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【542】 Atom Interferometry: Gravity, Blackbody Radiation and Dark Energy

Friday 30 August 2019 11:45 (30 minutes)

Atom interferometry has proven within the last decades its surprising versatility to sense with high precision tiniest forces. In this talk I will give an overview of our recent work using an optical cavity enhanced atom interferometer to sense with gravitational strength for fifth forces [1] and for an on the first-place counter-intuitive force due to blackbody radiation[2,3].

[1] M. Jaffe et al., Testing sub-gravitational forces on atoms from a miniature, in-vacuum source mass, Nat. Phys. 13 (2017) 938-942.

[2] P. Haslinger et al., Attractive Force on Atoms due to Blackbody Radiation, Nat. Phys. 14 (2018) 257–260.

[3] M. Sonnleitner et al., Attractive Optical Forces from Blackbody Radiation, PRL 111 (2013) 023601.

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