



# Bernhard List

## Evolution of an extended Ricci flow system

**TIME:**

3 Jan 2006, 17:00 - 19:00

**LOCATION:**

Freie Universität Berlin - Fachbereich Mathematik und Informatik  
Arnimallee 2-6, 14195 Berlin-Dahlem (Raum 031)

By extending the Ricci Flow with a scalar function I obtain a new PDE system whose stationary points are static Einstein vacuum metrics. I show how this system can be derived from a variational principle which allows me, following recent ideas of G. Perelman, to deduce a noncollapsing result for the flow. The second major tool I want to present are local interior a priori estimates for solutions. Together these two ingredients imply results on long time existence and on the singularity structure of the flow and further information with regard to asymptotically flat manifolds in General Relativity.

**Contact:**

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

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