



## Kolloquium

**Prof. Rudolf Gross**  
(WMI Garching)

### **Superconducting Qubits: From Flux Quantization to Linear Optics on a Chip**

Since the discovery of flux quantization in 1961 (amongst others by Robert Doll and Martin Nöbauer of the Walther-Meißner-Institute) magnetic flux structures in superconductors have been used in various ways to store and process information. In recent years, quantum information processing has become an intensively studied field of research. Superconducting systems have been found to be very promising for the realization of hardware concepts for solid state based quantum information processing. Present strategies for the realization of superconducting qubits as well as for their manipulation and read-out are discussed. Furthermore, it is shown how linear optics experiments on a chip can be realized by the coupling of superconducting qubits to microwave cavities.

**Wann?** Donnerstag, 24.11.2005, 17:15 Uhr

**Wo?** Universität Tübingen, Hörsaalzentrum  
auf der Morgenstelle, Raum N1