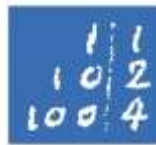




Institut für
Angewandte Mathematik



Leibniz
Universität
Hannover

Institut für Angewandte Mathematik
10.05.2016

Oberseminar Analysis und Theoretische Physik

**Anna Geyer
(Universität Wien)**

On periodic traveling waves of the Camassa-Holm equation

In this talk we are concerned with the wave length λ of smooth periodic traveling wave solutions of the Camassa-Holm equation. The set of these solutions can be parameterized using the wave height a . Our main result establishes monotonicity properties of the map $\lambda(a)$, i.e. the wave length as a function of the wave height. We obtain the explicit bifurcation values, in terms of the parameters associated with the equation, which distinguish between the two possible qualitative behaviours of $\lambda(a)$, namely monotonicity and unimodality. The key point is to relate $\lambda(a)$ to the period function of a planar differential system with a quadratic-like first integral, and to apply a criterion which bounds the number of critical periods for this type of systems.

**Dienstag, 21. Juni 2016, 15:00 Uhr, Raum c311
Hauptgebäude der Universität**

Über Ihren Besuch würden sich freuen:

Prof. Dr. Wolfram Bauer
Prof. Dr. Joachim Escher
Prof. Dr. Olaf Lechtenfeld
Prof. Dr. Elmar Schrohe
Prof. Dr. Christoph Walker