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 peroperties of the map λ(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 λ(a), namely monotonicity and unimodality. The key point is to relate λ(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