

Abstract Submitted
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The behavior of turbulent boundary layer flow over periodic flexible walls . TINDARO IOPPOLO, Southern Methodist University — This study describes the interaction of a zero pressure gradient turbulent boundary layer with periodic circular flexible plates. The elastic plates are mounted on the floor of the test section of a subsonic wind tunnel and exposed to a free stream velocity between 20m/s and 70m/s. The ceiling of the test section of the wind tunnel is adjustable so that a nearly zero pressure gradient is obtained in the test section of the wind tunnel. Hot-wire anemometry was used to measure the velocity components. Velocity and turbulence quantities are measured for different plate's stiffness and geometries and are compared with the measurements obtained using a rigid plate.

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