GR 4: Invited Talks 2 (with MP)

Time: Tuesday 9:30–11:30   Location: H 2013

Invited Talk   GR 4.1   Tue 9:30   H 2013
Characteristic Cauchy problems in general relativity —
•Piotr Chrusciel — Gravitational Physics, University of Vienna

I will discuss various aspects of the general relativistic Cauchy problem on light-cones, including the case where the vertex of the light-cone is located at past timelike infinity.

Invited Talk   GR 4.2   Tue 10:10   H 2013
Mass and center of mass of asymptotically flat spaces —
•Gerhard Huisken — Fachbereich Mathematik, Universität Tübingen, Auf der Morgenstelle 10, 72076 Tübingen

The lecture describes geometric constructions for the mass and the center of mass of isolated systems on asymptotically flat 3-manfifolds. In particular, recent existence and uniqueness results for radial foliations satisfying conditions on the mean curvature of their leaves are presented and discussed in relation to thier physical interpretation.

Invited Talk   GR 4.3   Tue 10:50   H 2013
Loop quantum gravity – an unusual QFT — •Hanno Sahlmann — Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)

I give a short introduction to loop quantum gravity, emphasizing the similarities and differences to other quantum field theories. Then I will highlight some recent developments regarding the dynamics of the theory and the description of black holes.