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Probing the Axion-Electron Coupling with Magnetized Multilayers

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In the presence of axion dark matter, electrons experience an “axion wind” spin torque and an “axioelectric” force, which give rise to magnetization and polarization currents in common ferrite materials. The radiation produced by these currents can be amplified in multilayer setups, which are potentially sensitive to the QCD axion without requiring a large external magnetic field.

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