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One and few-particle optics of quantum dots with complicated geometry

Tuesday 17 June 2025 11:20 (40 minutes)

In my lecture I'll present recent results of the description the optical absorption in lens-shaped ellipsoidal and conical quantum dots for single particle as well as few-particle transitions. It'll be shown that for the specific geometries of quantum dots it is possible to use adiabatic description of such systems. We show that for the pair-interacting few-particle gas we can apply some of the exactly solvable quantum mechanical models for analytical description of the intraband transitions. Some of the recent results of experiment will be discussed.

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