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## Axion Polarimetric Experiment (APE)

*Tuesday 23 September 2025 10:00 (6 minutes)*

Axion and axion-like particles are hypothesized to interact with photons, inducing a time-varying rotation in the polarization of linearly polarized laser light. This work presents a highly sensitive apparatus designed to detect this rotation. The setup employs a polarimetry configuration featuring two quarter-wave plates inside a Fabry-Pérot cavity, allowing us to investigate unexplored regions of the parameter space, the mass range of ( $< 10\text{--}12\text{ eV}$ ), and potentially detect a signal. A further increase in sensitivity can be achieved by using a longer cavity.

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