J. Fluid Mech. (1986), *vol.* 164, *pp.* 502–503
Printed in Great Britain

CORRIGENDUM

Application of the triple-deck theory of viscous–inviscid interaction to bodies of revolution

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Journal of Fluid Mechanics, vol. 129 1983, pp. 427–441

As indicated by Kluwick *et al.* in their paper (*J. Fluid Mech.* vol. 140, 1984, pp. 281–301), there is a mathematical error in (15) of our paper. This error, which originated from a typographical error in (8.3.8) of the book by Ward (*Linearized Theory of Steady High-Speed Flow*, C.U.P., 1955), affects the results presented in figures 3, 4 and 8. A few formulae together with some typographical errors need to be corrected. In (14), $\delta^{\frac{1}{3}}\epsilon^2$ and $\delta^{\frac{1}{3}}/a$ should be replaced by $\delta^{\frac{1}{4}}\epsilon^3$ and $\delta^{\frac{1}{2}}/a$ respectively. A surplus left bracket in equation (19) should be deleted. In the denominator of (15), $K_0(s)$ should be replaced by $K_1(s)$. The expression $T(z)$ in (19) should be replaced by $T(z) = K_1(z)/K_0(z)$. In the denominator of (24), $2K_0(r_0\kappa_1) - K_1(r_0\kappa_1)^2$ should be replaced by $K_0^2(r_0\kappa_1)$. Equations (25)–(33) do not need any change. With these corrections, the function $T(z)$ has the same behaviour when $z \to \infty$ as that previously given but the behaviour when $z \to 0$ is different. As a consequence the integrands in (28) and (33) have the same approximate asymptotic expressions when $\eta \to \infty$ as those given previously, but both become regular at the lower integration limit $\eta = 0$. Thus the numerical integration procedure described in the Appendix still stands except

r_0	0.5	1.0	5.0	10.0	∞
κ_1	1.21439	1.06752	0.89259	0.86196	0.82716

TABLE 1. Zero of $N(-i\kappa)$ as a function of r_0

r_0	0.5	1.0	5.0	10.0	∞
$x = 0.0$	0.35587	0.44673	0.63363	0.68316	0.75000
$x = 0.5$	0.36587	0.47621	0.70584	0.76725	0.85025
$x = 1.0$	0.32827	0.45134	0.71826	0.79151	0.89120
$x = 2.0$	0.24847	0.38014	0.70241	0.79795	0.93137
$x = 5.0$	0.11478	0.21815	0.59473	0.74086	0.97045
$x = 10.0$	0.05238	0.10898	0.43825	0.62389	0.98636
$x = 20.0$	0.02477	0.05108	0.26345	0.45123	0.99388

TABLE 2. Pressure distribution $P(x)$

r_0	0.5	1.0	5.0	10.0	∞
$x = 0.0$	−0.55564	−064007	−0.80575	−0.84875	−0.90654
$x = 0.5$	−0.14796	−0.22853	−0.40334	−0.45140	−0.51709
$x = 1.0$	−0.03897	−0.10739	−0.27948	−0.33066	−0.40259
$x = 2.0$	0.03581	−0.00501	−0.15586	−0.20969	−0.29064
$x = 5.0$	0.04225	0.04570	−0.02867	−0.07767	−0.17112
$x = 10.0$	0.01833	0.02893	0.01817	−0.01424	−0.10969
$x = 20.0$	0.00640	0.01127	0.02409	0.01406	−0.06936

TABLE 3. Shear-stress distribution $(\tau - 1)/\alpha$

that the integration of (33) from 0 to A, A to B, and from B to ∞ should be replaced simply by that from 0 to B with the use of Simpson's rule and from B to ∞ by analytical evaluation. Some typical values associated with the pressure and shear-stress distributions, calculated by the use of the corrected formulae, are shown in the tables 1–3, which agree very well with those shown in figures 3 and 4 of the paper by Kluwick *et al.* (1984) found by a different approach.