



# ***EINLADUNG***

im Rahmen des Seminars für Mathematische Physik  
(Joint TU/UV Theory Seminar)

zum Vortrag

von

**Geoffrey Compère**

(ULB)

über

*„An asymptotic framework for gravitational scattering“*

**Abstract:**

I will first review the main difficulties in defining scattering in the presence of gravity. I will then outline some concepts useful at defining scattering in asymptotic Minkowski spacetime:

a puzzle-piece diagram with 5 asymptotic expansions and 4 overlapping regions that faithfully describe massless and massive fields.

I will show in which sense particles, stars and black holes can be described with the same tools in a unified way.

I will discuss the BMS covariance that inevitably occurs when gravitational radiation is present and contrast when is BMS symmetry important (to define memory effects) and when it can be bypassed (to define invariant Lorentz charges and intrinsic spin of bodies).

I will finally discuss infrared divergences and propose how to regulate them.

**Zeit:** Dienstag, **02.05.2023, 14.00 h**

**Ort:** Erwin-Schrödinger-HS, Fakultät für Physik, Boltzmannngasse 5, 5. Stock

gez.: S. Fredenhagen, D. Grumiller, R. Ruzziconi, E. Batista