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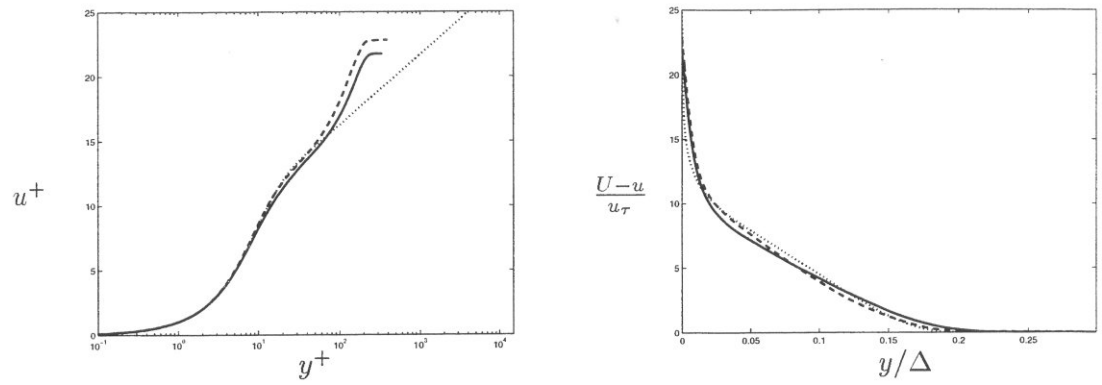

Figure 4: Velocity profiles for APG2 in a) inner scaling b) outer scaling — DNS; - - DRSM; ··· Asymptotic

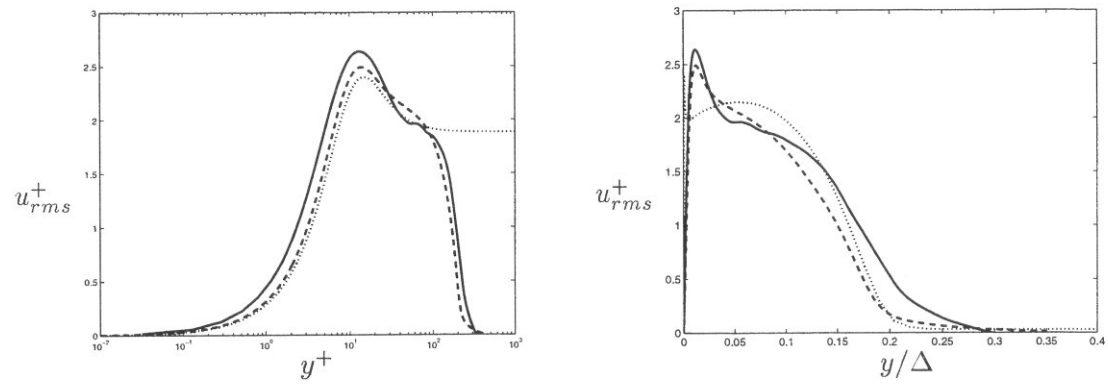

Figure 5: a) u^+_{rms} for APG2 in a) inner scaling b) outer scaling — DNS; - - DRSM; ··· Asymptotic

gradient parameter and the shape factor. This relation gives better agreement than the linearized analysis based on a ratio of the freestream velocity to the friction velocity of zero. The linearization is equivalent to the assumption that the shape factor is equal to one.

Comparison of turbulent statistics from the ZPG and the two APG cases show the development of a second peak in the turbulent energy in agreement with experiment.

A differential Reynolds-stress model was used to predict the mean flow. Comparison with the direct simulations showed that low Reynolds number effects are well captured.

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