Simulation of magnetic flux ropes observed near Venus and Mars

Hironori Shimazu[1]; Motohiko Tanaka[2]

[1] NICT; [2] NIFS

http://www.nict.go.jp/

In this study, we use plasma particle code to perform computer simulations of a small flux rope. We assume that electrons carry all the initial electric current to maintain the magnetic flux rope structure. The results show that electrons are heated and scattered out of the flux rope because of electron-ion two-stream instability. The density in the flux rope varies in time.