E I N L A D U N G

im Rahmen des Literaturseminars

zum Vortrag

von

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(Potsdam)

über

The decay of SU(2) Yang-Mills fields on the Schwarzschild black hole with spherically symmetric small energy initial data

ABSTRACT:
First, I will present the Yang-Mills equations on arbitrary fixed curved space-times, valued in the Lie algebra associated to any arbitrary Lie group. Thereafter, I will expose recent results with Dietrich Häfner concerning the Yang-Mills fields valued in the Lie algebra su(2) associated to the Lie group SU(2), propagating on the Schwarzschild black hole. We assume that the initial data are spherically symmetric, satisfying a certain Ansatz and have small energy, which excludes the stationary solutions which do not decay. We then prove uniform decay estimates in the entire exterior region of the black hole, including the event horizon, for gauge invariant norms on the Yang-Mills curvature generated from such initial data, including the $ L^\infty $ norm of the so-called middle components. This is done by proving in this setting, a Morawetz type estimate that is stronger than the one assumed in previous work, without passing through the scalar wave equation on the Yang-Mills curvature, using the Yang-Mills equations directly.

Zeit: Donnerstag, 30.03.2017, **14:00**

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

gez.: P. Chrusciel