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Erratum to "On the effects of internal heat sources upon forced convection in porous channels with asymmetric thick walls" [Int. Comm. Heat Mass Trans. 73 (2016) 100–110]

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The authors realised that the solution of energy equations in the porous section of the channel in the above mentioned article [1] should be modified as follows [2]

$$\theta_s(Y) = E_s Y^2 + F_s \cosh(Y\Gamma) + G_s \sinh(Y\Gamma) + K_{1s} Y + K_{2s}, \tag{27a}$$

$$\theta_f(Y) = E_f Y^2 + F_f \cosh(Y\Gamma) + G_f \sinh(Y\Gamma) + K_{1f} Y + K_{2f}. \tag{27b}$$

With the exception of these two relations, other mathematical formulations in the original article [1] and the provided general solutions for the temprature fileds of the solid sections remain entirely valid. To rectify the situation, Figs. 3a, 10, 11, 12b, 13b, 14 and 15 of Ref. [1] need to be replotted. The correct presentation of these figures are provided in this erratum.

Reference

[1] Elliott A, Torabi M, Karimi N, Cunningham S. On the effects of internal heat sources upon forced convection in porous channels with asymmetric thick walls. Int Commun Heat Mass Transf 2016;73:100–10. doi:10.1016/j.icheatmasstransfer.2016.02.016.

[2] Elliott A, Torabi M, Karimi N. Thermodynamics analyses of porous microchannels with asymmetric thick walls and exothermicity: An entropic model of microreactors. J Therm Sci Eng Appl 2017 - Accepted.

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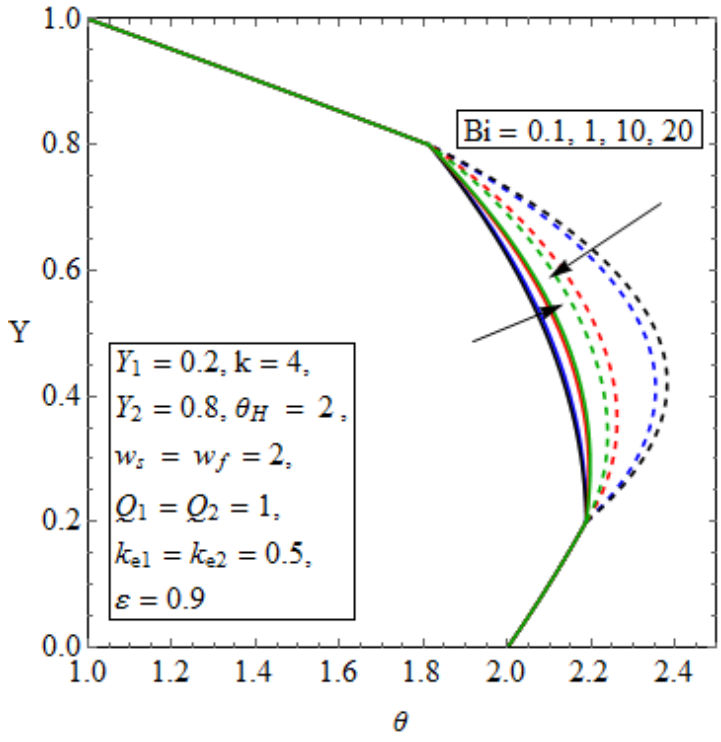

Fig. 3a. Temperature distribution with various values of Biot number for Case one

