Geophysical Research Abstracts
Vol. 18, EGU2016-15803-1, 2016
EGU General Assembly 2016

Fine structure of the shock front: Results from the Cluster close separation at the bow shock campaign

Michael Balikhin (1), Vladimir Krasnoselskikh (2), Yuri Khotyaintsev (3), and Simon Walker (1)
(1) University of Sheffield, United Kingdom, (2) LP2CE, CNRS, Orleans, France, (3) IRF, Uppsala, Sweden

To study the fine structure of the shock front, the Cluster team conducted a special bow shock campaign during which the closest separation between a spacecraft pair was less than 10 km. This small separation between two Cluster spacecraft enabled direct observations of shock front nonstationarity process. The data presented show evidence in favor of the front nonstationarity model proposed by Krasnoselskikh (1985).
Spatial scales of substructures assume short spatial scale electric fields within the ramp that could lead to the nonadiabatic thermalization of electrons.