

Abstract Submitted  
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**Nano-scale velocimetry with Bessel Beam Microscopy** CRAIG SNOEYINK, Texas Tech University — Bessel Beam Microscopy is a unique imaging technique that places an axicon in the imaging path of a microscope. Here we will discuss recent advances in this technique including single-acquisition with 40% improved spatial resolution and single-view three-dimensional particle tracking with greatly enhanced depth resolution. These capabilities lead to enhanced resolution in velocimetry techniques. For example, when using BBM to perform Particle Image Velocimetry (PIV) the increased image spatial resolution allows for a corresponding increase in velocity field spatial resolution. The greatly increased depth resolution, on the order of 100 nm with a 10x objective, can greatly increase the spatial resolution of Particle Tracking Velocimetry (PTV) measurements.

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