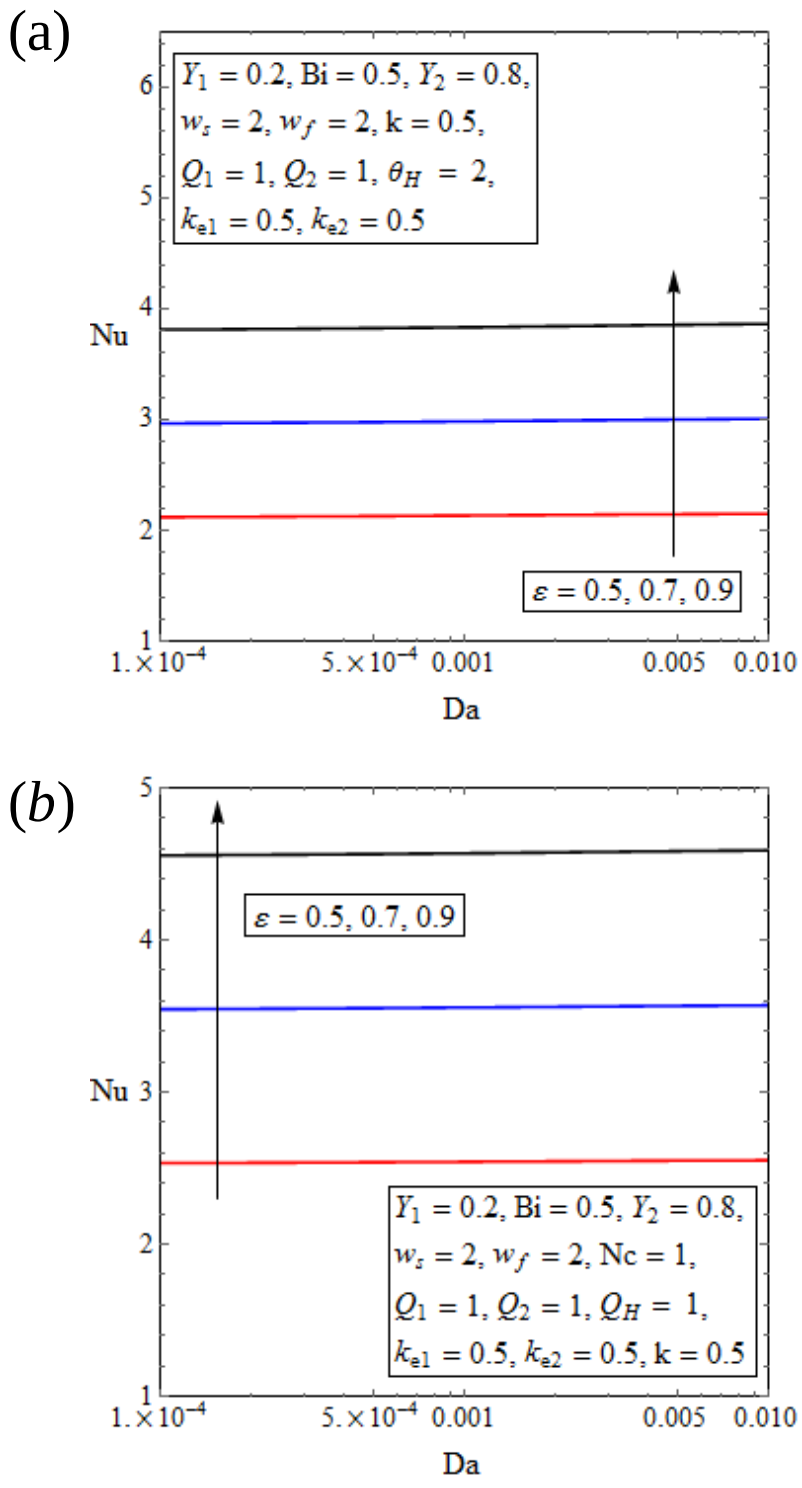

Fig. 10. Variation in Nusselt number versus Darcy number with various values of porosity: (a) Case a and (b) Case b

