

Kollegseminar

im Rahmen des Graduiertenkollegs “Hierarchie und Symmetrie in
mathematischen Modellen”

am: Freitag, 18.01.2008

Zeit: 15.15 h

Ort: HS II (Hauptgebäude)

Vortragende(r): **Prof. Dr. Franz Winkler**
Institut f. Symbolisches Rechnen (RISC)
J. Kepler Universität Linz

Titel: **Symbolic and Algebraic Methods for
Linear Partial Differential Operators**

ABSTRACT

The solution of Partial Differential Equations (PDEs) is one of the most important problems of mathematics, and has an enormous area of applications. The aim of this talk is to describe some old and new developments and generalizations of analytical approaches to the solution of PDEs and the corresponding algebraic theory of differential operators. Recently we have introduced the notion of *obstacle* for the factorization of a differential operator, i.e. conditions preventing a given operator from being factorizable. These obstacles give rise to a classification of operators w.r.t. their factorization properties. From obstacles we can also get Laplace invariants of operators w.r.t. gauge transformations. We discuss how such systems of invariants can be extended to full systems of invariants for certain low order operators.

Wir laden herzlich *alle* Interessierten (nicht nur Mitglieder des Kollegs) zu diesem Vortrag ein.