

Einladung zum Kollegseminar

Zeit und Ort: Freitag, 10.12.2004, 15:15 Uhr, HS IV im Hauptgebäude

Vortragender: **Dr. Julia Hartmann** (IWR, Universität Heidelberg)

Titel: **Differential Galois Groups**

Zum Inhalt: Differential Galois theory is a generalization of the usual Galois theory for polynomials to differential equations. There is the notion of a splitting field (the Picard-Vessiot extension) of a differential equation, and the differential Galois group is the group of automorphisms of this extension which fix the base field and commute with the derivation. Differential Galois groups are linear algebraic groups over the field of constants of the base field.

In this talk I will give an introduction to differential Galois theory and then address the *inverse problem*: Which linear algebraic groups occur as differential Galois groups over a given base field?

The main result is: Every linear algebraic group over the algebraically closed field K of characteristic zero is a differential Galois group over the rational function field $K(t)$ with derivation $\frac{d}{dt}$.

Ab **14:45(!)** Uhr gibt es Kaffee und Tee in der Handbibliothek des Lehrstuhl D für Mathematik, Raum 203, Sammelbau Templergraben 64.

Es sind alle Interessierten, also nicht nur die Mitglieder des Graduiertenkollegs, herzlich eingeladen.

Der Sprecher

(Prof. Dr. Gerhard Hiß, Lehrstuhl D für Mathematik, Templergraben 64, Tel. (0241) 80-94543)