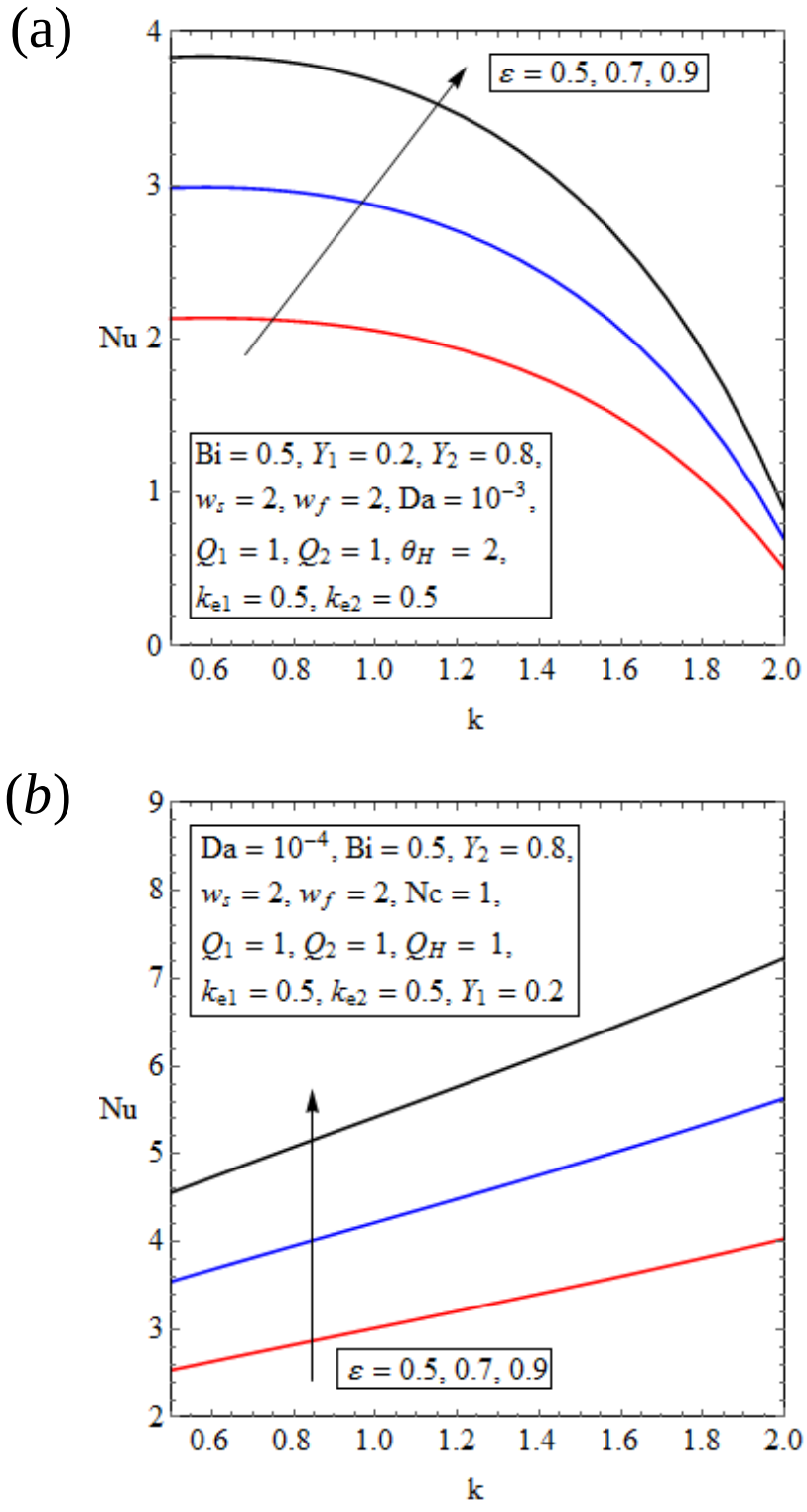

Fig. 11. Variation in Nusselt number versus thermal conductivity ratio with various values of porosity: (a) Case one and (b) Case two.

