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Quantum Optics, Quantum  
Nanophysics &  
Quantum Information



Institut für Quantenoptik und  
Quanteninformation

CoQuS

Complex  
Quantum  
Systems



TECHNISCHE  
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TECHNOLOGY

The guest lectures

LVA. Nr. 260 002

of

**Prof. Peter Zoller**

on

**Theoretical Quantum Optics**

**Thursday, Jan. 24<sup>th</sup>, 2008, 15:00 – 19:00 hrs**

**Friday, Jan. 25<sup>th</sup>, 2008, 13:00 -17:00 hrs**

at Großer Hörsaal der Materialphysik, Boltzmannngasse 5, 3rd floor, 1090 Wien.

**The topics in this lecture are:**

- 1a) Trapped Ions: Quantum State Engineering & Quantum Computing (Level: einfach)
- 2) Quantum Noise: continuous measurement, master equations, stochastic Schrödinger equations, and all that (Level: intermediate, increasingly more difficult)
- 1b) Trapped Ions: dissipative dynamics - cooling etc. (Level: einfach – Details aufbauend auf 2)