



Wintersemester 2020/21

Oberseminar  
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Donnerstag, den **14.01.2021** spricht um **15:30** per Videoübertragung

**Sven Hirsch**  
( Duke University )

über das Thema

**Spacetime Harmonic Functions and Applications to Relativity**

One of the central results in mathematical relativity is the spacetime positive mass theorem which asserts that the ADM energy-momentum of an initial data set satisfying the dominant energy condition is non-spacelike. This theorem has been proven by Schoen-Yau using the Jang equation, Witten using spinors and later by Eichmair-Huang-Lee-Schoen using MOTS. Based on level sets of spacetime harmonic functions we give another proof of this result which also gives a new lower bound for the mass. This is joint work with Demetre Kazaras and Marcus Khuri.

**Hierzu wird herzlich eingeladen. Bei Interesse bitte per E-Mail an [angelika.spoerer-schmidle@uni-tuebingen.de](mailto:angelika.spoerer-schmidle@uni-tuebingen.de) wenden, um den Link zur Videoübertragung zu erhalten.**

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken, K. Kröncke