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Some further thoughts on the zero-pressure-gradient turbulent boundary layer W.K. GEORGE[1], Chalmers U. of Tech., Gothenburg, Sweden — In spite of its remarkable ability to describe recent friction and integral boundary layer thickness data, there have been consistent claims that power-law based theories of turbulent boundary layers are not viable. In particular it is argued that they do not properly describe the velocity data in the overlap region near the wall. These claims are examined in detail using recent experiments for which the data is publicly available. (Smith[2] and Österlund[3]). The mean velocity data from both experiments are seen to be described by the George/Castillo/Wosnik[4,5] theoretical profile to within fractions of a percent for $y^+ > 30$.

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[2]Smith, R. W. , Ph. D. diss., Princeton, 1994.
[3]Österlund, J. O. , Ph.D diss., KTH, 2000.
[4]George, W. and Castillo,L. Appl. Mech. Rev, 50,12, Pt 1, 689 - 729, 1997.
[5]Wosnik, M. , Ph. D. diss., SUNY/Buffalo, 2000.

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