



Optical Properties of Confined Quantum Systems 2020

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Message from the Guest Editor

Dear Colleagues,

Confined quantum systems embrace a wide variety of subjects, ranging from nanostructures—particularly quantum dots, quantum wires, and planar nanostructures, including graphene-based systems—to quantum systems of microscopic scale, such as quantum atomic gases.

Advances in the science of quantum nanostructures over the course of more than twenty years have been remarkable. As a result, confined nanoscale quantum systems already have an outstanding spectrum of applications in various important areas. More recently, studies of quantum phenomena in ultracold atomic gases have seen steadily growing progress and increasing interest, nontrivially involving subjects specific to many other research areas (e.g., polaron physics). Consequently, the optical properties of confined quantum systems represent a great experimental and theoretical interest for their characterization and getting a picture of intrinsic quantum states and collective excitations, which can have significance for potential practical realizations, even including such a fascinating perspective as quantum computing, where a breakthrough is still pending.

Dr. Serghei Klimin

Guest Editor





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Message from the Editor-in-Chief

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