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S E M I N A R
aus
Halbleiterphysik und Nanotechnologie

Di, 26.6.2018, 13:00 Uhr, Hörsaal für Physik

"Excimer emission in J-aggregates"

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An excimer is usually considered as a couple of bounded molecules where one molecule is in the excited and the other in the ground state. This talk will consider features of an excimer in a large system of J-aggregates of thiamonomethinecyanine dyes where at least several molecules can be excited coherently. The excimer in this system is shown to arise as a two-step process: first, formation of a free exciton, and second, migration of the free exciton to the excimer formation site, where it interacts with a guest species in the ground state. It is shown that an excited counterpart of the above excimer is twice longer than a ground-state counterpart, consistent with the excitation of a coherence length of four molecules versus one ground-state dimer, respectively. Temperature dependence of of the observed excimer emission is considered as well.