On the Remark by M. M. Konstantinov Concerning the Solution of the Stokes' Problem for Circular Cylinder

K. Z. Shulev

The author of this remark awkwardly suggests that the function p, obtained in [1], could not fit for a solution of the stated Stokes' problem.

A direct verification is made, confirming that p satisfies the Stokes' differential equations for each θ (a slight erratum made out on p. 63, where the $\frac{r}{a}$ must be in power $2s$). The function p is to satisfy the Stokes' Eqns and the condition $p \to p_0$ for $r \to \infty$. Any other requirement as in [2] for $\theta = 0, \frac{\pi}{2}$ goes beyond the correct statement of this Stokes' problem. Indeed there is no condition for the variable θ.

The Stokes' equations, as being approximate, are unable to represent adequate picture of the flow. One shouldn't expect more from its solution. In the paper [1] a mathematical solution of the Stokes' equations subject to boundary conditions is obtained.

The remark [2] is absolutely unreasonable in the light of the test of the solution, as well as the mentioned before.

Постъпила на 12. 10. 1987