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Dynamical Steps in the Time-Dependent Exchange-Correlation Potential[1] KAI LUO, NEEPA MAITRA, Hunter College and CUNY Graduate Center, PETER ELLIOTT, Max-Planck Institute for Microstructure Physics, JOHANNA FUKS, ANGEL RUBIO, Dpto. Fisica de Materiales, Universidad del Pais Vasco — It was recently demonstrated that the exact correlation potential of time-dependent density functional theory (TDDFT) generically develops step and peak features that have a density-dependence that is non-local in space and time [arXiv:589981]. Usual adiabatic functional approximations fail to capture these steps, yet these same functionals work quite well for excitation spectra. We investigate the role of the steps in the linear response regime.

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