Statistical properties of ions in bursty bulk flows

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With the observations of THEMIS and MMS Mission, we have investigated the properties of ions in bursty bulk flows (BBFs). Based on analysis of 315 BBF events, we can obtain the statistical features of ions in the BBFs. The results can be summarized as follows: (1) the occurrence rate of BBFs is related with AE index, which is also confirmed by previous studies; (2) the ion number density in the duskside is nearly at the same level with that in the dawnside; (3) in the region -10R_E > X_{GSM} > -15R_E (where \( R_E \) is the earth radius), the ion temperature in the duskside is much higher than that in the dawnside; (4) the ion temperature anisotropy \( T_\perp/T_\parallel \) is weaker as BBFs close to the Earth; (5) corresponds to cold electrons (\( T_e < 1.5 \) keV), the ratio of the ion and electron temperature \( T_i/T_e \) can reach 10-15 and the temperature of ions and electrons have a linear correlation.