

Green's function and (TD)DFT descriptions of lattice models out of equilibrium

Claudio Verdozzi

*Lund University, Professorgatan 1, Lund, 223 63, Sweden
European Theoretical Spectroscopy Facility (ETSF)*

We use non-equilibrium Green's functions (NEGF) and time-dependent density-functional theory (TDDFT) to describe correlated lattice model systems out of equilibrium. Specifically, we consider charge transport in short wires and time-resolved dynamics at surfaces. The scope of perturbative treatments of correlations within NEGF and adiabatic approximations in TDDFT will be assessed, and possibilities offered by a hybrid TDDFT-NEGF scheme explored. Results from ongoing work will be presented.