

Testing gravity with atom interferometry

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I will discuss experiments we are conducting using cold atom interferometry for precision tests of gravitational physics. In particular, I will report on the ongoing experiment to measure the gravitational constant G with a Rb Raman interferometer [1], and the one based on Bloch oscillations of Sr atoms confined in an optical lattice for precision gravity measurements [2]. I will also update on the development of compact interferometers for applications on Earth [3] and in space [4]. Finally, I will discuss ideas for future ambitious experiments based on atom interferometry such as detecting gravitational waves [5] and testing quantum gravity models [6].

References

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