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Excitonic effects in optical absorption spectra of CdTe. KALUM PALANDAGE, GAYANATH FERNANDO, RAMPI RAMPRASAD, University of Connecticut — We have used a first principles, quasiparticle, self-consistent GW and similar approximations to predict the electronic structure of various nanocrystals with high accuracy. In this preliminary stage, we applied the method to a selection of different classes of materials including alkali metals, Transition metals and semiconductors. It was observed that the self-consistency improves the agreement with experiment. Our goal is to analyze dynamical signatures of excitons and multi-excitons in CdTe nanocrystals using several self-consistent approximations.

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