Soviet Physics Journal 1990 vol.33 N5, pages 412-415

Transport coefficients and equations of hydrodynamics for the radiation-dominated cosmological plasma

Zakharov A., Malanichev I.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Using relativistic kinetic theory, the hydrodynamics equations are obtained for a mixture of electrons, protons, and photons, which interact by Compton scattering and Coulomb collisions. We assume that the electrons and protons are nonrelativistic, and their concentrations are much lower than that of the photons. The obtained equations are applicable for a description of cosmological plasma in the temperature range of $4 \cdot 10^3$ K < T ≪ $6 \cdot 10^9$ K. © 1990 Plenum Publishing Corporation.

http://dx.doi.org/10.1007/BF00896079