

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

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

MLL-KOLLOQUIUM

Donnerstag, 22.11.2012, 16¹⁵ Uhr

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

Dr. Jan Friedrich

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Measurement of the Pion Polarisability at COMPASS, and more about the Pion's Chiral Dynamics

The polarisability of a compound object tells us something about the inner binding - in case of the pion, its QCD structure allows only for a tiny deformation under electromagnetic forces. This has been systematically understood in terms of chiral perturbation theory, but has been for several decades in significant tension with the available experimental determinations. The COMPASS experiment at CERN has recently completed an analysis for a measurement, where the scattering of high-energetic pions in the Coulomb field of nuclei is identified and can be interpreted as Pion-Photon induced reactions. The extracted value for the pion polarisability indicates the solution of a 30 years old riddle in particle physics.

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