

Abstract Submitted  
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**Experimental Investigation of Zero Pressure-Gradient Turbulent Boundary Layers Using Particle Image Velocimetry** BOON TUAN TEE, TIMOTHY NICKELS — Due to the practical importance of turbulent boundary layers in fluid dynamic engineering, there is a need to predict or compute their behaviour. Numerous experimental and numerical studies have been conducted to examine the characteristics of turbulent boundary layers. Low-speed PIV was employed to measure the stream-wise velocities of zero pressure-gradient boundary layers in the turbulence water tunnel research facility at Cambridge University Engineering Department. The measurement position was 4 m downstream of a tripping rod with freestream velocities of 0.53 m/s and 0.64 m/s respectively. The use of low-speed PIV in this experiment enabled measurements of the mean flow fields and the flow statistics. Data is also reported for normalized mean velocity based on friction velocity ( $u_\tau$ ) calculated using Clauser chart method.

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