

Abstract Submitted
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Evaluation of time-resolved photoemission spectra from nonequilibrium, time-domain Green functions B. MORITZ, T. P. DEVEREAUX, SLAC and Stanford University, H. R. KRISHNAMURTHY, Indian Institute of Science, J. K. FREERICKS, Georgetown University — Recent experiments have shown the power of femtosecond time-resolved, pump-probe photoelectron spectroscopy to probe, directly, the nonequilibrium, real-time dynamics of excitations in a correlated material. We use nonequilibrium dynamical mean-field theory to study the spinless Falicov-Kimball model driven (pumped) out of equilibrium by a constant electric field turned on at $t = 0$. We demonstrate the proper evaluation of the time-resolved photoemission intensity as a function of pump-probe delay for both metallic and Mott-insulating phases of the model and the dependence of the intensity profile on the specific details of the probe pulse's lineshape and duration.

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