

Abstract Submitted  
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**Rotation of the polarization vector from distant radio galaxies in the perturbed FRW metric** SANKHA SUBHRA CHAKRABARTY, Univ of Florida - Gainesville — Analysis of the correlation between the angular positions of distant radio galaxies on the sky and the orientations of their polarization vectors with respect to their major axes indicates a dipolar anisotropy in the large scale. We consider a single mode of large-scale scalar perturbation to the FRW metric. Using Newman-Penrose formalism, we calculate the rotation of the galaxy major axis with respect to the polarization vector as the elliptic image and the polarization vector are carried through the perturbed spacetime. The dependence of the rotation on the polar angular coordinate of the galaxy is qualitatively similar to the claimed dipole pattern.

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