Erratum: Statistical analysis of compressible turbulent shear flows with special emphasis on turbulence modeling

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In deriving Eq. (30) from Eq. (23), we used the relation
\[ \nabla \cdot (\rho' \mathbf{u}') = \langle \rho' \nabla \cdot \mathbf{u}' \rangle + \langle \mathbf{u}' \cdot \nabla \rho' \rangle . \]  \hfill (a)

In the present two-scale direct-interaction approximation (TSDIA) analysis, however, the calculation of each term on the right-hand side of Eq. (a) was stopped at \( O(\delta^3) \), whereas the lowest contribution of the left-hand side is of \( O(\delta^2) \). As a result, Eq. (a) should not be used and the \( K_d \) equation (30) is replaced by

\[ \frac{dK_d}{dt} = -\langle \rho' \mathbf{u}' \rangle \cdot \nabla \rho_m - 2K_d \nabla \cdot \mathbf{U} - \rho_m \langle \rho' \nabla \cdot \mathbf{u}' \rangle 
- \langle \rho' \nabla \cdot (\rho' \mathbf{u}') \rangle , \]  \hfill (b)

which is derived straightforwardly using the \( \rho' \) equation (23) [the numerical factor 2 in the \( K_d \)-related term was missing in Eqs. (23) and (B14)]. Following this change, the model \( K_d \) equation (B14) should be replaced by

\[ \frac{dK_d}{dt} = -\langle \rho' \mathbf{u}' \rangle \cdot \nabla \rho_m - 2K_d \nabla \cdot \mathbf{U} + C_2 \rho_m \frac{\epsilon}{K} \chi 
- C_2 \epsilon \frac{\sigma_d}{\nu} \mathbf{\nabla} \cdot (\mathbf{u} \cdot \mathbf{\nabla} K_d) \]  \hfill (c)

\((C_2 \text{ and } \sigma_d \text{ are positive model constants}). In this modeling, we used the relation

\[ \langle \rho' \nabla \cdot \mathbf{u}' \rangle = -\langle \mathbf{u}' \cdot \nabla \rho' \rangle , \]  \hfill (d)

which is correct up to the \( O(\delta^3) \) TSDIA analysis. The third and fourth terms arise from the first and second terms of Eq. (83), respectively, under Eq. (d). In Eq. (B14), the counterpart of the last term of Eq. (c), which arises from the last term in Eq. (b), was missing.

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Erratum: Relaxation induced by colored noise: Analytical results for multilevel systems

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Equation (104) is wrong. A factor of \((2I+1)^{-1}\) has been omitted on the right-hand side. In the third line the last index \( \alpha_1 \) on the extreme right must be replaced by \( -\alpha_1 \). The corrected expression is

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