

Abstract Submitted  
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**Instantaneous, phase-averaged, and time-averaged pressure from particle image velocimetry**<sup>1</sup> ROELAND DE KAT, University of Southampton — Recent work on pressure determination using velocity data from particle image velocimetry (PIV) resulted in approaches that allow for instantaneous and volumetric pressure determination. However, applying these approaches is not always feasible (e.g. due to resolution, access, or other constraints) or desired. In those cases pressure determination approaches using phase-averaged or time-averaged velocity provide an alternative. To assess the performance of these different pressure determination approaches against one another, they are applied to a single data set and their results are compared with each other and with surface pressure measurements. For this assessment, the data set of a flow around a square cylinder (de Kat & van Oudheusden, 2012, *Exp. Fluids* 52:1089–1106) is used.

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