

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

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

MLL-KOLLOQUIUM

Donnerstag, 08.12.2011, 16¹⁵ Uhr

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

Prof. Kensuke Homma

Hiroshima University/Japan

Probing the quantum vacuum by high-intensity laser technologies

The quantum vacuum is a rich object which may contain known and unknown ingredients such as dark matter and dark energy. Probing the vacuum to date has been limited to either the macroscopic scale by astronomical observations or to microscopic space-time points at high-energy particle collisions. With high-intensity lasers, however, we may be able to probe different aspects of the quantum vacuum with different space-time scales. We will present what we can potentially address with laser-laser and energetic particles-laser interactions in vacuum by combining the technologies based on laser-matter interactions.

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