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Monte Carlo methods of electron kinetics in laser excited solids

Wednesday 20 February 2013 10:40 (40 minutes)

In this talk I will present a Monte Carlo based methods of modeling ultrafast electron kinetics in laser irradiated materials. I will briefly talk about the hierarchy of the statistical methods used in modeling electron excitation and relaxation processes in solids. It will be presented a standard Monte Carlo approach for electron kinetics and transport, most commonly used in studies of excited matter. It is based on the approach of individual particles and independent events. Some more advanced techniques, accounting for correlated events in electronic system, will be discussed. A combination of Monte Carlo methods with other approaches and techniques will be conclude the talk.

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