University of Notre Dame Department of Mathematics

FELIX KLEIN SEMINAR

Jeff Streets

Princeton University

Will give a lecture entitled:

The gradient flow of the L^2 norm of curvature.

On

Friday, January 28, 2010

At

4:15 PM

In

117 Hayes-Healy Hall

Abstract

I will discuss some geometric and analytic aspects of the gradient flow of the L^2 norm of the curvature tensor. First I show long time existence and convergence of the flow in a certain "energy regime", recapturing a known sphere theorem. Further I will describe an interesting new technique for showing point-wise smoothing bounds for this flow in the absence of a non-collapsing hypothesis. These estimates have some applications which point the way toward using this flow to understand an old conjecture that four manifolds with small enough L^2 norm of curvature admit F-structures.