



EINLADUNG

im Rahmen des Seminars für Mathematische Physik

zum Vortrag

von

René Meyer

Universität Würzburg

über

***„Electron Hydrodynamics & Black Holes
in Anti de Sitter Space-time“***

Abstract:

In this talk I will first introduce the general notion of hydrodynamics as an effective theory and the approximation involved, as well as given an overview over the emerging topic of electron hydrodynamics in condensed matter systems. I will then review the relation between hydrodynamics and black hole physics within the context of the AdS/CFT correspondence, and here in particular how the AdS/CFT correspondence predicts the hydrodynamic transport properties of certain strongly coupled states of matter. Finally, I will present results of a phenomenological study of strongly coupled fluids in channel geometries motivated by the AdS/CFT correspondence. I will also discuss the effect of Hall viscosity on these channel flows, as well as characteristics of strongly correlated materials necessary in order to show strong Coulomb interactions.

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gez.: S. Fredenhagen, D. Grumiller, D. Erking, R. Wutte