



SFB Colloquium

TIME:

2 Jun 2009, 16:00 - 19:00

LOCATION:

Konrad-Zuse-Zentrum für Informationstechnik Berlin (ZIB)
Takustrasse 7
14195 Berlin-Dahlem

PROGRAM:

16:00 - 17:00 **PD Dr. Harald Dorn (HU Berlin)**

On Timelike and Spacelike Minimal Surfaces in AdS_n and the Alday-Maldacena Conjecture

The Alday-Maldacena conjecture relates gluon scattering amplitudes in $N=4$ super Yang-Mills theory at strong coupling to minimal surfaces in AdS_5 approaching a polygon with lightlike sides at the conformal boundary. We will discuss both the few presently known solutions of this

Plateau-type of problem as well as some related open mathematical questions.

Our investigation is based on a technique known in the physical literature under the name Pohlmeyer reduction. The differential equations for the reduced system are discussed in a parallel treatment of both spacelike and timelike surfaces, with emphasis on their characteristic differences. On the basis of these equations, we prove that there are no flat spacelike minimal surfaces in beyond the surfaces used by Alday-Maldacena for the tetragon case.

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17:00 - 17:30 Coffee Break

17:30 - 18:30 **Dr. J. Mark Heinzle (Vienna)**

Oscillatory Singularities and the Mixmaster Universe

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