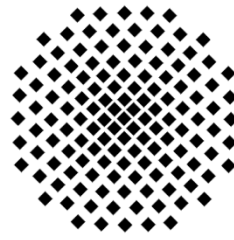


Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

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Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Peter Michler, Universität Stuttgart, Telefon: 0711 - 685-64660

Spins and circuits with self assembled quantum dots

Maurice Skolnick

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Abstract

Self assembled quantum dots III-V semiconductors have many favourable properties for quantum information science, including strong interactions with photons, ability to be driven at high speeds, long spin coherence, and well developed industrial-scale fabrication technology. This talk will review recent progress in the field in my group. Topics to be addressed will include ultrafast control of single carrier (hole) spins, the interactions of holes with nuclei, and circuit implementations of quantum dots towards useful device functions at the single photon/single spin level.