

Abstract Submitted  
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**Development of a High-Speed Three-Dimensional Flow Visualization Technique**<sup>1</sup> BRIAN THUROW, KYLE LYNCH, Auburn University — A high-speed 3-D flow visualization technique has been developed for the investigation of turbulent flows. The technique is based on the scanning of a laser light sheet through the flow field. High-speeds are possible using a recently developed MHz rate pulse burst laser system, an ultra-high-speed camera capable of 500,000 fps and a galvanometric scanning mirror. The current technique is capable of producing 3-D images with 220 x 220 x 68 resolution and exposure times of 136 microseconds. Exposure times on the order of 10s of microseconds are possible using higher framing rate cameras. The technique is demonstrated by visualizing the vortex dominated flow of a round turbulent jet where the presence of ring vortices and 3-D azimuthal instabilities is clearly illustrated.

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