



Sommersemester 2020

**Oberseminar**  
**Geometrische Analysis, Differentialgeometrie und Relativitätstheorie**

Am Donnerstag, den 25.06.2020 spricht um 14 Uhr c. t. per Videoübertragung

**Caterina Vâlcu**  
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über das Thema

**On the drift conformal method in General Relativity**

We study initial data in General Relativity, which are defined as solutions to the constraint equations. The focus in this talk is a modified version of the conformal method proposed by David Maxwell. While the model seems more strongly justified from a geometrical standpoint, the resulting system becomes significantly more difficult to solve; it presents critical nonlinear terms, including gradient terms. We describe existence and stability while working in dimensions 3,4 and 5, under smallness assumptions and in the presence of a scalar field with positive potential. The tools we use are related to obtaining a priori estimates (compactness results) and a fixed-point theorem.

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

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