
ERRATA

**Erratum: Statistical analysis of compressible turbulent shear flows
with special emphasis on turbulence modeling
[Phys. Rev. A 46, 3292 (1992)]**

Akira Yoshizawa

PACS number(s): 47.27.-i, 47.40.Nm, 99.10.+g

In deriving Eq. (30) from Eq. (23), we used the relation

$$\nabla \cdot \langle \rho' \mathbf{u}' \rangle = \langle \rho' \nabla \cdot \mathbf{u}' \rangle + \langle \mathbf{u}' \cdot \nabla \cdot \rho' \rangle . \quad (a)$$

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 $O(\delta^0)$, 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

$$\begin{aligned} \frac{DK_d}{Dt} = & - \langle \rho' \mathbf{u}' \rangle \cdot \nabla \rho_M - 2K_d \nabla \cdot \mathbf{U} - \rho_M \langle \rho' \nabla \cdot \mathbf{u}' \rangle \\ & - \langle \rho' \nabla \cdot (\rho' \mathbf{u}') \rangle , \end{aligned} \quad (b)$$

which is derived straightforwardly using the ρ' 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

$$\begin{aligned} \frac{DK_d}{Dt} = & - \langle \rho' \mathbf{u}' \rangle \cdot \nabla \rho_M - 2K_d \nabla \cdot \mathbf{U} + C_2 \rho_M^2 (\epsilon/K) \chi \\ & - C'_2 (\epsilon/K) K_d + \nabla \cdot [(\nu_e/\sigma_d) \nabla K_d] \end{aligned} \quad (c)$$

(C'_2 and σ_d are positive model constants). In this modeling, we used the relation

$$\langle \rho' \nabla \cdot \mathbf{u}' \rangle = - \langle \mathbf{u}' \cdot \nabla \cdot \rho' \rangle , \quad (d)$$

which is correct up to the $O(\delta^0)$ 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.

I thank Dr. W. W. Liou whose application of this model to the compressible mixing layer led to the above correction.

© 1993 The American Physical Society

**Erratum: Relaxation induced by colored noise: Analytical results for multilevel systems
[Phys. Rev. A 46, 6222 (1992)]**

L. Andreozzi, C. Donati, M. Giordano, and D. Leporini

PACS number(s): 05.40.+j, 76.20.+q, 99.10.+g

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 α_1 on the extreme right must be replaced by $-\alpha_1$. The corrected expression is

$$\frac{1}{T_1''} = \frac{1}{2I+1} \sum_{\substack{m=-I,I \\ \mu_1=\pm 1}} \text{Tr}_{\{I\}} \left[2 \sum_{\alpha,\beta=0,00} C_{-\mu_1\alpha;\mu_1\beta} \{ \mu_1[\omega_0+m\omega_1] \} I_\alpha I_\beta P_m \right. \\ \left. + \sum_{\alpha_1=\pm 1} (C_{-\mu_1-\alpha_1;\mu_1\alpha_1} \{ \mu_1[\omega_0+(m-\alpha_1/2)\omega_1] \} I_{-\alpha_1} P_m I_{\alpha_1} \right. \\ \left. + C_{-\mu_1-\alpha_1;\mu_1\alpha_1} \{ \mu_1[\omega_0+(m+\alpha_1/2)\omega_1] \} I_{\alpha_1} P_m I_{-\alpha_1}) \right].$$