



Ion temperature in pre- and post-dipolarization plasma sheets

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Using the ECLAT event list of magnetotail dipolarizations, limited to the cases that were presented in Schmid et al. [2011], we study the ion temperature and its anisotropy (i.e. T_{\perp}/T_{\parallel}) in the pre- and post-dipolarization plasma sheets in the Earth's magnetotail. Earlier studies have shown that in the quiescent magnetotail the ion temperature is isotropic, however, during fast flow times there is a strong anisotropy. Lately it has been shown, using THEMIS data, that this anisotropy in the magnetotail is structured in $(T_{\perp}/T_{\parallel}, \beta_{\parallel})$ -space, strongly bound by temperature anisotropy driven instability thresholds (mirror mode, ion cyclotron mode and fire hose instability), and that the ion temperature isotropizes as the flow moves Earthward [Wu et al., 2012, submitted to JGR]. In this study, superposed epoch analysis is performed on the events, where a split-up is made into local time sectors and on pre-dipolarization plasma sheet characteristics.