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## A transportable absolute Quantum Gravimeter employing collimated Bose-Einstein condensates

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The transportable Quantum Gravimeter QG-1 will perform absolute measurements of local gravitational acceleration with an unrivalled uncertainty below  $3 \text{ nm/s}^2$  by utilising collimated Bose-Einstein-Condensates for atom interferometry in a compact setup. To permit this performance, leading order error sources of today's cold atom gravimeters, predominantly stemming from the horizontal velocity of the interrogated atoms, will be minimised by this novel approach.

This contribution elaborates on the design and implementation of the interferometry setup into the atom chip based experimental system. We discuss their impact on the targeted uncertainty of  $3 \text{ nm/s}^2$  and present recent developments for further miniaturisation and further reduction of next-generation instrument's complexities.

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