



E I N L A D U N G

Lunchseminar

zum Vortrag

von

Celine Zwickel

(TU Vienna)

über

“Near horizon symmetries of 4D black holes”

Abstract:

Recently, a lot of work has been done on characterisation of black hole horizons in the near horizon limit. It has been shown that three dimensional black holes admit near horizon Heisenberg algebras. This allows these black holes to be dressed with soft hair. The term soft refers to the description of a symmetry generator whose action on a state does not modify the energy of that state. This implies that black holes are characterised by their three fundamental parameters (mass, angular momentum, and electric charge) and also by their soft hair content. The development of the theory of soft hair has in turn led to numerous developments.

In this talk, I will initially consider the near horizon physics of black holes in an arbitrary number dimensions, eventually focusing on the four dimensional case. I will present consistent sets of boundary conditions defined at the black hole horizon and discuss their symmetry algebras. One of them is made of the Heisenberg algebras and have soft hair in the charge spectrum. This opens up new directions to discuss several issues of the black hole physics.

Zeit: Montag, 14.1.2019, 13.00

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

gez.: P. T. Chrusciel, D. Fajman