



# Erratum: “An MHD Simulation of Solar Active Region 11158 Driven with Time-dependent Electric Field Determined from HMI Vector Magnetic Field Measurement Data” (2018, ApJ, 855, 11)

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The last paragraph on the fifth page,

“To preserve the divergence-free condition, the temporal variation of the magnetic field at the height  $z = 1 \cdot \Delta z$  (next to the bottom boundary) are calculated by summing contributions from both the simulated MHD variables (that is,  $\mathbf{V}$  and  $\mathbf{B}$ ) and the driving electric field given at the height  $z = +(1/2)\Delta z$  (given in Equations (5) and (14)). The energy density,  $\mathcal{E}$ , is adjusted in accordance with the difference of the square of the magnetic field strength updated with and without the additional electric field vectors at  $z = +(1/2)\Delta z$ .”

should be read as,

“To preserve the divergence-free condition, the temporal variations of the magnetic field at the height  $z = 1 \cdot \Delta z$  (next to the bottom boundary) are calculated by using both the simulated MHD variables (that is,  $\mathbf{V}$  and  $\mathbf{B}$ ) and the driving electric field given at the height  $z = +(1/2)\Delta z$  (given in Equations (5) and (14)): for calculating  $\partial_t B_x$  and  $\partial_t B_y$ , the two horizontal components of the electric field at  $z = +(1/2)\Delta z$  are replaced with the given ones. for calculating  $\partial_t B_z$ , the two horizontal components of the electric field at  $z = 1 \cdot \Delta z$  are superimposed with half of the given electric field (in total,  $-\mathbf{V} \times \mathbf{B} + (1/2)(\mathbf{E}^{(1)} + \mathbf{E}^{(3)})$ ), as shown in Figure 3. The energy density,  $\mathcal{E}$ , is adjusted in accordance with the difference of the square of the magnetic field strength updated with and without these modifications.”

This correction does not affect the results presented in the paper because the simulations were conducted with the correct procedures.

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