



Mathematisches Kolloquium

Am Freitag, dem 02. Februar 2018 spricht um 16 Uhr c. t. im Hörsaal IV
der Fachrichtung Mathematik (Gebäude E2 4)

Prof. Dr. Tatsuo Iguchi
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über das Thema:

A Mathematical Analysis for Water Waves

Abstract: The water wave problem is mathematically formulated as a free boundary problem for an irrotational flow of an inviscid and incompressible fluid under the gravitational field. The basic equations for water waves are complicated due to the nonlinearity of the equations together with the presence of an unknown free surface. Therefore, until now many approximate equations have been proposed and analyzed to understand natural phenomena for water waves. Famous examples of such approximate equations are the shallow water equations, the Green–Naghdi equations, Boussinesq type equations, the Korteweg–de Vries equation, the Kadomtsev–Petviashvili equation, the Benjami–Bona–Mahony equation, the Camassa–Holm equation, the Benjamin–Ono equation, and so on.

In this talk, we first review on the relations between the basic equations for water waves and some of approximate equations. Then, we introduce some new model as a higher order shallow water approximation and present its structure together with a mathematical justification of the model.

Der Gast wird von Prof. Dr. Mark Groves betreut.

Alle Interessenten sind zum Vortrag herzlich eingeladen.

Kaffee und Tee ab 15.45 Uhr im Konferenzraum der Mathematik (Erdgeschoss, Raum 103)

Die Dozenten der Mathematik