

The generation of B-mode and circular polarization of cosmic photons due to NonCommutative space-Time background

Thursday 5 July 2018 15:30 (15 minutes)

In standard model of cosmology, B-mode polarization of the CMB can be generated due to the tensor perturbation of metric which is related to gravitational effects in the inflation epoch and scalar perturbation can not explain B-mode polarization. We consider Compton scattering in non-commutative framework and show that Compton scattering in presence of non-commutative background and scalar mode of perturbation, beside generating a circularly polarized microwave, can leads to a B-mode polarization of the Cosmic Microwave Background.

Primary author: Dr TIZCHANG, Seddigheh (Institute for Research in Fundamental Sciences (IPM))

Co-authors: Dr BATEBI, Saghar; Prof. HAGHIGHAT, Mansour (Shiraz University); Dr MOHAMMADI, Rhoollah (Iran Science and Technology Museum (IRSTM))

Presenter: Dr TIZCHANG, Seddigheh (Institute for Research in Fundamental Sciences (IPM))

Session Classification: Astro-particle Physics and Cosmology

Track Classification: Astro-particle Physics and Cosmology