



Institut für
Angewandte Mathematik



Leibniz
Universität
Hannover

Institut für Angewandte Mathematik
23.10.2017

Oberseminar Analysis und Theoretische Physik

**Prof. Dr. Agnieszka Świerczewska-Gwiazda
(Universität Warschau)**

On weak solutions to general hyperbolic systems and energy/entropy conservation

A common feature of systems of conservation laws of continuum physics is that they are endowed with natural companion laws which are in such case most often related to the second law of thermodynamics. They are endowed with nontrivial companion conservation laws, which are immediately satisfied by classical solutions. Not surprisingly, weak solutions may fail to satisfy companion laws, which are then often relaxed from equality to inequality and overtake a role of a physical admissibility condition for weak solutions. We want to discuss what is a critical regularity of weak solutions to a general system of conservation laws to satisfy an associated companion law as an equality. An archetypal example of such result was derived for the incompressible Euler system by Constantin et al. ([1]) in the context of the seminal Onsager's conjecture.

[1] P. Constantin, W. E, and E. S. Titi. Onsager's conjecture on the energy conservation for solutions of Euler's equation. *Comm. Math. Phys.*, 1994.

**Dienstag, 14. November 2017, 16:15 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
Prof. Dr. E. Wiedemann