CORRECTION

Sergey V. Ershkov · Dmytro Leshchenko ·
Ayrat R. Giniyatullin

Correction to: Solving procedure for the Kelvin–Kirchhoff equations in case of non-stationary rotations of slim disc

Published online: 13 March 2021
© Springer-Verlag GmbH Germany, part of Springer Nature 2021

Correction to: Archive of Applied Mechanics
<https://doi.org/10.1007/s00419-021-01890-9>

The essence of Corrigendum (clarifications)

- (1) Before formula (1) (and, then, after formula (2)), symbol “G” should be read as “ Γ ”: the rigid body’s density ρ_b relative to the density of fluid ρ_f ($\Gamma \equiv \rho_b/\rho_f$, $\Gamma < 1$).
- (2) In formula (1) (see [1]), in denotation of $\vec{g}$, it should be noted that this is acceleration due to gravity, which is a vector quantity (such clarification should be made also for works [2, 26, 27], mentioned in [1–4] as noted here).
- (3) In formulae (12) (see [1]), constant “C” was missed in printed version of the article (twice in each of expressions for a and b), before the low indexes “1” and “2”. The correct formula is as follows:

$$\begin{aligned} a &= C_1 \cos(t \cdot A \cdot |\Omega_3|) + C_2 \sin(t \cdot A \cdot |\Omega_3|) \\ b &= \frac{a'}{A \cdot |\Omega_3|} = -C_1 \cdot \frac{|k|}{k} \cdot \sin(t \cdot A \cdot |\Omega_3|) + C_2 \cdot \frac{|k|}{k} \cdot \cos(t \cdot A \cdot |\Omega_3|) \end{aligned} \quad (12)$$

- (4) At the right part of formula (18), the additional round bracket was printed in [1] which was not mentioned in the accepted manuscript. The correct formula is as follows:

The original article can be found online at <https://doi.org/10.1007/s00419-021-01890-9>.

S. V. Ershkov (✉)
Plekhanov Russian University of Economics, Scopus number 60030998, 36 Stremyanny Lane, Moscow, Russia 117997
e-mail: sergej-ershkov@yandex.ru

D. Leshchenko
Odessa State Academy of Civil Engineering and Architecture, Odessa, Ukraine
e-mail: leshchenko_d@ukr.net

A. R. Giniyatullin
Nizhny Novgorod State Technical University n.a. R.E. Alekseev, 24 Minina st, Nizhny Novgorod, Russia 603155
e-mail: araratish@gmail.com

$$\Omega_3(t) = \Omega_3(0) \cdot \exp\left(-\frac{4\rho_f \cdot R^2 \cdot \sqrt{\pi \cdot v}}{m} \cdot \sqrt{t}\right) \quad (18)$$

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

1. Ershkov, S.V., Leshchenko, D., Giniyatullin, A.R.: Solving procedure for the Kelvin-Kirchhoff equations in case of non-stationary rotations of slim disc. *Arch. Appl. Mech.* (2021). <https://doi.org/10.1007/s00419-021-01890-9>
2. Ershkov S.V., Christianto V., Shamin R.V., Giniyatullin A.R. (2020). *About analytical ansatz to the solving procedure for Kelvin–Kirchhoff equations*. *European Journal of Mechanics, B/Fluids*, vol. 79C, January–February 2020, pp. 87–91.
3. Ershkov, S.V., Leshchenko, D., Giniyatullin, A.R.: Solving procedure for the Kelvin-Kirchhoff equations in case of buoyant (or the falling) ellipsoid of rotation. *Eur. J. Mech. B/Fluids* **81C**, 23–27 (2020)
4. Ershkov, S.V., Leshchenko, D., Giniyatullin, A.R.: A new solving procedure for the Kelvin-Kirchhoff equations in case of a falling rotating torus. *Int. J. Bifurc. Chaos* **31**(01), 2150010 (2021). <https://doi.org/10.1142/S0218127421500103>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.