



Resonant ion acceleration by dipolarization fronts in magnetotail.

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We consider the charged particle acceleration due to the resonant non-adiabatic interaction with dipolarization fronts originated from the magnetic reconnection in the magnetotail. We describe ion dynamics and acceleration in 3D magnetic field configuration including a dipolarization front. The resonant acceleration mechanisms can be considered as generalizations of the classical surfatron mechanism for the magnetotail system with curved magnetic field lines. We show that the resonant interaction can be responsible for ion acceleration up to 100-200 keV in the middle magnetotail. Comparison with spacecraft observations is discussed.