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Excitation energy dependence of fluorescence intermittency in CdSe/ZnS core-shell nanocrystals ROBERT MOHR, THOMAS EMMONS, CATHERINE CROUCH, Swarthmore College — We report measurements of the excitation energy dependence of the fluorescence intermittency of single CdSe/ZnS core/shell nanocrystals (NCs) using two different excitation energies. The lower excitation energy, at 532 nm, corresponds to excitation 270 meV above the band gap. The higher energy, at 405 nm, corresponds to excitation 1.0 eV above the bandgap. At each excitation energy, 77 individual NCs were measured for 1500 s. The off-times from each individual NC follow a power-law distribution with the same exponent regardless of excitation energy. The on-times follow a truncated power law distribution with an exponent that is independent of energy, but the distribution of truncation times obtained from the individual NCs at the higher energy is peaked at shorter values than the distribution obtained with the lower excitation energy.

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