TECHNISCHE UNIVERSITÄT WIEN

INSTITUT FÜR ANGEWANDTE PHYSIK
Institute of Applied Physics
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Institut für Allgemeine Physik

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IAP-SEMINAR

ANNOUNCEMENT

Date: **Tuesday, 24.5.2016**
Time: **16:00 p.m.**
Location: **Technische Universität Wien, Institut für Angewandte Physik, E134**
yellow tower „B“, 5th floor, Sem.R. DB gelb 05 B (room number DB05L03), 1040 Wien, Wiedner Hauptstraße 8-10

Lecturer: **Dipl.-Ing. Elisabeth Gruber**
TU Wien, IAP
Subject: **Interaction of slow highly charged ions with single layer graphene**
Abstract: The unique properties of single layer graphene (SLG) can be modified by inducing defects in the honeycomb lattice, either by collisions with energetic particles or by applying external fields. We maximize the latter effect locally by investigating the electronic response of SLG to an extremely large external field, the Coulomb field of an approaching slow highly charged ion (HCI) with charge states up to q=35. Charge exchange and energy loss of the HCI after transmission through freestanding SLG are measured and extremely short charge-equilibration times are found. Additionally, the energy loss of highly charged projectiles is strongly enhanced and increases quadratically with the incident projectile charge state.

Lecturer: **Dipl.-Ing. Bernhard M. Berger**
TU Wien, IAP
Subject: **Erosion of fusion-relevant wall materials under ion bombardment**
Abstract: “ITER” - currently under construction in Cadarache/France - will not only be the world’s largest thermonuclear fusion experiment but also the first to produce net energy from fusion. However, to pave the way for a future commercial fusion power plant it is also necessary to have wall components that can withstand the high heat flux and energetic particle bombardment. Within the work program of EUROfusion our group therefore studies the erosion of fusion relevant surfaces under ion impact using a quartz crystal microbalance technique developed at IAP. These studies allow insight into the dynamics of material mixing, erosion phenomena and particle retention processes.

All interested colleagues are welcome to this seminar lecture
(20 minutes per presentation followed by discussion).

F. Aumayr e.h.
(Seminar-Chairperson)

H. Störi e.h.
(LVA-Leiter)