ILP INSTITUT FÜR LASERPHYSIK

ZOQ Zentrum für Optische Quantentechnologien

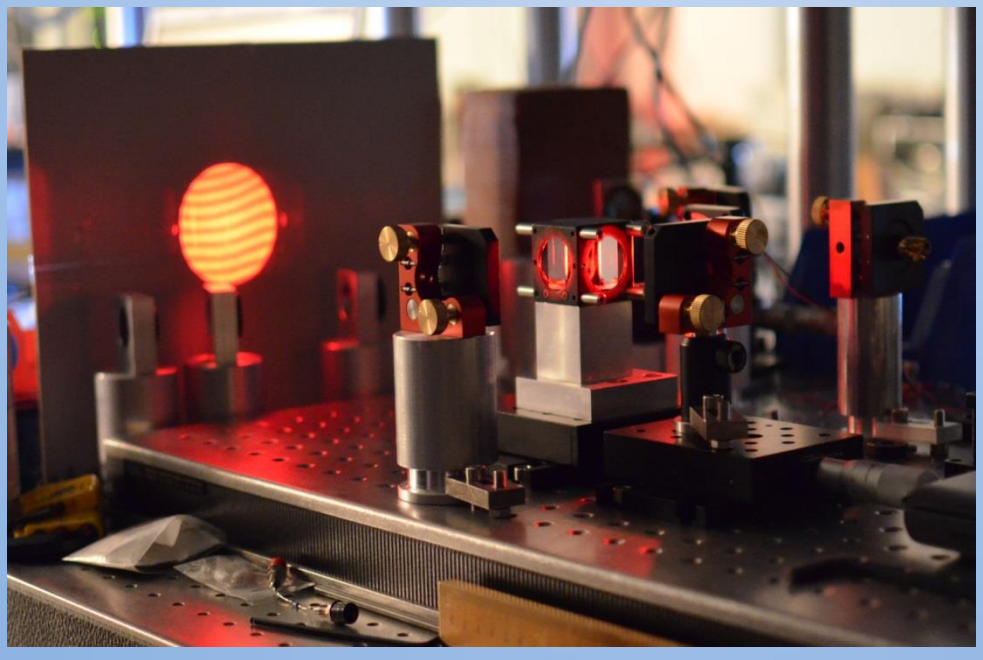
Quantum Gases and Spectroscopy Group
Prof. Dr. Klaus Sengstock

Bachelor Project

Length measurements on the nanometer scale: Interferometric methods for the characterisation of optics

Interferometer play a prominent role in metrology and spectroscopy. By using the interference of light waves, surfaces can be measured with the precision of a fraction of a wavelength.

In this Bachelor project, we want to build a Twyman-Green interferometer in order to characterize optical components of our quantum gas experiments with a precision of 50 nm. For this we will utilize a laser of short coherence length, such that reflections from other surfaces will not lead to interference. Deformations of the surface to be measured will show as a twist of the interference fringes on the camera.



Interested?

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