Sommersemester 2021

Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie

Am Donnerstag, den **29.04.2021** spricht um **14:00** per Videoübertragung

Dr. Edward Bryden
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über das Thema

A repulsing mechanism: indirect evidence for the stability of the Positive Mass Theorem

The Riemannian Penrose Inequality and the Riemannian Positive Mass Theorem are two important, well known, and related results. From their statements, it is easy to see that the Riemannian Penrose Inequality implies the Positive Mass Theorem. In H. Bray's proof of the Riemannian Penrose Inequality, he makes use of the Positive Mass Theorem. Thus, the two results imply each other. It is therefore somewhat surprising that they behave so differently with respect to stability (almost rigidity). It is conjectured that metrics with small ADM mass must be near Euclidean space in some sense. However, C. Mantoulidis and R. Schoen have constructed reasonable metrics which almost saturate the Riemannian Penrose Inequality, but are not near a member of the Schwarzschild family of metrics. Here, we dig a little deeper into how, on the one hand, the Positive Mass Theorem may be stable, while on the other hand it seems that the Riemannian Penrose Inequality is unstable.

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

Hierzu wird herzlich eingeladen.

C. Cederbaum, G. Huisken, K. Kröncke