



# *EINLADUNG*

im Rahmen des Literaturseminars

zum Vortrag

von

**Albert Huber**

(TU Wien)

über

## *„Gravitational Shock Waves in stationary Black Hole Spacetimes“*

### **Abstract:**

In this talk, the geometric framework of local metric deformations will be discussed with special emphasis on so-called generalized Kerr-Schild deformations. The consideration of precisely these deformations is justified by the fact that they lead to a comparably simple structure of Einstein's field equations, which is demonstrated using the spin-coefficient formalism of Newman and Penrose. Based on the results obtained, it is shown how the field of a gravitational shockwave generated by a massless point-like particle can be calculated at the event horizon of the stationary Kerr-Newman black hole, while specific physical properties of the corresponding class of geometries are discussed in passing.

**Zeit:** Donnerstag, 17.5.2018, **14.00**

**Ort:** Arbeitsgruppe Gravitation, Währinger Straße 17,  
Raum, 218, 2. Stock

gez.: P. Chrusciel, D. Fajman