Sommersemester 2020

**Oberseminar
Geometrische Analysis, Differentialgeometrie und Relativitätstheorie**

Am Donnerstag, den **18.06.2020** spricht um **14 Uhr c. t.** per Videoübertragung

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über das Thema

Validity cases for the null Penrose inequalitys

The Penrose inequality establishes that the total mass of a spacetime is lower bounded in terms of suitable surfaces related to black holes. This important geometric inequality was formulated by Roger Penrose in 1973, and it is still an open problem. Its validity would also provide strong support for the weak cosmic censorship conjecture (Penrose, 1969), which states that in physically reasonable spacetimes there can not exist naked singularities. One of the most important cases is the null version of the inequality, in which the surfaces are spacelike cuts of null hypersurfaces that extend to past null infinity. The null version put forward by Penrose in his original construction involves shells of null dust and is written in terms of Minkowskian geometry. In this presentation, we show two Penrose-type inequalities that hold true, and validity cases for both the general and the original shell version of the inequality.

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

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