

Abstract Submitted
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Atom interferometry on ground and in space NACEUR GAALOUL, ERNST M. RASEL, Leibniz Universitaet Hannover, QUANTUS COLLABORATION — We give a brief survey on our latest activities in atom interferometry. This included the first quantum test of the principle of equivalence with two different species, namely potassium and rubidium. We have also shown that interferometers equipped with atom-chip based sources allow to realise compact quantum gravimeters for ground based measurements. These devices allow to achieve a high flux of ultra-cold atoms, extremely low expansion rates of these wave packets and make it possible to realise new interferometers. Last but not least, in 2014, we currently work on testing these devices in the catapult and on a sounding rocket mission to extend atom interferometry to unprecedented time scales.

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Ernst M. Rasel
Leibniz Universitaet Hannover

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