

R008-14

C会場 : 9/25 PM2 (15:45-18:15)

17:15~17:30

テアリング不安定性の磁気流体線形理論から見た高速磁気再結合過程のトリガ問題

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## Triggering problem of fast magnetic reconnection process in MHD linear theory of tearing instability

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Recently, a new MHD linear theory of tearing instability in 1D current sheet was proposed by largely improving the classical FKR theory (PhF11963) and modern LSC theory (PoP2007), which is called as modified LSC theory. According to the new theory, the critical condition of the instability depends on the resistivity, viscosity and upstream boundary condition. Simply, when the resistivity and viscosity are fixed in the plasma, the relation of the upstream boundary and the thickness of current sheet simply determines whether the instability starts on the linear growth stage or not. That will be significantly suggestive for the controversial triggering problem of the fast magnetic reconnection in solar flares and geomagnetic substorms, where 3D current sheet is destabilized by tearing instability.