ABSTRACT

In this thesis the propagation of solitons is investigated in non-Maxwellian Plasma with two-Temperature Electrons. The non-Maxwellian nature of plasma is depicted using q-nonextensive distribution for electrons. Furthermore, we have considered two populations of electrons, one of the population is low-temperature electrons and other population consists of high-temperature electrons whose source might be external to the ambient plasma originally present but due to their interaction with the ambient plasma they are now a part of it. Our model consists of usual fluid equations. WE have employed reductive perturbation method to obtain an m-KdV equation for the propagation of solitons. The solution of the modified KdV equation is obtained by using Sagdeev potential. The results are plotted and discussed to show how the changes in parameters affect the soliton profile.