

Probing ultralight dark matter with cold atoms

Wednesday, November 9, 2022 10:00 AM (30 minutes)

After broad introduction on ultralight DM, I will briefly discussed issues associated on quality problem and the interplay between equivalence principle tests of ultralight DM and direct searches through the oscillation of energy levels, and then I'll demonstrate the potentially surprising result that oscillation of energy levels would provide us with possibly the best bound on QCD-axion models. It is basically going to be based on my three recent papers: Phys.Rev.Lett. 129 (2022) 3, 031301 2201.02042 Phys.Rev.Lett. 129 (2022) 3, 031302 2111.06883 and 2205.12988 and 2 new upcoming publications.

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