

Mathematics Colloquium at IUB

CHRISTIAN BÄR
(Universität Potsdam)

will speak on

Wave Equations on Lorentzian Manifolds

Date: Monday, December 12, 2005
Time: 17:15
Place: Lecture Hall Research II, IUB

Abstract:

Lorentzian manifolds are the mathematical model for the geometry of space-time in General Relativity. Many physical phenomena, on the classical level as well as on the quantum level, give rise to wave equations. The question arises under which conditions the physically expected existence and uniqueness theorems for solutions to such wave equations hold.

The talk will be structured as follows:

1. Introduction to Lorentzian geometry
2. Wave equations
3. Local fundamental solutions
4. Cauchy problem in the large

If time permits we will sketch how these results can be used to set up a quantum field theory on curved spacetimes.

Colloquium Tea at ca. 16:45 in the Tea Room of Research II, close to the lecture hall. Everybody is welcome!