Transport in Porous Media
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CORRECTION

Correction: Impact of MHD and Mass Transpiration on Rivlin–Ericksen Liquid Flow over a Stretching Sheet in a Porous Media with Thermal Communication

A. B. Vishalakshi[1] · U. S. Mahabaleshwar[1] · Yahya Sheikhnejad[2,3]

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This erratum is in regard to the comments and suggestions by Prof. Dr. Asterios Pantokratoras on the paper "Impact of MHD and Mass Transpiration on Rivlin–Ericksen Liquid Flow over a Stretching Sheet in a Porous Media with Thermal Communication", [Transport in Porous Media, (2022), 142:353–381]", we share our appreciation to him.

1st error

In Eq. (7) in Vishalakshi et al. 2022 appears the following equation

$$-D\left(\frac{\partial C}{\partial x}\right)_w = E_1\left(\frac{x}{l}\right)^2 \tag{1}$$

where $D(m^2\ \mathrm{sec}^{-1}, Nomenclature)$ is the chemical diffusivity, $C(m^{-3}, Nomenclature)$ is the mass concentration, $x(m)$ is the Cartesian coordinate, $l(m, Nomenclature)$ is a characteristic length and $E_1(kg\ \mathrm{sec}^{-1}, Nomenclature)$ is a constant. The units of the LHS are $m^{-2}\ \mathrm{sec}^{-1}$ whereas the units of the RHS are $kg\ \mathrm{sec}^{-1}$. In a Physics equation all terms must have the same units and for that reason the Eq. (1) is wrong.

The original article can be found online at https://doi.org/10.1007/s11242-022-01756-w.

✉ U. S. Mahabaleshwar
u.s.m@davangereuniversity.ac.in; ulavathi@gmail.com

A. B. Vishalakshi
vishalavishu691@gmail.com

Yahya Sheikhnejad
yahya@ua.pt

[1] Department of Mathematics, Shivagangotri, Davangere University, Davangere, India

[2] Centre for Mechanical Technology and Automation, Department of Mechanical Engineering, Universidade de Aveiro, 3810-193 Aveiro, Portugal

[3] PICadvanced SA, Creative Science Park, Via do Conhecimento, Ed. Central, 3830-352 Ílhavo, Portugal

Correct version: In Eq. (1) some parameters are wrong so I rewrite those parameters then LHS and RHS are equal. The rewritten SI units are given below where D (m^2 sec^{-1}, Nomenclature) is the chemical diffusivity, C (kgm^{-3}, Nomenclature) - is the mass concentration, $x(m)$ is the Cartesian coordinate, l (m, *Nomenclature*) is a characteristic length and E_1 (kg sec^{-1} m^{-2}, Nomenclature) is a constant. Then the units of the LHS are kg sec^{-1} m^{-2} whereas the units of the RHS are kg sec^{-1} m^{-2}.

2nd error

In Eq. (8c) in Vishalakshi et al. 2022 appears the following equation

$$h(\eta) = \frac{C - C_\infty}{\frac{E_1}{D}\left(\frac{x}{l}\right)^2 \sqrt{\frac{\nu}{b}}} \tag{2}$$

where $\nu(m^2\ \sec^{-1}, Nomenclature)$ is the fluid kinematic viscosity and $b(\sec^{-1}$, *Nomenclature*) is a constant. The LHS is dimensionless whereas the units of the RHS are $kg^{-1}\ m^{-2}$. For that reason the Eq. (2) is wrong.

Correct version: In Eq. (1) some parameters are wrong so I rewrite those parameters then LHS and RHS are equal. The rewritten SI units are given belowwhere n (m^2 sec^{-1}, *Nomenclature*) is the fluid kinematic viscosity and b (sec^{-1}, Nomenclature) is a constant. C and, (kgm^{-3}, *Nomenclature*) - is the mass concentration. and E_1 (kg sec^{-1} m^{-2}, Nomenclature) is a constant. Then the units of the RHS is also dimensionless.

3rd error

The dimensionless cross viscosity parameter $\gamma = \frac{b}{\nu}$ is wrong because it is dimensional with units m^{-2}.

Correct version: Please observe in Eq. (2) 3rd term in the PHS the parameter represents the coefficient of cross viscosity and change this parameter symbol by , then the Eq. (2) can be rewritten as

Also, SI unit of cross viscosity is m^{-2} therefore, the cross viscosity parameter is

4th error

The Eq. (16b) in Vishalakshi et al. 2022 is as follows

$$\tau_w = \left[\nu\frac{\partial u}{\partial y} - k'\left(u\frac{\partial^2 u}{\partial x \partial y} - 2\frac{\partial u}{\partial x}\frac{\partial u}{\partial y}\right)\right]_{y=0} \tag{3}$$

The units of τ_w are kgm^{-1} sec^{-2} whereas the units of the RHS are m^2 sec^{-2}. For that reason the Eq. (3) is wrong.

Correct version: The Eq. (3) is wrong, so it is little bit modified as follows

Now the units of LHS are RHS are matched.

5th error

The parameter V_w appeared in Eq. (5) in Vishalakshi et al. 2022 and then disappeared.

Correct version: The parameter V_w Explained in the updated version of Eq. (10), and it is as follows

6th error

The parameter L appeared in Eq. (5) in Vishalakshi et al. 2022 and then disappeared.

Correct version: The coefficient of first order slip parameter L appeared in the explanation below the Eq. (10), and it is as follows

where, is the dimensionless viscoelastic parameter, represents the cross viscosity parameter, indicates the dimensionless magnetic parameter is the inverse Darcy number, indicates the first order slip parameter.