JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 102, NO. A1, PAGES 211–212, JANUARY 1, 1997

Correction to "Multipoint analysis of a bursty bulk flow event on April 11, 1985" by V. Angelopoulos et al.

In the paper "Multipoint analysis of a bursty bulk flow event on April 11, 1985" by V. Angelopoulos, F. V. Coroniti, C. F. Kennel, M. G. Kivelson, R. J. Walker, C. T. Russell, R. L. McPherron, E. Sanchez, C.-I. Meng, W. Baumjohann, G. D. Reeves, R. D. Belian, N. Sato, E. Friis-Christensen, P. R. Sutcliffe, K. Yumoto, and T. Harris (*Journal of Geophysical Research*, *101*(A3), 4967–4989, 1996) an error in the computation of the energy flux density of the bursty bulk flow (BBF) event was inadvertently made. The error, which does not affect the major conclusions of the paper, crept in when software corrections were introduced to reflect the change in the ion temperature units from 10^6 K to keV in the isothermal remanent magnetization (IRM) tapes, as communicated to National Space Science Data Center (NSSDC) on October 18, 1991.

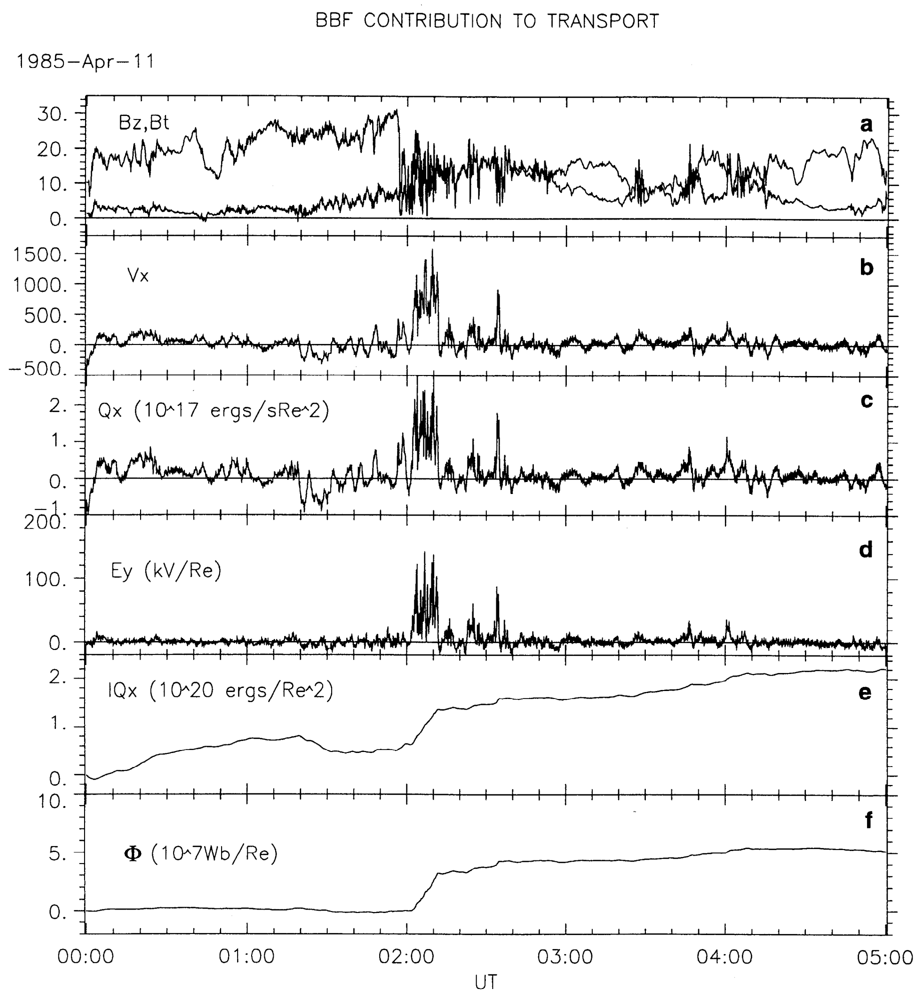

Figure 16. Transport measured past the AMPTE/IRM satellite. For reference, top panel shows the magnetic field total and Z-GSM components (nanoteslas), while the second panel shows the X-GSM component of the flow velocity (kilometers per second). The third panel shows the X-GSM component of the MHD energy flux density $\mathbf{Q} = \frac{1}{2}\rho V^2 \cdot \mathbf{V} + \frac{5}{2}(P_i + P_e) \cdot \mathbf{V} + [(c/4\pi)(\mathbf{E} \times \mathbf{B})]$, while the fourth panel shows the Y-GSM component of the MHD electric field $\mathbf{E} = -\mathbf{V} \times \mathbf{B}$. The above quantities represent the earthward transport rate of energy and northward directed magnetic flux per unit area in the Y-Z direction and length in the Y direction, respectively. Their cumulative integrals with respect to time are shown at the bottom two panels.

Paper number 96JA03217.
0148-0227/97/96JA-03217$09.00

Table 1. Bursty Bulk Flow Transport Versus Expected Transport During April 11, 1985, 0200 UT Substorm

