Erratum: Full Eulerian lattice Boltzmann model for conjugate heat transfer [Phys. Rev. E **92**, 063305 (2015)]

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There are corrections to a few equations in the paper. The terms $(y_{j+(1/2)} - y_{j-(1/2)}), (x_{i+(1/2)} - x_{i-(1/2)})$ in Eqs. (31) and (32) should be deleted.

Equation (31) should read

$$\begin{aligned}
 & \int_{x_{i+(1/2)}, y_{j-(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(X, Y) D(x_i - X) \delta(y_j - Y) dY \\
 &= \int_{x_{i+(1/2)}, y_{j-(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(x_{i+(1/2)}, Y) D(x_i - x_{i+(1/2)}) \delta(y_j - Y) dY \\
 &\approx D(x_i - x_{i+(1/2)}) \int_{x_{i+(1/2)}, y_{j-(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(x_{i+(1/2)}, Y) \delta(y_j - Y) dY \\
 &\approx \delta Q(x_{i+(1/2)}, y_j) D(x_i - x_{i+(1/2)}).
 \end{aligned} \tag{31}$$

Equation (32) should read

$$\begin{aligned}
 & \int_{x_{i-(1/2)}, y_{j+(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(X, Y) \delta(x_i - X) D(y_j - Y) dX \\
 &= \int_{x_{i-(1/2)}, y_{j+(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(X, y_{j+(1/2)}) \delta(x_i - X) D(y_j - y_{j+(1/2)}) dX \\
 &\approx D(y_j - y_{j+(1/2)}) \int_{x_{i-(1/2)}, y_{j+(1/2)}}^{x_{i+(1/2)}, y_{j+(1/2)}} \delta Q(X, y_{j+(1/2)}) \delta(x_i - X) dX \\
 &\approx \delta Q(x_i, y_{j+(1/2)}) D(y_j - y_{j+(1/2)}).
 \end{aligned} \tag{32}$$

In Eqs. (37), (38), (39), (40), (41), and (42), some coefficients and brackets must be corrected.

Equation (37) should read

$$\kappa_1 \frac{\partial T_1}{\partial x} = \kappa_2 \frac{\partial T_2}{\partial x} = \frac{2(1 - \frac{\sigma_3}{2})[(m_3 - m_3^{\text{eq}}) + \frac{\sigma_4}{2}(m_4 - m_4^{\text{eq}})]}{\frac{1}{(\rho c_p)_1} + \frac{1}{(\rho c_p)_2}}. \tag{37}$$

Equation (38) should read

$$\kappa_1 \frac{\partial T_1}{\partial y} = \kappa_2 \frac{\partial T_2}{\partial y} = \frac{2(1 - \frac{\sigma_5}{2})[(m_5 - m_5^{\text{eq}}) + \frac{\sigma_4}{2}(m_6 - m_6^{\text{eq}})]}{\frac{1}{(\rho c_p)_1} + \frac{1}{(\rho c_p)_2}}. \tag{38}$$

Equation (39) should read

$$R_x(\mathbf{x}) = \left(1 - \frac{\sigma_3}{2}\right) \left\{ [m_3(\mathbf{x}) - m_3^{\text{eq}}(\mathbf{x})] + \frac{\sigma_4}{2} [m_4(\mathbf{x}) - m_4^{\text{eq}}(\mathbf{x})] \right\}. \tag{39}$$

Equation (40) should read

$$R_y(\mathbf{x}) = \left(1 - \frac{\sigma_5}{2}\right) \left\{ [m_5(\mathbf{x}) - m_5^{\text{eq}}(\mathbf{x})] + \frac{\sigma_4}{2} [m_6(\mathbf{x}) - m_6^{\text{eq}}(\mathbf{x})] \right\}. \tag{40}$$

Equation (41) should read

$$\delta Q(x_{i+\frac{1}{2}}, y_j) = \frac{[R_x(x_i, y_j) + R_x(x_{i+1}, y_j)] \left(\frac{1}{(\rho c_p)_1} - \frac{1}{(\rho c_p)_2} \right)}{\frac{1}{(\rho c_p)_1} + \frac{1}{(\rho c_p)_2}}. \tag{41}$$

Equation (42) should read

$$\delta Q(x_i, y_{j+\frac{1}{2}}) = \frac{[R_y(x_i, y_j) + R_y(x_i, y_{j+1})](\frac{1}{(\rho c_p)_1} - \frac{1}{(\rho c_p)_2})}{\frac{1}{(\rho c_p)_1} + \frac{1}{(\rho c_p)_2}}. \quad (42)$$

Moreover, in Eq. (28), $1 \leq r \leq 1.5$ should be replaced by $0.5 \leq r \leq 1.5$. Equation (33) should read

$$\nabla(\chi T) = \left\{ \left(1 - \frac{\sigma_3}{2}\right) \left[(m_3 - m_3^{\text{eq}}) + \frac{\sigma_4}{2} (m_4 - m_4^{\text{eq}}) \right], \left(1 - \frac{\sigma_5}{2}\right) \left[(m_5 - m_5^{\text{eq}}) + \frac{\sigma_6}{2} (m_6 - m_6^{\text{eq}}) \right] \right\}. \quad (33)$$

It should be noted that the corrected equations were used in the code implementation. The corrections do not affect the discussion and conclusions.

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