Erratum to:

Chapter 3
Lighthill's Theory of Aerodynamic Noise

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Equation 3.2 should appear as follows:

$$\frac{\partial(\rho u_i)}{\partial t}+\sum_j \frac{\partial(\rho u_i u_j)}{\partial x_j}=\sum_j \frac{\partial \tau_{ij}}{\partial x_j}+F_i,\ \mathrm{Nm}^{-3}, \tag{3.2}$$

Equation 3.3 should appear as follows:

$$\begin{aligned}\tau_{ij} &= \left(-p-\frac{2}{3}\mu\sum\frac{\partial u_j}{\partial x_j}\right)\delta_{ij}+\mu\left(\frac{\partial u_i}{\partial x_j}+\frac{\partial u_j}{\partial x_i}\right)=-p\delta_{ij}-\tau^*_{ij},\\ \delta_{ij} &= \text{Kronecker delta: } \delta_{ii}=1, \delta_{ij}=0,\\ \tau^*_{ij} &= \left(\frac{2}{3}\mu\sum\frac{\partial u_j}{\partial x_j}\right)\delta_{ij}-\mu\left(\frac{\partial u_i}{\partial x_j}+\frac{\partial u_j}{\partial x_i}\right).\end{aligned} \tag{3.3}$$

Equation 3.4 should appear as follows:

$$\frac{\partial(\rho u_i)}{\partial t}+\sum_j \frac{\partial(\rho u_i u_j)}{\partial x_j}=-\frac{\partial p}{\partial x_j}-\sum_j \frac{\partial \tau^*_{ij}}{\partial x_j}+F_i,\ \mathrm{Nm}^{-3}. \tag{3.4}$$

Equation 3.6 should appear as follows:

$$\sum_i \frac{\partial^2 p}{\partial x_i^2}=-\sum_i \frac{\partial^2(\rho u_i)}{\partial t\partial x_i}-\sum_i\sum_j \frac{\partial(\rho u_i u_j)}{\partial x_i\partial x_j}-\sum_i\sum_j \frac{\partial^2 \tau^*_{ij}}{\partial x_i\partial x_j}+\sum_i \frac{\partial F_i}{\partial x_i}. \tag{3.6}$$

Equation 3.10 should be replaced by the following text:
Strictly speaking, the second term in the above equation should have T^*_{ij}, but here it has been replaced by T_{ij}, because Lighthill considers quadruple effect only through the convective term and through the fluctuation of stress terms.

The online version of the original chapter can be found at http://dx.doi.org/10.1007/978-1-4614-5019-1_3