

Axions, axion dark-matter, and high precision electric dipole moment experiments at CAPP

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We have just reached the two year anniversary of the establishment of the IBS center for Axion and Precision Physics at the KAIST campus in Korea. Our plan is to establish axion dark matter experiments that will have the sensitivity to answer whether axions are part of the dark matter in our galaxy. We are making advances in high Tc magnet technology, efficient resonator geometries, low noise microwave amplifiers, and in understanding of superconductivity-magnetic field interactions. If successful, we should be able to observe axions even if they are only 10% of the dark matter for a major part of the allowed axion mass in the microwave region. Developments in the storage ring electric dipole moment experiments should increase our sensitivity to θ_{QCD} and New Physics by several orders of magnitude.

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