



An overview of the equilibrium and dynamics of Harris-type current sheets

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Harris-type current sheet with shear magnetic field may occur in various space and astrophysical plasma environments, such as at the boundary separating solar wind from planetary magnetospheres and on the Sun etc. Its equilibrium and dynamics has long been an important subject of space plasma physics. In this talk an overview is presented of the new results in the study of various aspects of Harris type current sheet based on magnetohydrodynamic (MHD) and kinetic theories. The effects of non-thermal distribution which is an intrinsic property of solar system plasma on the problems are examined and the dynamics of Harris type current sheet in terms of MHD wave propagation and magnetic field reconnection is addressed.