

Erratum: “Shear rheology of a dilute emulsion of ferrofluid droplets dispersed in a non-magnetizable carrier fluid under the influence of a uniform magnetic field” [J. Rheol. 65, 925 (2021)]

P. Capobianchi, M. Lappa, M. S. N. Oliveira, et al.

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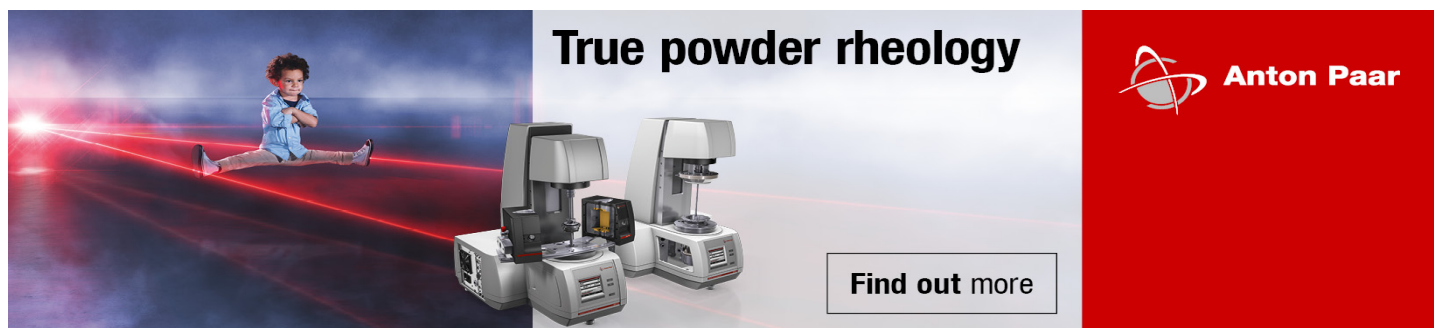
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The authors wish to make the following corrections to their article [1].
The second expression of Eq. (5) should read as

$$\nabla \cdot \mathbf{B} = 0,$$

since the divergence of vector \mathbf{B} is a scalar.

The expression of the Maxwell stress tensor [Eq. (6)] should read as follows:

$$\boldsymbol{\tau} = -\frac{1}{2}\mu_0\mu_r|\mathbf{H}|^2\mathbf{I} + \mu_0\mu_r\mathbf{H}\mathbf{H}.$$

Equation (11) with the two preceding and subsequent lines should read as follows.

From Eq. (6), we observe that $\boldsymbol{\tau}^{(a)} = -\frac{1}{2}\mu_0H^2\mathbf{I} + \mu_0\mathbf{H}\mathbf{H}$, and $\boldsymbol{\tau}^{(p)} = -\frac{1}{2}\mu_0(1 + \chi)H^2\mathbf{I} + \mu_0(1 + \chi)\mathbf{H}\mathbf{H}$, thus we obtain the following expression for Eq. (11):

$$\begin{aligned} \int_{V_0} \frac{\partial \tau_{ik}}{\partial x_k} x_j dV &= - \int_{V_0} \mu_0 \chi \left[-\frac{1}{2} H^2 \delta_{ik} + H_i H_k \right] x_j n_k \delta(\mathbf{r} - \mathbf{r}_0) dV \\ &= - \int_{S_0} \mu_0 \chi \left[-\frac{1}{2} H^2 \delta_{ik} + H_i H_k \right] x_j n_k dS, \end{aligned}$$

where $-\frac{1}{2}H^2\delta_{ik}$ is an isotropic term of no interest for our purposes; thus, it will be disregarded from the following treatment.

These changes do not affect the results, discussions, and conclusions of this study.

REFERENCES

- [1] Capobianchi, P., M. Lappa, M. S. N. Oliveira, and F. T. Pinho, “Shear rheology of a dilute emulsion of ferrofluid droplets dispersed in a nonmagnetizable carrier fluid under the influence of a uniform magnetic field,” *J. Rheol.* **65**, 925–941 (2021).

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