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Towards an atomic gravimeter with the accuracy of below 10 nm/s2; overcoming the current uncertainty of KRISS-AGRb-1

We report the uncertainty evaluation of the atomic gravimeter KRISS-AGRb-1 developed at KRISS with the total uncertainty of below 30 nm/sˆ2 which is mainly limited by a wavefront distortion, and we present the way to overcome the uncertainty limited by the wavefront distortion and reach the accuracy of below 10 nm/sˆ2, by combining adjusting beam size of a detection laser and compensating the bias by the direct measurement of the wavefront distortions induced by all optical elements

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