Abstract

In this talk, First I will review the paper by Kanno et. al about an inflationary scenario with a vector field which is coupled with an inflaton field in the background level.Then I will go to the perturbation level which recently computed by Himmetoglu et.al and by Kanno et.al.Starting from a suitable gauge I reveal the structure of the coupling between curvature perturbations, vector waves, and gravitational waves. I identify two sources of anisotropy, i.e. the anisotropy due to the anisotropic expansion of the universe and that due to the anisotropic couplings among the variables. It turns out that the latter effect is dominant.Finally I find the cross correlation between the curvature perturbations and gravitational waves which never occurs in conventional inflation.