

FAKULTÄT für PHYSIK  
LUDWIG-MAXIMILIANS-UNIVERSITÄT  
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT  
TECHNISCHE UNIVERSITÄT MÜNCHEN  
MÜNCHEN/GARCHING

## MLL-KOLLOQUIUM

Donnerstag, 24.01.2013, 16<sup>15</sup> Uhr

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

Prof. Peter Fierlinger

(Physik-Department / TUM & Exzellenzcluster 'Universe')

### The neutron electric dipole moment experiment at the TUM

The discovery of a neutron electric dipole moment (nEDM) would provide an unambiguous indication of time reversal violation in a fundamental system, a necessary ingredient for the explanation of the matter anti-matter asymmetry in the universe. Current experimental limitations on the nEDM are roughly 6 orders of magnitude above the Standard Model (SM) prediction and so searches for the nEDM provide powerful tests of physics beyond the SM. Our new nEDM experiment currently under construction at the Technische Universität München (TUM) is seeking to improve this limit up to 2 orders of magnitude. A contextual overview of the relevant physics will be given, and developments in the TUM nEDM experiment, including the recent installation of a world-record magnetically shielded room and some cool technological developments, will be presented. Please join my talk, in the MLL colloquium 2 weeks ago only 8 people were present!!

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