# SFB 608

## Einladung zum Kolloquium

**Ort:** Universität zu Köln
II. Physikalisches Institut, Seminarraum 201

**Zeit:** Mittwoch, den 5. Februar 2003, 15 Uhr c.t.

**Sprecher:** Prof. Krzysztof TOMALA
M. Smoluchowski Institute of Physics
Jagiellonian University, KRAKOW

**Thema:** Investigation of magnetic properties of materials using $^{155}$Gd and $^{99}$Ru Mössbauer spectroscopy: GdNiSn, $RuSr_2GdCu_2O_8$ and $Gd_2Ru_2O_7$.

During the lecture, current activities of our group in investigation of magnetic properties of some materials containing gadolinium and ruthenium ions by bulk magnetic measurements and The Moessbauer spectroscopy with $^{99}$Ru and $^{155}$Gd isotopes will be presented. A short methodological introduction will be given, which should show the possibilities of gadolinium and ruthenium moessbauer spectroscopies in determination of a local ordering of magnetic moments. Then, the results obtained for antiferromagnetic GdNiSn and weakly "ferromagnetic" superconductor $RuSr_2GdCu_2O_8$ using $^{155}$Gd Moessbauer spectroscopy will be described. Finally, we shall discuss the magnetic properties of $Gd_2Ru_2O_7$, which shows the pyrochlore type structure. Ordering of gadolinium and ruthenium sublattices as well as their local magnetic structures will be desribed in details.

Gez. Prof. Abd-Elmeguid