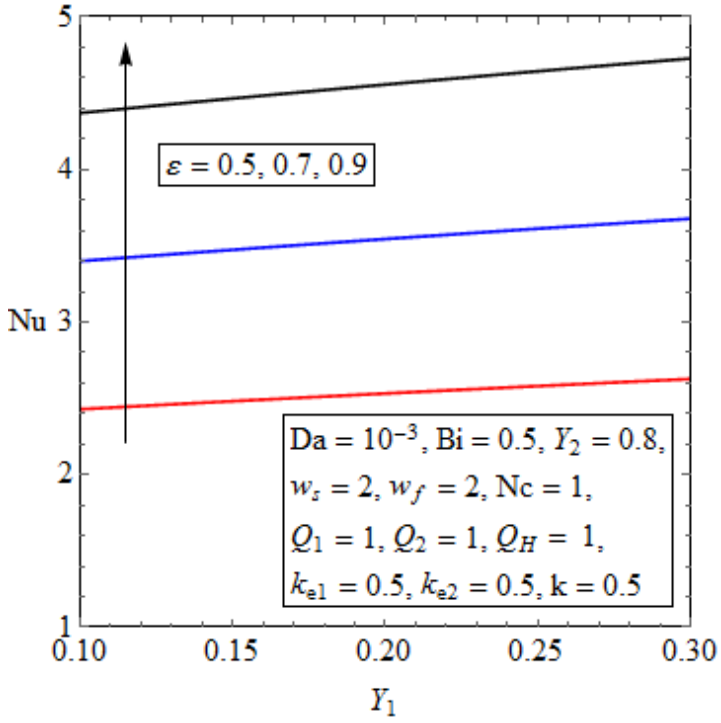

Fig. 12b. Variation in Nusselt number versus lower wall thickness with various values of porosity for Case two.

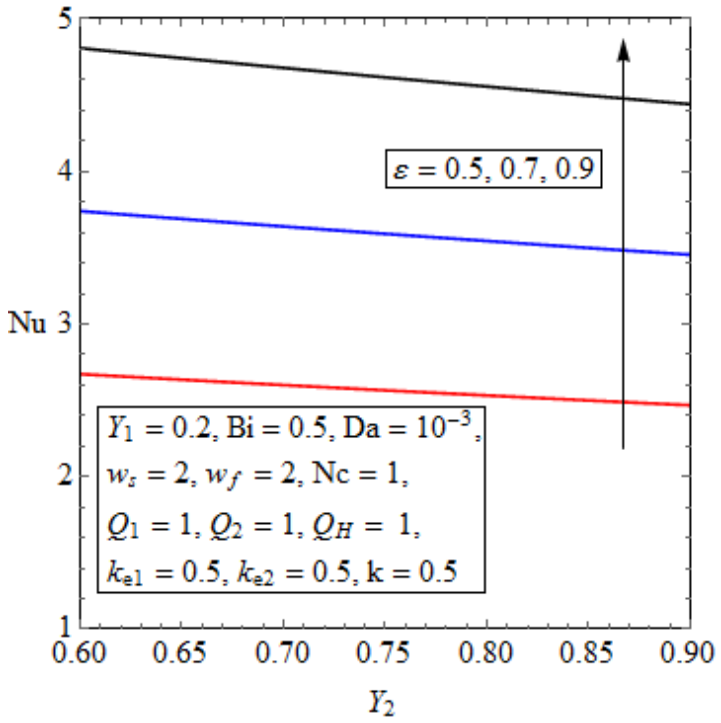

Fig. 13b. Variation in Nusselt number versus upper wall thickness with various values of porosity for Case two

