

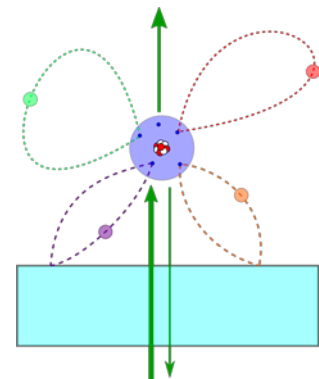
20<sup>th</sup> January 2022, 3:00 pm

Chris Boldt

Quantum Optics of Macroscopic Systems

## Casimir-Polder Interaction in Selective Reflection on Caesium Vapour-Cells

Quantum Electrodynamics (QED) is one of the most precise and successful physical theories to date. The fundamental discovery leading to QED was the Lamb shift, energy levels of hydrogen deviating from the Dirac theory. The cause of the level shifts is the interaction of the hydrogen atoms electron with the vacuum fluctuations of the electromagnetic field. A generalization of the Lamb shift lies in dispersion forces, arising from interactions between different microscopic and macroscopic objects, mediated by the vacuum electromagnetic field. In this talk a brief overview over the theory of dispersion forces will be given, focusing on the Casimir-Polder interaction between caesium atoms and the surface of a hot-vapour cell in selective reflection experiments.



*Atom in selective-reflection at a surface*

Talk: English

Slides: English

**Location:** Great Lecture Hall, HS1, Institute for Physics, Albert-Einstein Str. 24

Hybrid-Meeting: <https://uni-rostock-de.zoom.us/j/67191822515?pwd=UTVJSXVPaDVLV0ZSZW9LR3NRVWF2UT09>