Prof. Dr. Lars Andersson
Geometry and Analysis of Black Hole Spacetimes

ZEIT:
9.2.2015, 10:00 Uhr - 13.2.2015, 14:30 Uhr

ORT:
Universität Potsdam
Campus "Neues Palais"
Haus 8, Raum 0.64
Am Neuen Palais 10, 14469 Potsdam

Black holes play a central role in general relativity and astrophysics. The problem of proving the dynamical stability of the Kerr black hole spacetime, which is describes a rotating black hole in vacuum, is one of the most important open problems in general relativity. Following an introduction to the Kerr geometry, I will introduce some techniques for analyzing the dynamics of particles and fields in the Kerr spacetime. The Carter constant, a 4th constant of the motion for geodesics in the Kerr spacetime, and related geometric structures play a central role in this analysis. Some familiarity with differential geometry will be assumed but the necessary concepts from general relativity will be introduced during the course.
The detailed schedule:
Monday: 10-11:30, 13-14:30, 15:15-16:45
Tuesday: 10-11:30
Wednesday: 10-11:30, 13-14:30, 15:15-16:45
Thursday: 13:30-15, 15:30-17
Friday 10-11:30 13-14:30

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