Solid State Institute
המכון למצב מוצק

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סמינר

Quantum Optics Studies of Semiconductor Quantum Dots using Multiphoton Correlations

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Abstract

Semiconductor quantum dots are sources of quantum light, as they can generate single photons and entangled photons on demand. Further exploration of these light sources requires the ability to accurately measure and analyze multiphoton correlations. In my talk, I will present a new experimental system that we developed for measuring polarization-sensitive temporal and intensity correlations among three and four photons. I will then describe two novel studies which utilized this system: a) The first measurement of a three-photon radiative cascade resulting from a quantum dot-confined triexciton, and b) The first implementation of a cluster-state generating protocol using the spin of a quantum dot-confined dark exciton. For both studies the ability to measure correlations between multiple photons was absolutely critical.

ההרצאה תתקיים ביום רביעי, ה-20.1.16 בשעה 12:30

בבניין המכון למצב מוצק, בחדר הסמינרים

The lecture will take place on Wednesday, 20.1.16 at 12:30

at the Solid State Institute, seminar room

Ph.D. Student of Professor David Gershoni