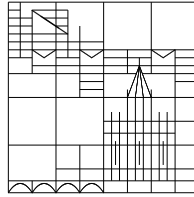


Universität Konstanz

Fachbereich
Mathematik und Statistik



Prof. Dr. Robert Denk
Prof. Dr. Heinrich Freistühler
Prof. Dr. Oliver Schnürer

Im

Oberseminar Partielle Differentialgleichungen

gibt es am

Donnerstag, dem 13. November 2014,

einen Vortrag von

Dr. Theodora Bourni

(FU Berlin)

“ ‘Null mean curvature’ flow and marginally outer trapped surfaces ”

Beginn: **15:15 Uhr**

Raum: **F 426**

Interessenten sind herzlich willkommen!

R. Denk, H. Freistühler, O. Schnürer

Abstract: In this talk we discuss a new second order parabolic evolution equation for hypersurfaces in space-time initial data sets, that generalizes mean curvature flow (MCF). In particular, the ‘null mean curvature’ - a space-time extrinsic curvature quantity - replaces the usual mean curvature in the evolution equation defining MCF. This flow is motivated by the study of black holes and mass/energy inequalities in general relativity. We present a theory of weak solutions using level-set methods and an appropriate variational principle, and outline a natural application of the flow as a parabolic approach to finding (outermost) marginally outer trapped surfaces (MOTS), which play the role of quasi-local black hole boundaries in general relativity. This is joint work with Kristen Moore.

(invited by Oliver Schnürer)