



# SFB 631

Festkörperbasierte Quanteninformationsverarbeitung

## Seminar Announcement

- Location** University of Regensburg, Dept. of Physics  
Room PHY 5.0.21
- Time** Thursday, 19<sup>th</sup> April 2007  
3:15 p.m.
- Speaker** **Dr. Michael M. Wolf**  
Max-Planck-Institut für Quantenoptik, Garching
- Title** Entanglement-based tools for quantum-many-body physics
- Abstract** The blessing of Quantum-Information-Theory (QIT) is the curse of Quantum-Many-Body-Physics (QMP): the exponential growth of Hilbert space. The talk addresses recent attempts to exploit the insight gained in QIT about the structure of entangled states in order to tackle typical QMP problems. New numerical methods based on so-called PEPS/MPS representations are described as well as analytical results obtained in this direction.

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