to

ASYMPTOTIC SOLUTIONS OF WAKES AND BOUNDARY LAYERS

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(Vol. II, nr. 1, january 1968, pp. 23-38)

1. In a private communication from Professor Paul A. Libby, he pointed out the necessity of revision in the last section, section 3.4. For the homogeneous perturbation equation with pressure gradient in section 3.4 he supplied a few integer eigen values for special sets of β_0 's. They are:

λ_n	3	3	4	5	5	6
n	1	2	2	2	3	3
β_0	0.456	-0.195	0.086	0.519	-0.169	0.136

The statement in section 3.4 about the non existence of integer eigenvalues for $\beta_0 \neq 0$ is incorrect. Nevertheless, the sum of eigenvalues is not an eigenvalue, therefore, the subsequence statements regarding the appearance of the ℓns terms due to the variations in initial profile and pressure gradient are still valid.

2. The author is also indebted to Professor Milton van Dyke for pointing out the following three references which are pertinent to the present paper.

23. Murray, J.D., "Incompressible Viscous Flow Past a Semi-Infinite Flat Plate." J. Fluid Mech. 21 (1965) 337-344.

24. Murray, J.D., "A Simple Method for Determining Asymptotic Forms of Navier-Stokes Solutions for a Class of Large Reynolds Number Flows." J. Math. & Phys. 46 (1967) 1-20.

25. Davis, R.T., "Laminar Incompressible Flow Past a Semi-Infinite Flat Plate." J. Fluid Mech. 27 (1967) 691-704.

In [23], Goldstein's asymptotic solution (7) has been extended to higher order terms without the contributions from the initial profile. In [24], similar asymptotic expansions for Oseen type equations were presented. The necessity of adding non-integral eigen solutions was briefly mentioned. The analysis of the present paper shows that the rate of decay of the initial profile is defined by the first eigen value and that in absence of an initial profile, the asymptotic solutions due to the inhomogeneous terms are useful only when they decay slower than the first eigen solution. In [25] a local similar solution to the Navier-Stokes equation for uniform flow over a flat plate is presented. The solution is also applied to the region near the edge without the necessity of matching with another solution.