

LETTER TO THE EDITORS

WE WOULD like to indicate a numerical error in the third central moment of the paper by Saez and McCoy on the transient analysis of a packed-bed thermal storage system [1]. Correcting the error may be of some consequence for detailed studies of deviations from Gaussian pulse responses. The error was transcribed from the paper by Kubin on chromatography [2], by way of ref. [3]. The correct expression for the quantity in parentheses in equation (29) of ref. [1] should read

$$(12/945k_s^2 + 4/45h_s Rk_s + 6/27h_s^2 R^2).$$

In [1-3] the coefficient 6/27 is incorrectly written as 1/27. The equations for mass transfer can be adapted from this result in order to correct refs. [2, 3]. The coefficient has been checked by the hand calculations of the first two authors, and confirmed using the symbolic manipulation, computer algebra system MUMATH by the third author. The first and second moments of ref. [1] had been confirmed by the computer algebra system REDUCE, as indicated in the acknowledgement of ref. [1].

Correcting the coefficient may have a significant effect on the magnitude of μ_3 for certain conditions. However, the contribution of μ_3 to a temperature profile is very small, as

shown by Saez and McCoy [1]. Therefore, the correction has a negligible effect on typical temperature profiles in porous media, and the quantitative conclusions of ref. [1] remain valid.

REFERENCES

1. A. E. Saez and B. J. McCoy, *Int. J. Heat Mass Transfer* **26**, 49-54 (1983).
2. M. Kubin, *Coll. Czech. chem. Commun.* **30**, 1104-1118, 2900-2907 (1965).
3. B. J. McCoy and R. G. Carbonell, *A.I.Ch.E. Jl* **24**, 159-160 (1978).

MOON KYU CHOI and SEUNG JONG LEE
Chemical Engineering Department
Seoul National University
Seoul 151, Korea

B. J. MCCOY
Chemical Engineering Department
University of California
Davis, CA 95616, U.S.A.