

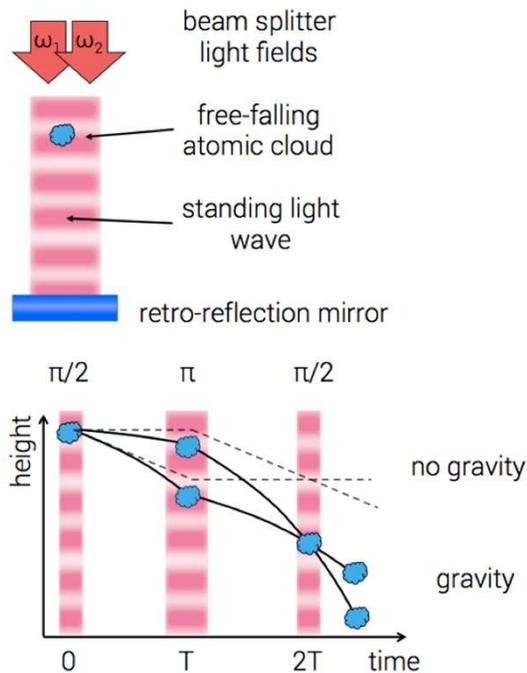
Open Seminar Series

Geoscience & Remote Sensing

Gravity sensing with atom interferometry

Prof. Dr.-Ing. Jakob Flury, Professor for Precision Geodesy on Earth and in Space, Institut für Erdmessung (IfE, Institute of Geodesy) and Centre for Quantum Engineering and Space-Time Research (QUEST), Leibniz Universität Hannover

February 5, 2015, 12.40 – 13.30, room 2.98



Atom interferometry means to observe the phase of matter waves using the coherent interaction of cold atoms with laser light. The principle allows for the determination of absolute gravity, inertial accelerations, and rotation. It is also used in many experiments on fundamental physics, including tests of the weak equivalence principle and the fine structure constant, and it is even being discussed to use it for the detection of gravitational waves. The talk will discuss the measurement principle and the state of the art in the development of atomic gravity sensors, including compact gravimeters for field use and large-scale experiments for very high accuracies, as well as related experiments in microgravity.