Erratum to: Computational Modeling of Arc–Slag Interaction in DC Furnaces

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In the published version of the paper, Equations 1–5 (the governing equations of plasma arc formation and evolution) were reproduced with incorrect format and mathematical operators. The correct versions are shown below and should be substituted where appropriate.

$$\frac{\partial(\rho \mathbf{u})}{\partial t} + \nabla \cdot (\rho \mathbf{u} \mathbf{u}) + \nabla P = \nabla \cdot \boldsymbol{\tau}_{ij} - \gamma \nabla \cdot \left(\frac{\nabla \alpha}{|\nabla \alpha|} \right) \nabla \alpha + \mathbf{j} \times \nabla \times \mathbf{A} - \rho \mathbf{g} \quad (1)$$

$$\frac{\partial \rho}{\partial t} + \nabla \cdot (\rho \mathbf{u}) = 0 \quad (2)$$

$$\frac{\partial \alpha}{\partial t} + \nabla \cdot (\alpha \mathbf{u}) = 0 \quad (3)$$

$$\frac{\partial(\rho C_P T)}{\partial t} + \nabla \cdot (\rho C_P \mathbf{u} T) = \nabla \cdot \left(k \nabla T + \frac{5k_B \mathbf{j}}{2e} T \right) + \frac{\mathbf{j} \cdot \mathbf{j}}{\sigma} - Q_R \quad (4)$$

$$\mathbf{j} = -\sigma \left(\nabla \phi + \frac{\partial \mathbf{A}}{\partial t} - \mathbf{u} \times \nabla \times \mathbf{A} \right) \quad (5a)$$

$$\nabla \cdot \mathbf{j} = 0 \quad (5b)$$

$$\nabla^2 \mathbf{A} = -\mu_0 \mathbf{j} \quad (5c)$$