

Abstract Submitted  
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**Vortex formation at the apex of an oblique cone in uniform cross-stream** AL SHAHRIAR, KOUROSH SHOELE, RAJAN KUMAR, Florida State University — The present investigation is concentrating on the dynamics of the vortex in the wake region of the cone for high angle of attacks. As the flow built up from the tip toward the base, it is associated with the swept boundary layer, 3D coherent and turbulent structures, asymmetric vortices and no fixed length scale. Based on the base diameter, the study was conducted for moderate to higher Reynolds number with LES and a wall function. Semi-body conformal grid has been generated for higher accuracy and resolution near the body. The tip of the cone has been found very sensitive to the coherent structures formed downstream of the flow. The instantaneous frequencies, wavelengths, turbulent structure, and shedding angles have analyzed in detail to characterize the flow over a cone. The continuous variation of the cone diameter regulate the changes in the shedding frequencies along the span of the cone.

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