Abstract Submitted
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Large momentum transfer atom interferometry with Coriolis force compensation PEI-CHEN KUAN, SHAU-YU LAN, BRIAN ESTEY, University of California, Berkeley, PHILIPP HASLINGER, University of Vienna, HOLGER MUELLER, University of California, Berkeley — Light-pulse atom interferometers use atom-photon interactions to coherently split, guide, and recombine freely falling matter-waves. Because of Earth's rotation, however, the matter-waves do not recombine precisely, which causes severe loss of contrast in large space-time atom interferometers. I will present our recent progress in using a tip-tilt mirror to remove the influence of the Coriolis force from Earth's rotation. Therefore, we improve the contrast and suppress systematic effects, also reach what is to our knowledge the largest spacetime area.

Pei-Chen Kuan
University of California, Berkeley

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