

Erratum to: The Electron Drift Instrument for MMS

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Section 3.3, Eq. (4): “ B ” should be in the denominator. Please find in this erratum the correct version of Eq. (4) in Sect. 3.3 that should be regarded by the reader as the final version.

3.3 Measurement of B

The gyro period can be obtained from the mean of two the travel times, one “toward” and one “away” from the target, as described above:

$$T_g = \frac{t_1 + t_2}{2} \quad (3)$$

From T_g the magnetic field strength, B , is obtained via

$$T_g = \frac{2\pi m\gamma}{eB} \quad (4)$$

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Values of T_g range from about 0.1 to 5 ms (see Table 2). The method is sensitive enough to require the relativistic γ correction even for a 500 eV electron. When times of flight are measured, the magnetic field strength is determined with very high accuracy, e.g., to within 0.1 % for a 30 nT field. This feature is used for an accurate in-flight determination of the fluxgate magnetometer offsets.