

Erratum to: A new look at 2D shallow water equations of fluid dynamics via multidimensional Kirchhoff paradigm

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During the production process, typesetting errors were introduced. Please find the corrections below:

Equation number (3.9) refers to the entire group of equations expressing L_0 , L_1 , L_2 , L_3 , and L_4 , and thus should have been aligned with the line above.

In Fig. 5 all T's are meant to be bold faced, i.e., T_1 , T_2 , T_3 , and T_4 must be as \mathbf{T}_1 , \mathbf{T}_2 , \mathbf{T}_3 , and \mathbf{T}_4 respectively.

In Fig. 7 all T's are meant to be bold faced, i.e., T_1 , T_2 , and T_3 , must be as \mathbf{T}_1 , \mathbf{T}_2 , and \mathbf{T}_3 respectively.

The line after (7.12) should read:

$$\text{and consequently with } a_0 = \gamma_1 a_1 + \dots + \gamma_{n-1} a_{n-1},$$

All equations in the Appendix have been numbered as (7.*). This makes it appear as though the Appendix is Section 7 of the paper. We meant the equations in the Appendix to have the format (A.*) instead. Thus, all equations in the paper of the type (7.*) should be replaced by corresponding equation numbers in the format (A.*).

Further comments provided by the authors:

For the paragraph before equation (3.26):

For the MD Kirchhoff circuit in Fig. 2 to be MD passive the MD inductances must have nonnegative values. These requirements enforce conditions on the parameters α and v_3 that

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we have chosen according to $L_0 \geq 4/3$ and $L_\kappa \geq 1$ for $\kappa = 1$ to 3. Since the two series inductances in Fig. 2, $1, D_3$ and $L_3 - 1, D_3$, can be combined into one inductance L_3, D_3 , strictly speaking the requirements for MD passivity, and thus the global stability of the circuit is $L_0 \geq 4/3$, $L_\kappa \geq 1$ for $\kappa = 1$ to 2 and $L_3 \geq 0$. However, the requirements $L_0 \geq 4/3$, $L_\kappa \geq 1$ for $\kappa = 1$ to 3, as adopted, can be conveniently satisfied, and they suffice for our purpose.

For the paragraph before equation (4.21):

Likewise, in Fig. 4 the two series inductances $1, D_3$ and $\hat{L}_3 - 1, D_3$ can be combined into one inductance \hat{L}_3, D_3 . Once again, strictly speaking the requirements for the circuit in Fig. 4 to be MD passive are that $\hat{L}_\kappa \geq 1$ for $\kappa = 1$ to 2, $\hat{L}_3 \geq 0$ and $\hat{L}_{\kappa 0} \geq 4/3$ for $\kappa = 1$ to 3. However, the requirements $\hat{L}_\kappa \geq 1$ for $\kappa = 1$ to 3, and $\hat{L}_{\kappa 0} \geq 4/3$ for $\kappa = 1$ to 3 are sufficient for our purposes and have been used for a more streamlined treatment.