Electron acceleration behind the dipolarization fronts in the magnetotail

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We investigate the electron acceleration behind dipolarization fronts (DFs) in the magnetotail from -25 R_E to -10 R_E through the examination of the energetic electron energy flux (>30 keV) with the observations from THEMIS satellites. Statistical results of 133 DF events are presented based on the dataset from January to April of the years 2008 and 2009. As the DFs propagate earthward, the acceleration of energetic electrons behind the DFs is found to take place over several R_E along the tail. The increase in energetic electron energy flux can reach 2~4 orders of magnitude. The dominant acceleration mechanisms are different in the mid-tail ($X_{GSM} \leq$-15 R_E) and the near-Earth region (-15< $X_{GSM} \leq$-10 R_E). In the mid-tail, the majority of DF events show that the dominant electron acceleration mechanism is betatron acceleration. In the near-Earth region, betatron acceleration is dominant in ~46% DF events while Fermi acceleration is dominant in ~39% DF events.