obtained by Schlichting,[1] differing only in the coefficient from $\frac{1}{2}$ to $\frac{1}{3}$, as also indicated in Eq. (2).

In order to determine B, apply the momentum theorem to a control volume enclosing the body. The total drag is given by

$$D = 2\pi\rho \int_0^\infty u(u_\infty - u)y\,dy$$

$$= 2\pi\rho \int_0^\infty u_1(u_\infty - u_1)y\,dy$$

Neglecting $u_1{}^2$ and defining

$$D = (\tfrac{1}{2})C_D\rho u_\infty{}^2(\pi d^2/4)$$

we obtain, by equating these two equations,

$$\left(\frac{1}{16}\right) u_\infty C_D d^2 = \int_0^\infty u_1 y\,dy$$

$$= \int_0^1 u_1 b^2 \eta\,d\eta$$

$$= u_\infty C_D d^2 \frac{B^3}{27\beta^2} \int_0^1 (\eta^4 - 2\eta^{5/2} + \eta)\,d\eta$$

Thus

$$B = [(105)^{1/3}/2]\,\beta^{2/3}$$

Therefore,

$$f = [(105)^{1/3}/54]\beta^{-4/3}(1 - \eta^{3/2})^2 \qquad (3)$$

Finally, using Eq. (3),

$$b = [(105)^{1/3}/2]\beta^{2/3}(C_D d^2 x)^{1/3} \qquad (4)$$

and

$$u_1/u_\infty = [(105)^{1/3}/54]\beta^{-4/3}\,(x^2/C_D d^2)^{-1/3}[1 - (y/b)^{3/2}]^2 \quad (5)$$

Concluding Remarks

The solutions given by Eqs. (4) and (5) are more direct and simpler than Swain's analysis[2] of the axial-symmetric wake flow.

References

[1] Schlichting, H., *Boundary Layer Theory*, 6th ed., McGraw-Hill, New York, 1968, pp. 686, 691–692.

[2] Swain, L. M., "On the Turbulent Wake behind a Body of Revolution," *Proceedings of the Royal Society (London)*, Vol. A125, 1929, pp. 647–659.

Announcement: 1968 Author and Subject Indexes

It has been the custom to publish the annual author and subject indexes of the AIAA journals in the last issue of the year. This year, however, with the approval of the Publications Committee, we will publish a combined index of the four journals (*AIAA Journal, Journal of Spacecraft and Rockets, Journal of Aircraft,* and *Journal of Hydronautics*). All topic headings will be included, whether or not anything on that subject was published. The index will be mailed to all subscribers to the journals in January 1969. We hope that readers will find the combined index more convenient to use than four separate ones.

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