



Wintersemester 2019/20

**Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie**

Am Donnerstag, den 06.02.2020 spricht um 14 Uhr c. t. im Raum C9A03

Zoe Wyatt
(University of Edinburgh)

über das Thema

On the stability of high-dimensional Kaluza-Klein spaces

There are a large class of Kaluza-Klein type spacetimes given by the Cartesian product of $1+n$ dimensional Minkowski spacetime with a Ricci-flat Riemannian manifold, called the internal space. These are solutions of the vacuum Einstein equations. This talk will show that these spaces are stable as solutions of the Einstein equations when n is sufficiently large and when the internal space has special geometric structure, in particular relating to its holonomy group. The PDE methods required lie at the intersection of methods for quasilinear wave and Klein-Gordon equations. This stability result is related to a conjecture of Penrose concerning the validity of string theory. This talk is based on joint work with Pieter Blue and Lars Andersson.

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken