

Adaptive-Wall Wind-Tunnel Development for Transonic Testing

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In principle, the adaptive-wall wind tunnel is an attractive alternative to traditional methods of accounting for wind-tunnel wall interference. The concept has been successfully demonstrated for two-dimensional flows at moderately supercritical Mach numbers, but more work needs to be done before the method can be used in production testing. In this paper experimental techniques for rapid assessment and correction of wall interference are described. The procedure is based on laser velocimetry measurements on two control surfaces and on the use of a dedicated computer for rapid data processing. The experimental arrangement and instrumentation are described and typical results from an experiment on a nonlifting NACA 0012 airfoil at  $M=0.78$  are discussed.

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本研究に関心をお持ちの方は、S. Bodapati, E. Schairer, S. Davis  
共著の同表題の論文 (Journal of Aircraft 18/4 (April 1981) 273-9)  
を御参照下さい。(研究代表者)