

## Transient Natural Convection in Differentially Heated Porous Enclosures: Corrected Abstract

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### ABSTRACT

The following abstract should replace the one that appeared with this article in the *Journal of Porous Media*, 3(2), 165 (2000).

*Transient natural convective flow and heat transfer in a differentially heated enclosure filled with a saturated porous medium is investigated numerically by adopting the general flow model that accounts for both the boundary and the inertial effects in porous media. The present study covers investigation of the fluid Rayleigh number (RA) between  $1 \times 10^5$  and  $1 \times 10^9$ , the Darcy number (DA) of  $1 \times 10^{-6}$  to  $1 \times 10^{-2}$  for aspect ratio, and the inertial parameter and modified Prandtl number of unity. For  $DA > 1 \times 10^{-6}$ , it is found that if the modified Rayleigh number ( $Ra_m = Ra \cdot Da$ ) is greater than 100, significant differences exist between the general model and the Darcy model predictions, especially at the early transient stage. Both in the Darcy and non-Darcy regimes, the Brinkman extended model agreed well with the general model. Also, it is found that Forchheimer's term is significant in the transient stage, but it is of no importance at the steady state.*

