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Turbulence measurements in high Reynolds number boundary layers[1] MARGIT VALLIKIVI, Princeton University, ALEXANDER SMITS, Princeton University and Monash University — Measurements are conducted in zero pressure gradient turbulent boundary layers for Reynolds numbers from $\mathrm{Re}_\theta = 9{,}000$ to 225,000. The experiments were performed in the High Reynolds number Test Facility (HRTF) at Princeton University, which uses compressed air as the working fluid. Nano-Scale Thermal Anemometry Probes (NSTAPs) are used to acquire data with very high spatial and temporal precision. These new data are used to study the scaling behavior of the streamwise velocity fluctuations in the boundary layer and make comparisons with the scaling of other wall-bounded turbulent flows.

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Margit Vallikivi
Princeton University

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