CORRECTION

Correction to: Design and implementation of a hot-wire probe for simultaneous velocity and vorticity vector measurements in boundary layers

S. Zimmerman[1] · C. Morrill-Winter[1] · J. Klewicki[1,2]

Correction to: Exp Fluids (2017) 58:148
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It has been discovered that the original manuscript presented data that had a sign error associated with the application of Taylor's frozen turbulence hypothesis. The negative signs shown here in Eqs. 2 and 3 besides the $2U_c\Delta t$ terms were not included in the original manuscript or the associated computational code. The affected figures are shown here in their updated form. While slightly better agreement between the synthetic and physical experimental results is observed, the differences do not warrant a revision of the original conclusions:

$$\omega_2 = \frac{\partial u_1}{\partial x_3} - \frac{\partial u_3}{\partial x_1} \approx \frac{u_{1_c} - u_{1_d}}{\Delta x_3} - \frac{u_{3_a} + u_{3_b}}{-2U_c\Delta t} \tag{2}$$

$$\omega_3 = \frac{\partial u_2}{\partial x_1} - \frac{\partial u_1}{\partial x_2} \approx \frac{u_{2_c} + u_{2_d}}{-2U_c\Delta t} - \frac{u_{1_a} - u_{1_b}}{\Delta x_2}. \tag{3}$$

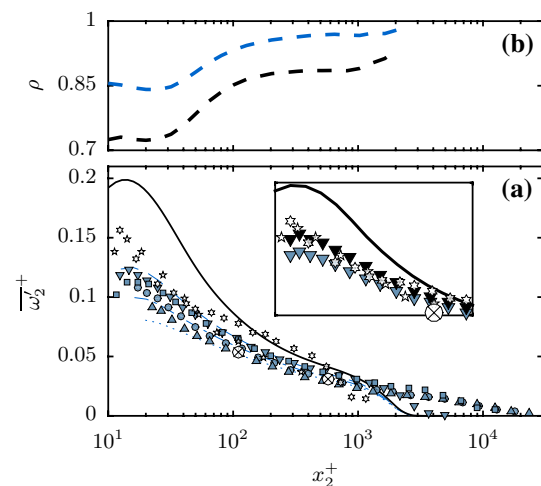**Fig. 13 a** Inner-normalized existing and present RMS profiles of wall-normal vorticity fluctuations and predicted results. Inset highlights the effects of computing the $\partial u_1/\partial x_3$ gradient with a forward or backward difference (dark fill) as opposed to a central difference (light fill). **b** Simulated correlation coefficient between the measured $\partial u_1/\partial x_3$ gradient and its known value at the probe centroid as computed with a forward or backward difference (dark line) as opposed to a central difference (light line). Note that the dark fill symbols in the inset of **a** correspond to the poorer correlation coefficient, despite having RMS values closer to the fully resolved DNS

✉ S. Zimmerman
  zimmermans@unimelb.edu.au

1 Department of Mechanical Engineering, University of Melbourne, Melbourne, VIC, Australia

2 Mechanical Engineering Department, University of New Hampshire, Durham, NH, USA
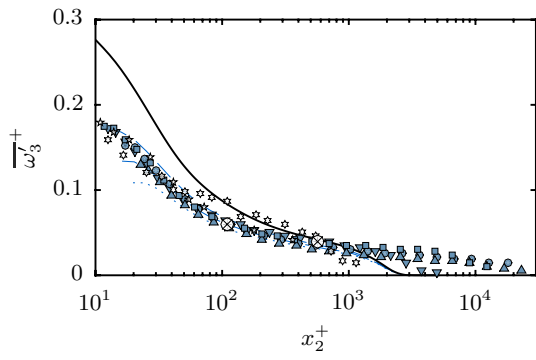
Fig. 16 Inner-normalized existing and present RMS profiles of spanwise vorticity fluctuations and predicted results
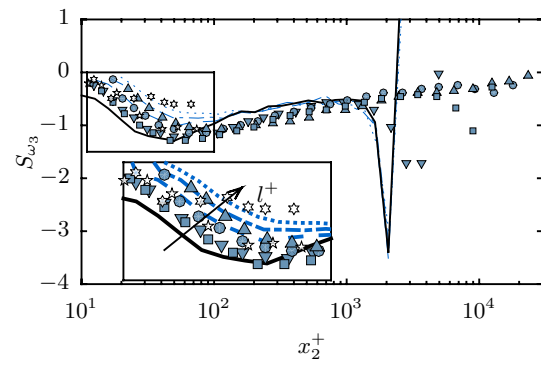

Fig. 19 Existing and present skewness profiles of ω_3 and predicted results