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## KOLLOQUIUM

**Frl. I. Komarova**

**Max-Planck-Institut für Plasmaphysik (IPP), Garching, München**

**Thema: Estimation of the lifetime of high heat flux components (monoblock) of thermonuclear machines under cyclic thermal loads**

**Zeit:** Freitag, 12. Mai 2006, 14:00 Uhr **s.t.**

**Ort:** Bau fakultät, Technikerstrasse 13, Hörsaal B619 (6. Stock)

### **Kurzfassung**

The global problem of obtaining additional energy with thermonuclear reactors is nowadays of critical importance. In this context, the lifetime of the parts of thermonuclear reactors needs to be determined in order to ensure reliable operation.

The first part of the presentation is focused on the estimation of the lifetime of high heat flux components in thermonuclear machines using finite-element analysis, performed with the general purpose code ANSYS. The aim of the investigation is to quantify how long the considered component is capable to work under cyclic thermal loads.

The second part of the investigation is concentrated on the probabilistic analysis of the failure of tungsten fibres, used in monoblock tube manufacturing. Based on experimental results, the definition of Weibull parameters for the components – consisting of composite materials – is discussed in detail.

### **Über die Vortragende**

Ms. I. Komarova is a research assistant at the Max-Planck Institute for Plasma Physics (Garching, Munich) and a candidate for the title of Master of Applied Science at Saint-Petersburg State Polytechnical University (SPbSPU). In 2004 she obtained the Bachelor of Applied mechanics at Saint-Petersburg State Polytechnical University (SPbSPU).

*Gäste sind herzlich willkommen!*