

PHYSICAL COLLOQUIUM
INVITATION

Monday, 23.05.2016, 4.15 p.m., W2-1-148

speaks

Dr. Bernd Gotsmann

IBM Research

Zürich, Switzerland

about

Nanoscale heat dissipation and thermometry

Self-heating and heat dissipation has a significant and mostly negative influence on the performance of nanoscale devices. Thermal conductance is reduced in nanostructures and interfaces gain importance. It is an issue in the fields of industrial nanoelectronics for logic and sensors, as well as for applications in energy conversion. At the same time, nanoscale thermal is a challenge for both theorists and experimentalists. The presentation will introduce some of the most relevant concepts and open scientific questions associated with the measurement of thermal transport on the nanoscale. Examples on experimental approaches will be given based on the work at IBM Research – Zurich. For example, we will discuss why the modeling of phonon transmission through molecules is a challenging problem in materials science. Furthermore, insight into one of the most sensitive scanning probe thermometry measurements of self-heated semiconductors will be given.

All interested persons are cordially invited.

Sgd. Apl. Prof. Achim Kittel