AUTHORS' RESPONSE

This is in reference to the comments made by J. L. Lage and D. A. Nield on the above referenced paper. The authors of the paper would like to provide the following responses:

The local volume-averaged equations, equations (3)–(5), were based on a conventional form used by various investigators and extracted from Hsu and Cheng [12]. These equations were non-dimensionalized to obtain equations (8)–(11). The authors reviewed the dimensionless forms of the governing equations and believe that a factor ϕ has been omitted from the left-hand side of equations (9) and (10). Although p is absent from the nomenclature list, it was clearly noted in the paper (top of page 2335) that $p = \phi p_f$, where p_f is the volumetric average pressure of the fluid.

The authors agree that another approach could be taken for presentation of the results and analysis, although working with a pressure gradient is a possibility for expressing and presenting the results. In our opinion, however, it is much more convenient to work with Re_D and show similarities of the governing equations for porous media with the dimensionless Navier–Stokes equations.

We would like to thank Professors Lage and Nield for their careful scrutiny of our paper and for providing an alternative perspective on the results we have presented. We do believe that any confusion generated by the wording of the abstract would be resolved upon reading the paper.

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