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Radiative lifetime of multiexciton in CdSe/CdS core–shell quantum dot

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Highlights

- The radiative lifetime of exciton, trions and biexciton was calculated by effective mass approximation method.
- The Schroedinger–Poisson equation is solved in a self-consistent iterative manner.
- The variation of lifetime with shell thickness and core radius was observed.
- Investigations of Stark effect point that external electric field shifts the radiative lifetime only in weak confinement region.