



PHYSIKALISCHES KOLLOQUIUM

Referent: **Prof. Dr. Klaus Blaum**
Max-Planck-Institute for Nuclear Physics, Heidelberg



Thema: **Precision Experiments with Stored and Cooled Ions**

Zeit und Ort: Dienstag, 19.6.2018, 16:40 Uhr
Recknagel-Bau, Hörsaal REC/C213, Haeckelstr. 3

Leiter: Prof. Dr. Kai Zuber

Kurzfassung: An overview is given on recent measurements with extreme precision on single or few cooled ions stored in Penning traps. On the one hand, mass measurements provide crucial information for atomic, nuclear and neutrino physics as well as for testing fundamental symmetries. On the other hand, g-factor measurements of the bound electron in highly-charged hydrogen-like ions allow for the determination of fundamental constants and for constraining Quantum Electrodynamics. For example, the most stringent test of CPT symmetry in the baryonic sector could be performed by mass comparison of the antiproton with H⁻ and the knowledge of the electron atomic mass could be improved by a factor of 13.

Biographie: Klaus Blaum received his PhD in 2000 at the University of Mainz. After a four-years stay at CERN he moved back to Mainz to lead a Helmholtz-Young-Investigator Group. In 2007 he became director at the Max-Planck-Institute for Nuclear Physics, Heidelberg heading the Division on "Precision Experiments with Stored and Cooled Ions". He is a member of the Physics Faculty of the University of Heidelberg.

