

LNQE-Kolloquium

Ort: Hörsaal im Lfl (Schneiderberg 32)

Zeit: **Mittwoch, 25.01.06 um 17:30 - 18:30 Uhr**

+ anschließendes Beisammensein

Si Nanocrystals: New ways for an old material

PD Dr. Margit Zacharias
MPI für Mikrostrukturphysik, Halle
(also at FWIM, FZ-Rossendorf)

A First experimental results more than one decade ago demonstrating the visible room temperature luminescence of Si nanocrystals in implanted SiO_2 or porous Si triggered the strong interest in the fabrication of Si nanocrystals and their properties. Basic fundamental questions concerning quantum confinement effects in indirect semiconductors, potential applications such as light emission from electrically excited Si nanocrystals, energy transfer to Er^{3+} ions, and non volatile Si NC based memories also stimulated the broad interest in this material system. For clarifying the origin of the observed luminescence signal as well as for applications, tight control over the size of the nanocrystals is essential. The talk will give an overview about ways for size controlled Si nanocrystals. Basic properties as well as different applications including memory applications will be discussed in details.

