KIDS TALK

"Towards a Hamiltonian Description of Thermodynamic Phenomena"

Speaker: Eike Thesing, AG Anglin

Abstract:

Thermodynamics, today, has found its place in nearly every scientific field from physics and chemistry to biology and engineering. The modern understanding of thermodynamic processes is based on statistical methods of ensembles and mixed state dynamics. Successful as this approach may be, it is fundamentally contrary to the Hamiltonian formulation of classical and quantum mechanics, which deterministically links initial and final states "one to one".
In my talk I will outline the conceptual differences between these two competing concepts and the implications arising for our goal of understanding the dynamics of thermodynamic processes. I will then introduce a new approach which does not try to reduce the dynamics of complex thermodynamic systems to Hamiltonian mechanics in a top down fashion but attemps to discover thermodynamic features bottom up in simple, few degree of freedom models for which a Hamiltonian description is tangible.

When: Friday, July 8th 2016, **10:00 am**

Where: Room 46-387/388

All undergraduate and graduate students as well as postdocs are welcome and encouraged to join our discussion!

********** COFFEE AND COOKIES WILL BE SERVED **********

For questions, comments or suggestions: othomas@physik.uni-kl.de

MATERIALS IN SCIENCE MAINZ

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