Eugene Wigner Colloquium

joint event of GRK 1558 and SFB 910

Dr. Doris Reiter

Universität Münster

"Optical control of a single Mn spin in a single quantum dot"

The optical control of an individual ion embedded in a semiconductor matrix is the basic principle in the emerging field which is called solotronics. One prominent example is a single quantum dot doped with a single Mn ion. The spin of the Mn ion is strongly coupled to the exciton spin which is reflected in the spectrum where the exciton transition line splits into a set of lines. The optical control of the spin of the Mn ion can be achieved by optical manipulation of the quantum dot exciton. In this talk I will present different proposals for excitation schemes to switch the spin state of the Mn. Furthermore, I will discuss how the change in the Mn spin is reflected in optical signals.

A. Knorr

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