



EINLADUNG

Lunchseminar

zum Vortrag

von

Todd Oliynyk

Monash University, Australia

über

“Dynamical relativistic liquid bodies”

Abstract:

In this talk I will discuss a new approach to establishing the well-posedness of the relativistic Euler equations for liquid bodies in vacuum. The approach is based on a wave formulation of the relativistic Euler equations that consists of a system of non-linear wave equations in divergence form together with a combination of acoustic and Dirichlet boundary conditions. The equations and boundary conditions of the wave formulation differs from the standard one by terms proportional to certain constraints, and one of the main technical problems to overcome is to show that these constraints propagate, which is necessary to ensure that solutions of the wave formulation determine solutions to the Euler equations with vacuum boundary conditions. During the talk, I will describe the derivation of the wave equation and boundary conditions, the origin of the constraints, and how one shows that the constraints propagate. Time permitting, I will also discuss how energy estimates can be obtained from this new formulation paying particular attention to the role of the acoustic boundary conditions.

Zeit: Freitag, 03.08.2018, **13:00**

Ort: Arbeitsgruppe: Gravitation, Währinger Straße 17,
common room 1. Stock

gez.: P. T. Chrusciel