Fakultät für Physik
Gravitationsphysik
1090 Wien, Boltzmanngasse 5

universität wien

E I N L A D U N G

im Rahmen des Literaturseminars

zum Vortrag von

Leonhard KEHRBERGER

(University of Leipzig)

über

"The Case Against Smooth Null Infinity and the Persistence of Polyhomogeneity"

Abstract:
In this talk, I will describe recent and upcoming work on the asymptotic behaviour of gravitational radiation (linearised gravity around Schwarzschild) in a neighbourhood of spacelike infinity including past and future null infinity.

I will first set up a mathematical scattering framework in which one can understand the question of smoothness of null infinity on physical grounds.

I will then use this framework to present a basic sketch of the proof of the irregularity of null infinity in various physically motivated settings, together with a complete description of the semiglobal asymptotics of gravitational radiation one obtains instead.
In particular, I will discuss how a class of asymptotic conservation laws related to the Newman-Penrose charges can be used to infer the asymptotics for fixed angular modes, and describe how to use a persistence of polyhomogeneity result to sum up the individual angular modes.

Based on joint work with Hamed Masaood and Istvan Kadar.

Zeit: Mittwoch, 17.4.2024, 14:15h

Ort: Seminarraum A, Währinger Straße 17, 2. Stock

https://univienna.zoom.us/j/6540036841?pwd=SytyVkZJZzNyRG9lMm13ejlHeHRRUT09

gez.: P. Chrusciel, D. Fajman