

Abstract Submitted
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Volumetric PIV with a Plenoptic Camera¹ BRIAN THUROW, TIM FAHRINGER, Auburn University — Plenoptic cameras have received attention recently due to their ability to computationally refocus an image after it has been acquired. We describe the development of a robust, economical and easy-to-use volumetric PIV technique using a unique plenoptic camera built in our laboratory. The tomographic MART algorithm is used to reconstruct pairs of 3D particle volumes with velocity determined using conventional cross-correlation techniques. 3D/3C velocity measurements (volumetric dimensions of 2.8" x 1.9" x 1.6") of a turbulent boundary layer produced on the wall of a conventional wind tunnel are presented.

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