useful information to re-evaluate existing hot-film and hot-wire measurements of separating turbulent boundary layers. For example, if the measured $U_r/(u_r^2)^{1/2}$ value was greater than 2, then $\gamma_p > 0.9$ and U_r should be valid. The u_r^2 values should only be trusted when $\gamma_p > 0.95$.

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Technical Comments

Comment on "Buckling of Open Cylindrical Shells with Torsionally Stiff Rectangular Edge Stiffeners"

A.V. Viswanathan* and M. Tamekuni*
Boeing Commercial Airplane Company, Seattle, Washington

CLASSICAL theoretical solutions based on small deflection theory for buckling of open cylindrical shells (curved plates), both unstiffened and logitudinally stiffened and more general than that of Ref. 1, are available in literature.[2-6] References 2 and 3 and the associated computer program "BUCLAP2" consider curved laminates (with differing orthotropy directions in each lamina) subjected to combined inplane loads $\bar{N}_x$, $\bar{N}_y$, and $\bar{N}_{xy}$. Boundary conditions along the longitudinal sides can be arbitrary. While Refs. 4 and 5 present a unified analysis for longitudinally stiffened structures (open or closed) subjected to biaxial inplane loads, the algorithm of the associated computer program "BUCLASP2" takes advantage of "open" structures with open or closed stiffeners. The case of open cylindrical shells with torsionally stiff edge stiffeners thus become only a particular case of the more general solution. The analysis of Refs. 4 and 5 unlike that of Ref. 1 does not involve quantitative assumptions of the torsional stiffness or the lateral resistance of the stiffener and also does not ignore local stiffener deformations at buckling. Such deformations lower the effective stiffness of the stiffener, thereby further reducing the buckling loads.[7]

Reference 6 is an extension of Refs. 4 and 5 and presents an analysis for thermal stresses and buckling of heated longitudinally stiffened structures. While the temperature is uniform in the longitudinal direction, temperature variation in the cross-section is allowed. The analysis is also applicable to buckling of the structures described, with nonuniform loads in the cross-section, e.g. bending.

The formulation of Refs. 2 to 6 leads to a symmetric "buckling determinant." This enables the use of the algorithm of Ref. 8 which ensures that the lowest buckling load is determined with certainty and with few iterations. This method avoids the main disadvantages of the technique used in reference 1, namely, the risk of missing the lowest buckling load unless extremely small load increments are used and the consequent uneconomical computing time required.

The analysis of Refs. 9 to 12 are exact for prismatic flat plate structures. However, as discussed in Ref. 13, these methods can also be approximated with certain limitations to analyze open cylindrical shells, both unstiffened and longitudinally stiffened.

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*Structures Staff. Member AIAA.

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Reply by Author to A.V. Viswanathan and M. Tamekuni

G. Krishnamoorthy
San Diego University, San. Diego, Calif.

MOST of the references quoted in the discussion refer to the shell problems in which, the stifferners are

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*Professor, Department of Civil Engineering.