



Quantum Efficiency Seminar und Colloquium

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Superradiation of chromophores confined at rare gas clusters

Superradiance initially predicted in 1954 [1] is a phenomena where systems of excited, weakly interacting particles emit collective, coherent radiation. In contrast to normal radiation, superradiance has several interesting properties dependent on the number, N , emitters such as an N^2 dependence on the emitted radiation and a radiative lifetime shortening by a factor of N . In this talk, I will describe a new system for observing superradiance where organic semiconductors embedded on the surface of rare gas clusters show the initial signature of collective radiation.

[1] Dicke, R. H. Physical Review 1954 vol. 93 s.99-110

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