SFB-Seminar

ZEIT:
26.10.2010, 16:00 Uhr - 19:00 Uhr

ORT:
HU
Institut für Sportwissenschaft
Philippstr. 13, 10115 Berlin (Mitte)
Haus 11, Hörsaal 5

PROGRAMM:

16:00 - 17:00   **Prof. Dr. Jan Metzger**

Geometry of isolated systems in General Relativity
I will describe the interaction of geometric and physical properties in
initial data sets for General Relativity. I will mostly consider isolated
systems which can be modelled by asymptotically flat manifolds. The
general question is how physical parameters like mass and linear
momentum interact
with geometrically defined objects near infinity. One possibility I
consider are foliations of surfaces satisfying certain geometric PDEs.
Alternatively, studying the asymptotic behavior of geometrically
defined variational problems
such as the isoperimetric profile or the behaviour of the Wilmore
energy for surfaces near infinity yields physical information.

17:00 - 17:30   Kaffeepause

17:30 - 18:30   **Prof. Dr. Dirk Kreimer**

The fine structure of infinity
The description of the physical law by local fields started with
classical fields a long time ago, to the delight of physicists and
mathematicians alike.
That quantized fields describe the electroweak and strong interactions

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successfully is a more recent message, and demanded an understanding of the infinities which accompany local interactions. This renormalization program is only now slowly finding its mathematical identification. We will overview this development, and discuss consequences for the incorporation of gravity into the picture, and the well-being of the notion of fields.

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