

**FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING**

**PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING**

MLL-KOLLOQUIUM

Donnerstag, 16.05.2013, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

**Prof. Eckart Grosse
(TU Dresden)**

Waste Transmutation needs new Nuclear Physics Data for Photons and Neutrons

The world-wide discussion about the possibilities to transmute the waste from nuclear power stations has been on the increase in recent years. The main interest is on the reduction of the radiotoxicity from actinide nuclei produced in thermal neutron capture by ^{238}U . This cross section decreases with neutron energy, whereas fission increases - and fission products are much less persistent in their radiation hazard. Experiments with fast neutrons and actinide targets are rather difficult, such that the challenge arises to improve the reliability of model predictions. Surprisingly the respective codes lack ingredients of nuclear theory, the importance of which has been worked out e.g. by spectroscopic studies. This will be exemplified using the breaking of shape symmetries.

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