Technische Universität
Berlin

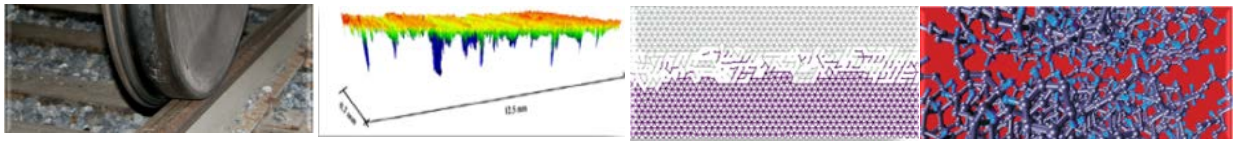
Institute of Strength Physics
and Materials Science
Russian Academy of Sciences

German-Russian Workshop

Friction: From elementary mechanisms to macroscopic behavior

Technische Universität Berlin

October 16-17, 2012



"Now that Higgs' boson has been discovered, that leaves friction as the last great mystery..." (from personal correspondence)

Organizers

Prof. Dr. Valentin Popov and Prof. Dr. Sergey Psakhie

Objectives

In the last decade, there have been many attempts to "fill in the gap" between macro- and nano-tribology. An honest estimation of the success of the up-to-date attempts might be very moderate.

The aim of the workshop is to bring together specialists both in nano- and macro-tribology as well as multi-scale simulation methods and to discuss possibilities of integrating the information obtained on different scales into one system. More generally, it deals with the development of information technology, which allows for the generalization and recomposition of particular models on individual scales of observation. In particular, the possibilities of formulating new, more elaborate friction concepts better than the Coulomb friction "law" will be discussed.

Topics

- Atomic friction and wear
- Mixed lubrication and boundary lubrication
- Contact mechanics with adhesion
- Molecular dynamics
- Contact mechanics of real surfaces with measured topography
- Numerical methods for calculating contact properties
- Method of reduction of dimensionality
- Generalized laws of friction
- Further related topics

Call for papers

If you are interested in the participation, please submit an abstract in English not later than September 15, 2012 (preferably by e-mail).

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