



## SFB-Seminartag

### TIME:

25 Jun 2007, 15:00 - 18:00

### LOCATION:

Humboldt-Universität zu Berlin  
Invalidenstr. 42, Nordbau, Hörsaal 8

### PROGRAM:

15:00 - 16:00 **Prof. Lars Andersson (AEI)**

#### **Einstein spaces as attractors for the Einstein flow**

I will discuss a proof of nonlinear stability of Lorentz cones over Riemannian negative Einstein spaces. For higher dimensional Einstein spaces, there may be a nontrivial moduli space of Einstein structures, which may be viewed as a center manifold for the flow. I will discuss conditions for stability and give examples where they are satisfied. Under the condition that the spacetime dimension is at least 11, this work allows one to construct families of vacuum spacetimes with quiescent singularity and asymptotically Friedman behavior in the expanding direction.

16:00 - 16:30 Break

16:30 - 17:30 **Dr. Pablo Ramacher (Göttingen)**

#### **Compact group actions and spectral asymptotics for pseudodifferential operators on bounded domains in $\mathbb{R}^n$**

Let  $G$  be a compact group of isometries acting on  $n$ -dimensional Euclidean space, and  $X$  a bounded domain which is transformed into itself under the action of  $G$ . Consider a symmetric, classical pseudodifferential operator  $A$  with  $G$ -invariant symbol, and assume that it is semi-bounded from below.

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The spectrum of the Friedrichs extension of the restriction of  $A$  to  $X$  is discrete, and employing the method of the stationary phase, we derive asymptotics for the number of eigenvalues for each isotypic component, giving also an estimate for the remainder term. Since the considered critical set is a singular variety, we use resolution of singularities in order to apply the stationary phase theorem.

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