019).

For more information follow: theory.kfkl.cz/seminars.php
If you wish to receive regular updates on fothcoming seminars, contact K. Carva (carva@karlov.mff.cuni.cz).