

Photon-Axion Conversion and Magnetic Field Configuration

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Cosmological magnetic field can induce conversion between photon and axion.
The origin of cosmological magnetic field is still outstanding problem,
and its actual configuration is not well known.
However, most previous studies on conversion have been carried out in one simple magnetic configuration.
In this talk, I will discuss photon-axion conversion process in another magnetic configuration,
assuming that its origin is primordial.
In particular, we investigate the evolution of photon polarization during conversion process
and show similarities and differences between different magnetic configurations.

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