

Abstract

In this paper, we study the generation of a large scale magnetic field with amplitude of order μG in an inflationary model which has been introduced in hep/th 0310221. This inflationary model based on existence of a speed limit for inflaton field. Generating a mass for inflaton at scale above the ϕ_{IR} , breaks the conformal triviality of the Maxwell equation and causes to originate a magnetic field during the inflation. The amplitude strongly depends on the details of reheating stage and also depends on the e-foldings parameter N . We find the amplitude of the primordial magnetic field at decoupling time in this inflationary background using late time behavior of the theory.