SFB-Seminartag

ZEIT:
15.5.2007, 16:00 Uhr - 19:00 Uhr

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

PROGRAMM:

16:00 - 17:00 **PD Dr. Georg Hein**

What is stability?
The concept of stability plays an important role in algebraic geometry. I want to give several examples of stability which appear in the classification theory of vector bundles and algebraic varieties.
I also want to explain, why stability is as well an open as a closed condition.
At the end, I want to show how we can define stability for objects in the derived category. This leads to new compactifications of moduli spaces.

17:00 - 17:30 Pause

17:30 - 18:30 **Dr. Brian Smith**

Blow-up in the parabolic scalar curvature equation
Consider a manifold foliated by hypersurfaces. Suppose that the intrinsic geometry of the hypersurfaces has been specified. We would like to obtain a manifold of prescribed scalar curvature in a non-conformal way by modifying the metric only in a direction transverse to the foliation. If the hypersurfaces are to have positive mean curvature, this gives rise to a nonlinear parabolic equation for the transversal component of the metric in which the foliating function plays the role of the time variable. It is easily seen by using

Kontakt:
Humboldt-Universität zu Berlin . Institut für Mathematik
SFB 647 . Unter den Linden 6 . 10099 Berlin
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727
sfb647@math.hu-berlin.de

the maximum principle that in many cases of physical interest the solution blows up.
In this talk we consider the situation in which the blow-up corresponds to a horizon, and the stability of this phenomenon is addressed.

Kontakt:
Humboldt-Universität zu Berlin . Institut für Mathematik
SFB 647 . Unter den Linden 6 . 10099 Berlin
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727
sfb647@math.hu-berlin.de