

CONCERNING THE DESIGN OF TRANSPIRATION
 COOLING WITH THE RADIATIVE COMPONENT
 OF EXTERNAL HEAT TRANSFER INCLUDED

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In his comment, V. L. Chumakov attempts to extend the results in [1] to the case of combined convective and radiative heat transfer from the hot surface of a porous body. The solution to this problem can be easily found by means of the analytical formula for the equilibrium temperature [2]. The solution is

$$\theta(\xi) = \theta_0 + \left(\sqrt{\frac{g + Bi}{Sk} \frac{y}{8y} - \frac{y}{2}} - \sqrt{\frac{y}{2}} - \theta_0 \right) f_T(\xi),$$

where

$$y = \left[\left(\frac{g + Bi}{4Sk} \right)^2 + \sqrt{\left(\frac{g + Bi}{4Sk} \right)^4 + \left(\frac{1}{3} + \frac{Bi + g(\theta_0 - K)}{3Sk} \right)^3} \right]^{1/3} + \left[\left(\frac{g + Bi}{4Sk} \right)^2 - \sqrt{\left(\frac{g + Bi}{4Sk} \right)^4 + \left(\frac{1}{3} + \frac{Bi + g(\theta_0 - K)}{3Sk} \right)^3} \right]^{1/3}.$$

As to the misprints (they appear also in formulas (2) and (4) in the text of [1]); the author did not call for their correction, inasmuch as they do not affect the final results.

LITERATURE CITED

1. M. D. Mikhailov, *Inzh. Fiz. Zh.*, 9, No. 2, 264-265 (1966).
2. Yu. V. Abramovich and P. N. Kobtsev, *Inzh. Fiz. Zh.*, 21, No. 3, 550-552 (1971).

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