

Abstract Submitted  
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**Computational Assessment of Orifice Geometry for Ring Vortex Generation** JOHN MARYOTT, JOEL PELTIER, ERIC PATERSON, MICHAEL KRANE, ARNOLD FONTAINE, Penn State University, APPLIED RESEARCH LABORATORY TEAM — This talk will present results of a computational assessment of how orifice geometry influences ring vortex formation. The long-term goal is to maximize vortex ring circulation and coherence at high Reynolds number. The computations are performed using acuSolve, a 2nd-order accurate (time & space), finite-element flow solver from acuSim Corporation of Mountain View, CA. Orifice concepts include tangential suction and blowing, as well as divergence angle. Vortex formation behavior for each nozzle configuration is compared to a canonical case of a flow pulse from a straight, sharp-edged nozzle, where the pulse in each case has the same L/D and waveform shape.

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