

## Self-calibrated atom interferometry for absolute rotation measurement

*Wednesday, 14 June 2023 15:40 (30 minutes)*

In this talk, I will discuss our recent progress in the absolute rotation measurement with an atom interferometer gyroscope. The high-precision gyroscope was developed by precisely aligning the orientation of three pairs of Raman beams thus to construct a large-area interference loop area. The scale factor of the atom-interferometer gyroscope is calibrated by precisely measuring the atomic velocity. In our experiments, the stability of atomic velocity was measured, and the dominant errors were evaluated. By modulating the atomic velocity, we demonstrate a self-calibrated method to extract the absolute phase shift caused by an arbitrary rotation in a large dynamic range.

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