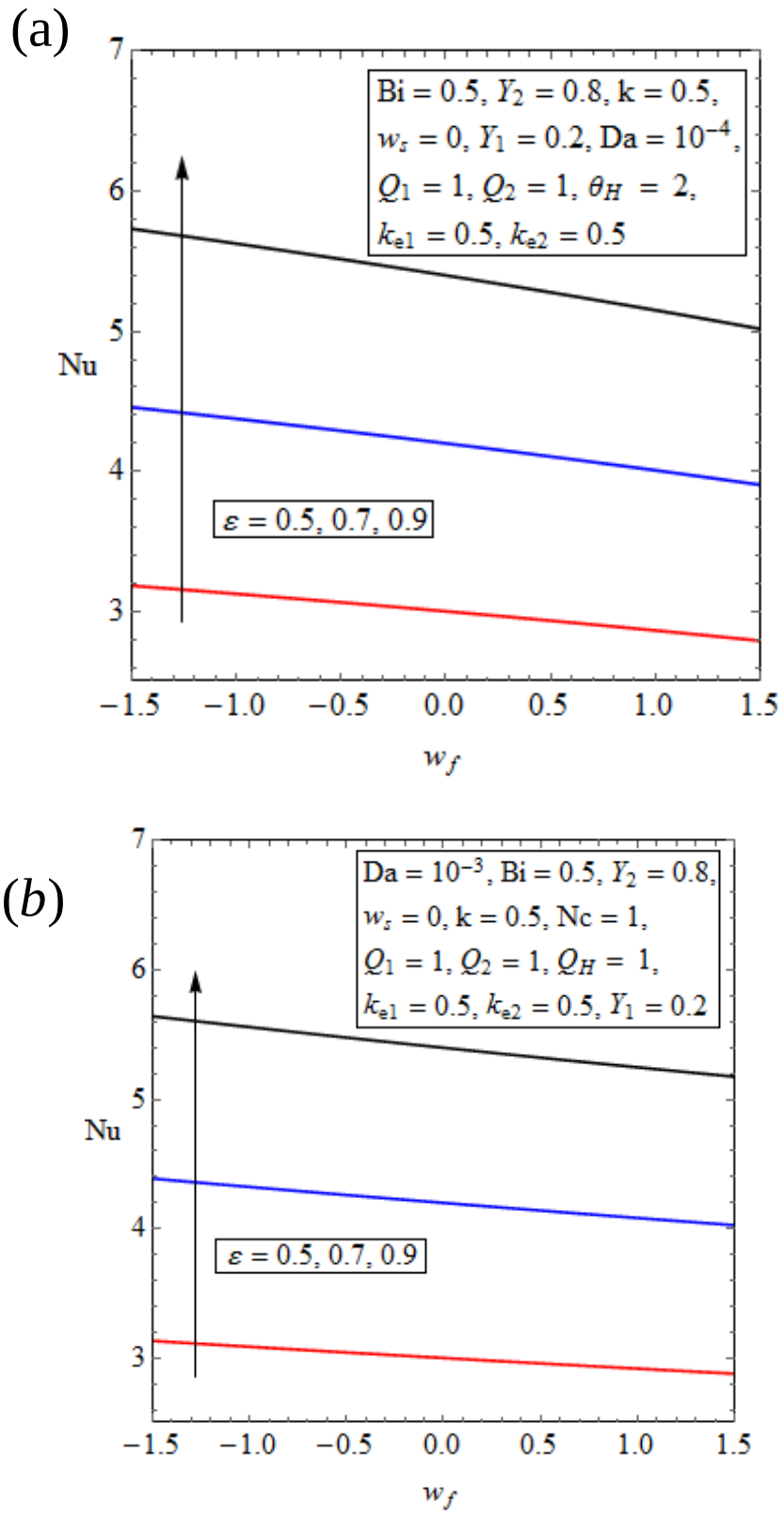

Fig. 14. Variation in Nusselt number versus internal heat generation through the fluid phase with various values of porosity: (a) Case one and (b) Case two.

