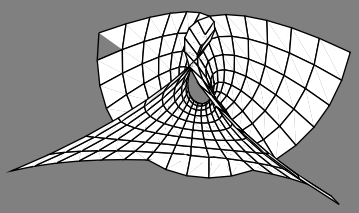

Einladung zum Mathematischen Kolloquium

Institut für Mathematik der Julius-Maximilians-Universität Würzburg

Prof. Dr. Yan Xu

(University of Science and Technology, Hefei, China)

On a numerical method for the nonlinear wave equations

In this talk, we begin by giving an overview of a numerical method which is somewhere between a finite element and a finite volume method and has many good features of both, the Discontinuous Galerkin method. It is usefull for both convection dominated and elliptic problems.

We shall apply it for solving nonlinear wave equations which contain nonlinear high order derivatives. The discretization results in an extremely local, element based discretization, which is beneficial for parallel computing and maintaining high order accuracy on unstructured meshes. In particular, the methods are well suited for hp-adaptation, which consists of local mesh refinement and/or the adjustment of the polynomial order in individual elements. The stability and the error estimates of the numerical methods will be discussed. Numerical simulation results for different types of solutions illustrate the accuracy and capability of the methods.

Ort: HS 4 Zeit: Mittwoch, 7. Juli 2010, um 17:00

Zu diesem Vortrag laden wir Sie herzlich ein.
Kaffee und Tee ab 16:30 im Sitzungsraum S106 im Mathematikgebäude.

Die Dozenten der Mathematik