Quantity	BBF	Substorm	BBF (per 2 × 5 R_E^2)/Substorm
Power (0200–0210 UT)	1.7 × 10^{17} ergs/sR_E^2	2.5 × 10^{18} ergs/s	70%
Energy	10^{20} ergs/R_E^2	2 × 10^{22} ergs	5%
Flux transport rate (0200–0210 UT)	67 kV/R_E	83 kV/R_E	100%
Magnetic flux	4 × 10^7 Wb/R_E	6 × 10^8 Wb	13%

BBF, bursty bulk flow.

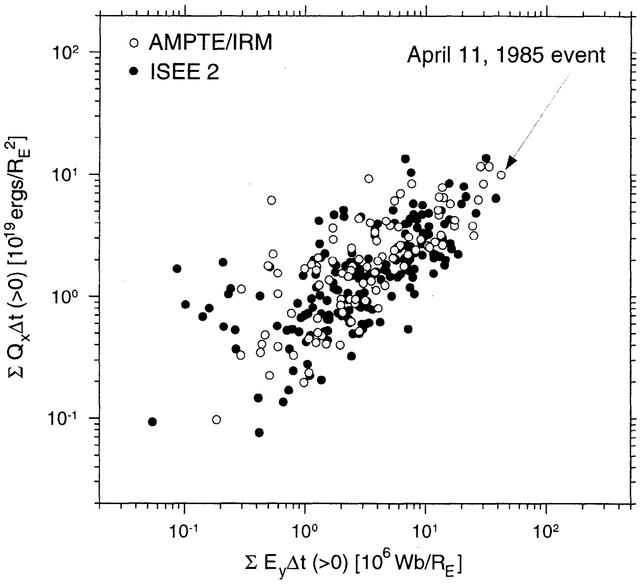

Figure C1. Cumulative energy flux density versus cumulative magnetic flux transport accomplished by all earthward BBFs in the AMPTE/IRM and ISEE 2 databases (modified from Figures 8 and 9 of V. Angelopoulos et al., *Journal of Geophysical Research*, *99*(A3), 21,257–21,280, 1994). The BBF event of April 11, 1985, is shown by the arrow.

The energy flux density in Figure 16 of the above paper was miscalculated by approximately a factor of 10. This software error is absent from all other papers published by the authors. In all other papers the correction of the temperature units in the NSSDC tapes was appropriately incorporated. This software error does not affect the magnetic flux transport computations. Figure 16 is reproduced corrected below. The correction results in a larger scale size for the BBF event in the Z direction, but not in the Y direction, since the Y direction scale size is independently estimated from the magnetic flux transport rate to be ~1–2 R_E. The BBF cross section in the Y-Z direction is estimated to be 10 R_E^2, while the estimate of the scale size in the Z direction becomes ~5–10 R_E. Table 1, of the above paper is also reproduced here, using the corrected values of the energy flux density and scale size. Finally, Figure C1 shows the relationship between this and all earthward BBFs in the IRM and ISEE 2 databases (V. Angelopoulos et al., *Journal of Geophysical Research*, *99*(A3), 21,257–21,280, 1994) is shown in order to illustrate that the correction brings the BBF event of April 11, 1985, closer to the ensemble of BBFs studied in other papers. The transport accomplished during this event is much larger than the median BBF transport for reasons explained in the paper.

(Received October 15, 1996.)