

Storage ring axion-EDM experiment using an RF Wien Filter

Wednesday, 27 October 2021 16:00 (1 hour)

A hypothetical particle axion, or axion-like particles, may couple to nucleons to induce an oscillating electric dipole moment (EDM). We propose a novel method of probing the axion-induced oscillating EDM in storage rings, using an RF Wien Filter. The Wien Filter at the frequency of the sidebands of the axion and $g-2$ frequency generates a spin resonance, as confirmed both by an analytical estimation of the spin equations and independently by simulation. We briefly show the projected experimental sensitivity and systematic effects related to the field imperfection.

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