Universität Konstanz

Fachbereich Mathematik und Statistik

Prof. Dr. H. Freistühler

Im

Oberseminar Analysis / Mathematik in den Naturwissenschaften

gibt es am

Mittwoch, dem 8. März 2017,

einen Vortrag von Herrn

Dr. Naofumi Mori

(Kyushu University, Fukuoka)

"L^p-L^q-L^r estimates and minimal decay regularity for compressible Euler-Maxwell equations'

Beginn: **10:00 Uhr**
Raum: **F426**
Interessenten sind herzlich willkommen!

H. Freistühler

Abstract: Due to the dissipative structure of regularity-loss, extra higher regularity than that for the global-in-time existence is usually imposed to obtain the optimal decay rates of classical solutions to dissipative systems. The aim of this talk is to seek the lowest regularity index for the optimal decay rate of $L^1(\mathbb{R}^n)$-$L^2(\mathbb{R}^n)$. Consequently, a notion of minimal decay regularity for dissipative systems of regularity-loss is firstly proposed. To do this, we develop a new time-decay estimate of $L^p(\mathbb{R}^n)$-$L^q(\mathbb{R}^n)$-$L^r(\mathbb{R}^n)$ type by using the low-frequency and high-frequency analysis in Fourier spaces. As an application, for compressible Euler-Maxwell equations with the weaker dissipative mechanism, it is shown that the minimal decay regularity coincides with the critical regularity for global classical solutions. This talk is based on a joint work with Prof. Shuichi Kawashima of Kyushu University and Prof. Jiang Xu of Nanjing University of Aeronautics and Astronautics.
