

Erratum: Higher-order effects in rarefied channel flows [Phys. Rev. E **78**, 046301 (2008)]

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Due to an unfortunate oversight, for the comparison of second-order slip models we did not properly represent the slip coefficients given by Hadjiconstantinou [1] (Ref. [17] in the original paper).

Hadjiconstantinou gives the following values for the second order slip coefficient β :

Hadjiconstantinou [17] (uncorrected)	Hadjiconstantinou [17] (Kn-layer correction)
$0.606 \frac{\pi}{2} = 0.952$	$0.31 \frac{\pi}{2} = 0.487$

where the second value is corrected for Knudsen layer effects. In the paper we used only the first value, which does not account for Knudsen layer effects. Moreover, Hadjiconstantinou reports a first order slip coefficient $\alpha_H = 1.11$.

Correspondingly, the curve for Hadjiconstantinou's corrected slip coefficients must be added to Fig. 1.

Clearly, Hadjiconstantinou's corrected slip coefficients give an excellent match for Knudsen numbers up to $k \approx 0.4$. There is a close agreement between the result from the full R13 equations—which explicitly include Knudsen layers—and the curve obtained from Hadjiconstantinou's coefficients that were corrected for Knudsen layer effects.

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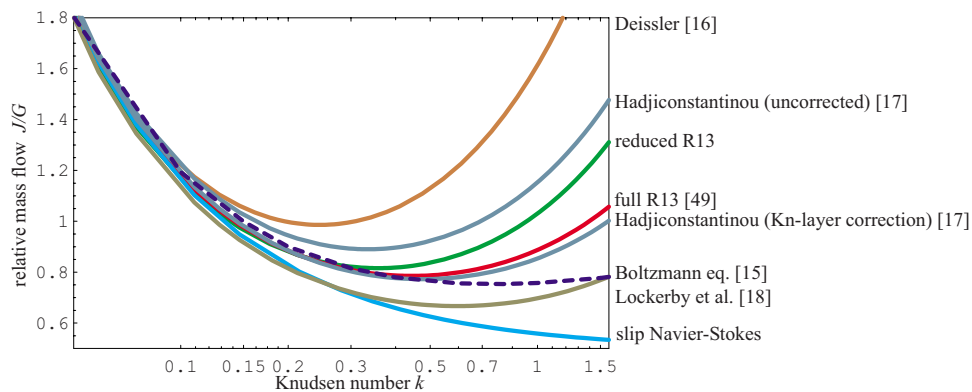


FIG. 1. (Color online) Relative mass flow rate J/G_1 over Ohwada's Knudsen number $k = \frac{4}{5} \sqrt{2} \text{Kn}$, for Boltzmann equation (dashed line) [15], full R13 equations [49], the reduced R13 equations of the present paper, and Navier-Stokes with second-order slip conditions from Deissler [16], Hadjiconstantinou with and without Knudsen layer correction [17], and Lockerby *et al.* [18].

[1] N. G. Hadjiconstantinou, Phys. Fluids **15**, 2352 (2003).