ERRATUM

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Erratum to: Existence and uniqueness results for a nonlinear differential equation arising in stagnation point flow in a porous medium

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A statement in Theorem 3 and 4 of the original article has been published incorrectly, which modifies the range of valid parameters valid under the theorems.

The existence and uniqueness theorems are predicated on the existence of a solution in the set:

$$\Omega' = \{\varphi \in C^3([0, \infty)) | 0 < \varphi'(\eta) < 1, 0 < \varphi''(\eta) \leq \varphi''(0), \quad \text{for all } \eta \in [0, \infty)\}.$$

In order to have the existence of a solution in the set Ω' , we need to require that $\beta < 1$. We earlier stated that this was possible for all $\beta \geq 0$. To see why we need to require $\beta < 1$, consider Eq. (1.7). In order to get a solution to satisfy $\varphi''(\eta) \leq \varphi''(0)$, it is necessary to have $\varphi'''(0) \leq 0$. Yet, from Eq. (1.7),

$$\varphi'''(0) = -\varphi(0)\varphi''(0) - (1 - \varphi'(0)^2) + \beta(\varphi'(0) - 1) = \beta - 1,$$

(making use of the initial conditions $\varphi(0) = \varphi'(0) = 0$) hence $\beta - 1 \leq 0$, and therefore the required range for β is $0 \leq \beta \leq 1$. Within this range, the results and methods still hold, whereas outside of this range either no solution or multiple solutions could be possible.

The online version of the original article can be found under doi:[10.1007/s00707-009-0202-3](https://doi.org/10.1007/s00707-009-0202-3).

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