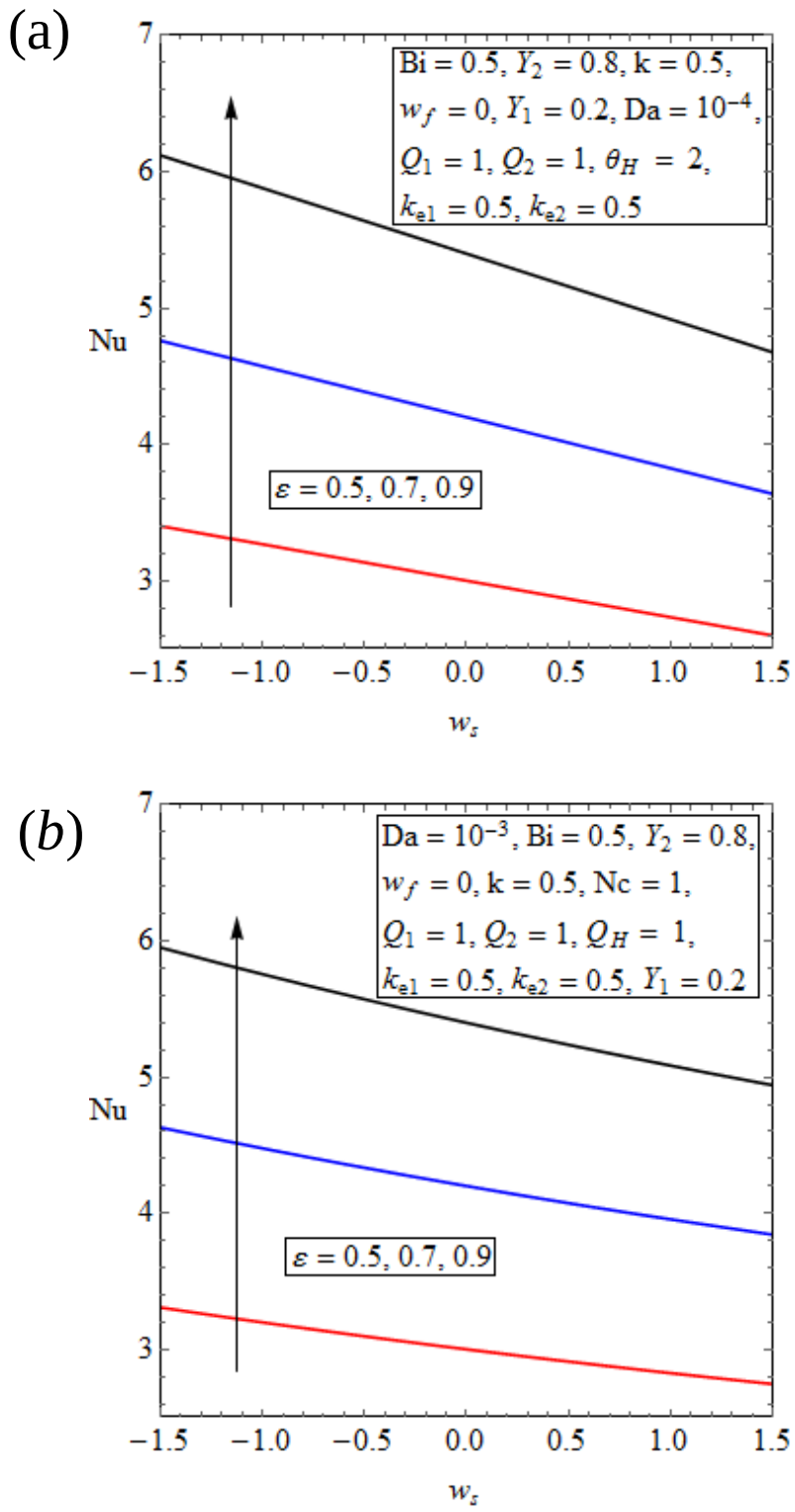

Fig. 15. Variation in Nusselt number versus internal heat generation through the solid phase with various values of porosity: (a) Case one and (b) Case two.