



Sommersemester 2016

Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Freitag, den 27.05.2016 spricht um 14 Uhr c. t. im Raum N14

Dr. Stephen McCormick
(University of New England)

über das Thema

On the Einstein constraints and the Yamabe problem exterior to a ball

In this talk we will discuss two separate problems motivated by the Bartnik quasilocal mass. In 2005 Bartnik gave a phase space for the Einstein equations and proved that set of solutions to the constraint equations on an asymptotically flat manifold (without boundary) has a Hilbert manifold structure. Using this framework he demonstrated that critical points of the ADM mass over this Hilbert manifold correspond exactly to stationary initial data. Here we consider the case where an interior boundary is present and discuss the connection to the Bartnik mass. We also discuss the scalar-flat Yamabe problem on an asymptotically flat manifold with boundary, which corresponds to finding time-symmetric vacuum initial data with prescribed boundary conditions.

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken