



Supplement of

Energetic electron enhancements under the radiation belt ($L < 1.2$) during a non-storm interval on 1 August 2008

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Caption of Figures S1 and S2

Figure S1. Comparison of magnetic activity measured by SuperMag at 1305, 1330, 1430, and 1540 UT on August 1 (left), August 2 (center) and August 3 (right), 2008. The SuperMag Auroral Electrojet indices (SME U/L) during these days from 12 to 20 UT are shown at the bottom. The day of August 2 is mostly quiet. We pointed out a systematic error originated from a single station (marked by red circle), which permanently showed a disturbance of ~ 100 nT during successive days. That station is T41 (Kiana) located at the low-latitude edge of the auroral oval ($\text{glon}=199.6^\circ$, $\text{glat}=67^\circ$, $\text{mlon}=-105.55^\circ$, $\text{mlat}=65.62^\circ$). When the station is at night side (as shown in Figure), it is easy to mistake the T41's signal for a substorm signature. Thus, Figure S1 demonstrates that the T41 magnetic data were erroneously represented. If T41 station is eliminated from the consideration then the most prominent magnetic activity during the interval 13 – 16 UT on August 1 occurs on the dayside. SuperMag data are provided at <http://supermag.jhuapl.edu>

Figure S2. SuperMag substorm-like event at 16 – 18 UT on 1 August 2008. The magnetic activity is mainly occurred on the dayside and, thus, it was related to compression of the dayside magnetosphere. The activity spread to the nightside through the dawn and dusk sectors. This dynamics does not definitely proper for substorm.

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Figure S1

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Figure S2

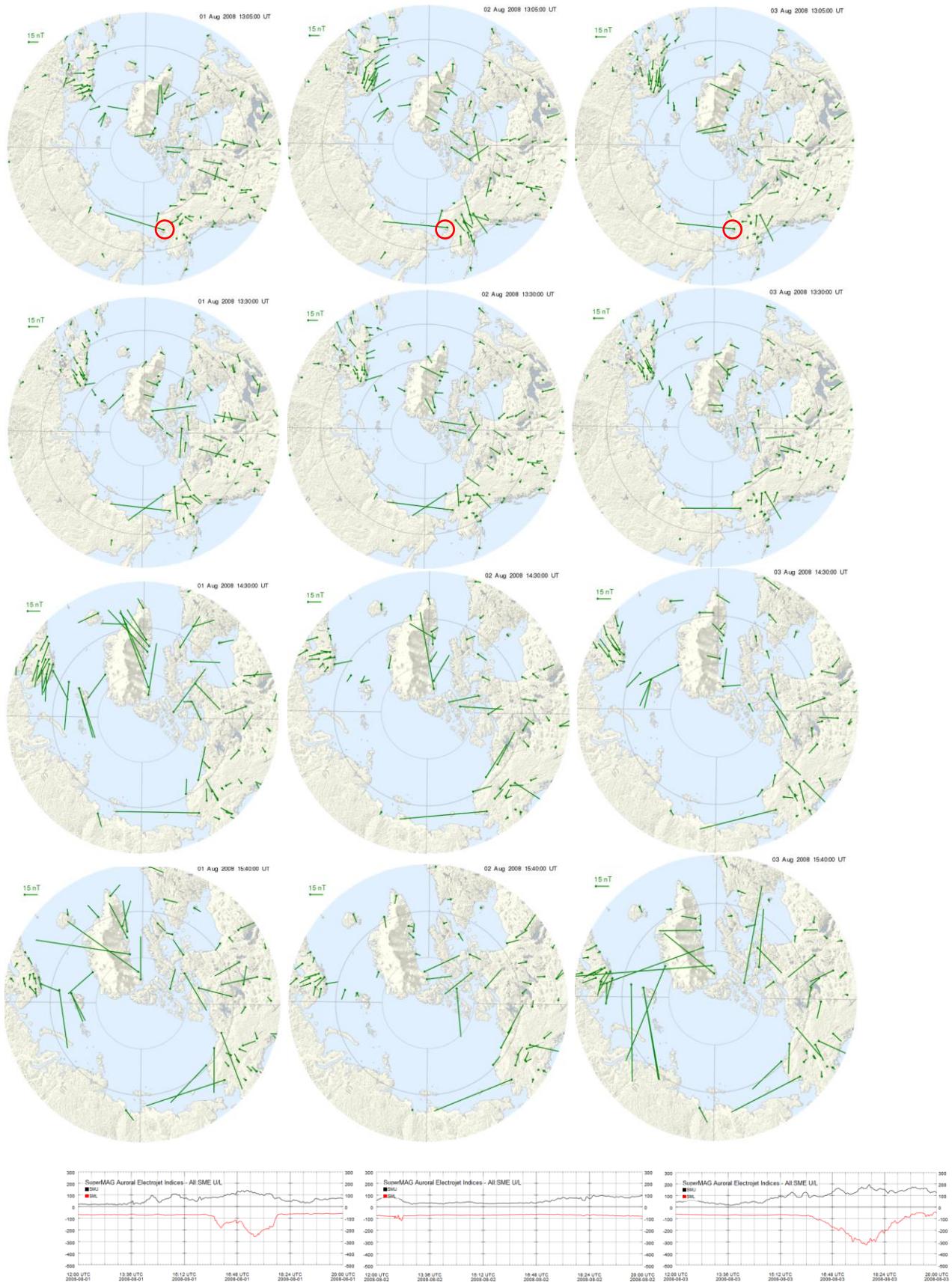


Figure S1.

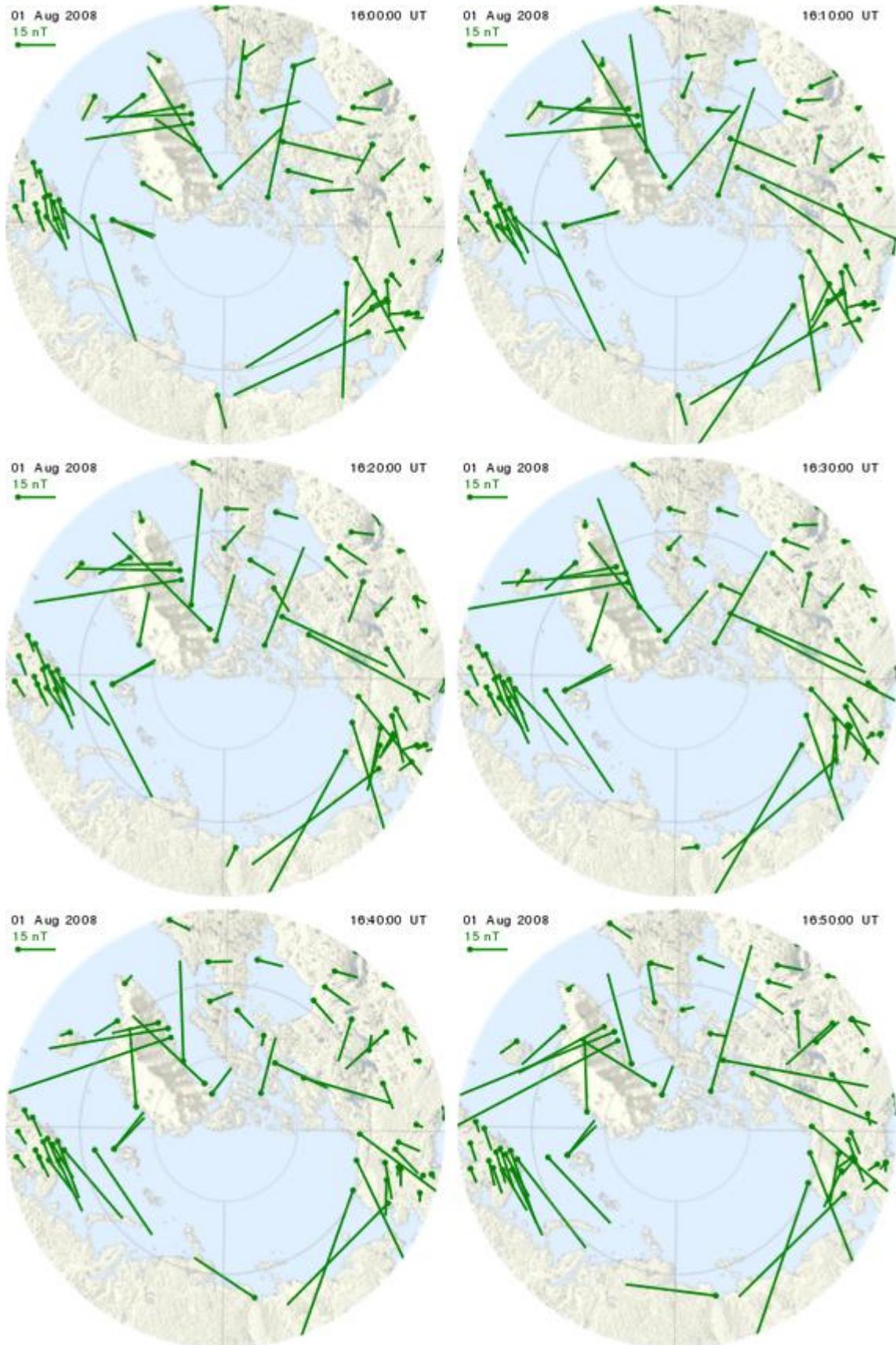


Figure S2. (continued)

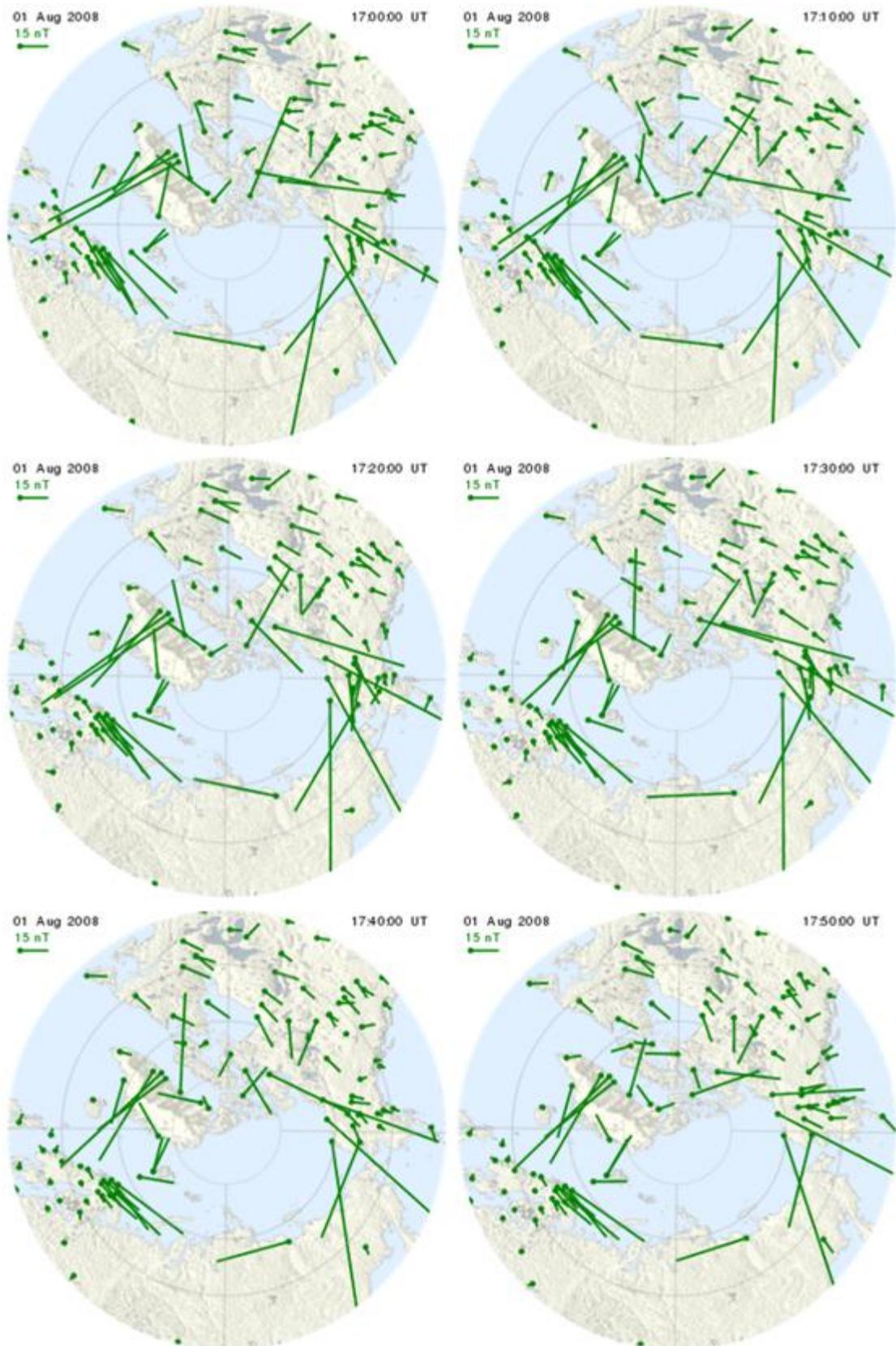


Figure S2.