

⁶Rodi, W., "A New Method of Analyzing Hot-Wire Signals in Highly Turbulent Flow and Its Evaluation in a Round Jet," DISA Information, No. 17, 1975, pp. 9–18.

⁷Freythuth, P., "Further Investigation of the Non-Linear Theory for Constant-Temperature Hot-Wire Anemometers," *Journal of Physics E*, Vol. 10, 1977, pp. 710–713.

⁸Holman, J. P., and Gajda, W. J., *Experimental Methods for Engineers*, McGraw-Hill, New York, 1978, pp. 7, 8.

⁹Hanford, P. M., and Bradshaw, P., "The Pulsed-Wire Anemometer," *Experiments in Fluids*, Vol. 7, 1989, pp. 125–132.

¹⁰Tanaka, E., Inoue, Y., and Yamashita, S., "An Experimental Study on the Two-Dimensional Opposed Wall Jet in a Turbulent Boundary-Layer," *Experiments in Fluids*, Vol. 17, 1994, pp. 238–245.

Reply by the Authors to O. Özcan, D. A. Johnson, and R. L. Simpson

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A TIME-AVERAGED base flow has been considered in our paper¹ as had been done in some previous works.^{2–5} It is well known that there are periodic phenomena associated with base flows of axisymmetric bodies, but these are not nearly predominant.² This

consideration makes it relatively easy to obtain some information that is important for our engineering point of view.

Several works^{2–5} in the literature employed the hot-wire technique in the separated flows. Despite the limitations and difficulties of this technique in these cases, it provides important information related to the general structure of the flowfield at least qualitatively.

In our paper¹ a correction has been made on the mean velocity output of CTA in the near-wake region to prevent high turbulence effects as explained in Ref. 6. The accuracy values for mean velocity and fluctuations have been obtained from our computerized measurements as deviations from expected values when the hot-wire probe is exposed to flow in the known flow conditions. Therefore, our paper does not confuse the term "accuracy" with the term "precision."

Our paper indicates the location of the rear-stagnation point and the location where the maximum rms values exist in the near-wake region. The paper also indicates the influence of the base geometry on these values and total drag. These data are important for engineering purposes. We hope these data are verified by other techniques in the future.

References

- ¹İlday, Ö., Acar, H., Elbay, M. K., and Atli, V., "Wakes of Three Axisymmetric Bodies at Zero Angle of Attack," *AIAA Journal*, Vol. 31, No. 6, 1993, pp. 1152–1154.
- ²Calvert, J. R., "Experiments on the Low-Speed Flow Past Cones," *Journal of Fluid Mechanics*, Vol. 27, Pt. 2, 1967, pp. 273–289.
- ³Merz, R. A., Yi, C. H., and Przirembel, C. E. G., "Turbulence Intensities in the Near-Wake of a Semielliptical Afterbody," *AIAA Journal*, Vol. 24, No. 12, 1986, pp. 2038–2040.
- ⁴Merz, R. A., Yi, C. H., and Przirembel, C. E. G., "The Subsonic Near-Wake of an Axisymmetric Semielliptical Afterbody," *AIAA Journal*, Vol. 23, No. 10, 1985, pp. 1512–1517.
- ⁵Sinha, S. N., Gupta, A. K., and Oberai, M. M., "Laminar Separating Flow over Backsteps and Cavities, Part I: Backsteps," *AIAA Journal*, Vol. 19, No. 12, 1981, pp. 1527–1530.
- ⁶Atli, V., "Subsonic Flow over a Two-Dimensional Obstacle Immersed in a Turbulent Boundary Layer on a Flat Surface," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 13, Nos. 2–3, 1988, pp. 225–239.

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