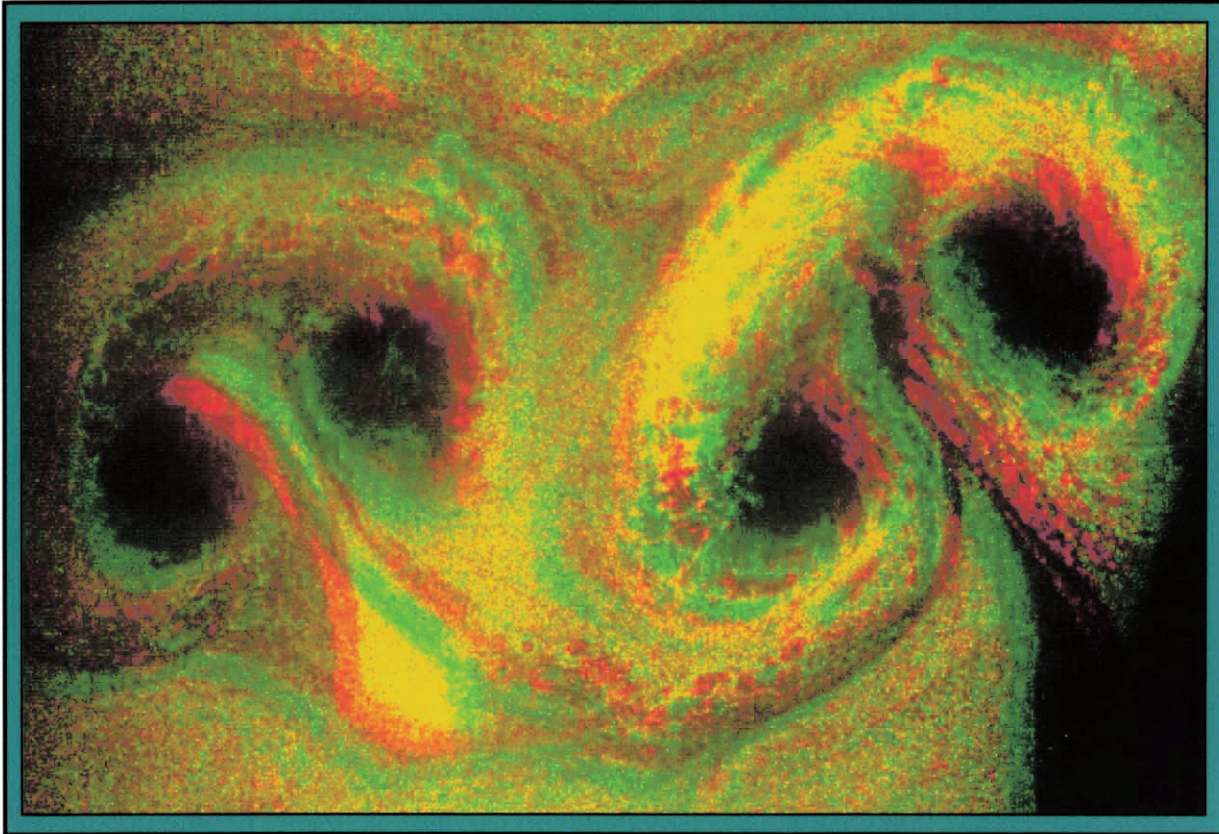


#### 4. Vortex-shedding in a Transonic Compressor

*Esteveordal, J.<sup>1)</sup>, Gogineni, S.<sup>1)</sup>, Goss, L.<sup>1)</sup>, Copenhaver, W.<sup>2)</sup> and Gorrell, S.<sup>2)</sup>*

*1) Innovative Scientific Solutions, Inc., 2766 Indian Ripple Road, Dayton, OH 45440, USA*

*2) Air Force Research Laboratory, Wright-Patterson Air Force Base, OH 45433, USA*



Vortices from the wake in a high-through-flow, axial-flow transonic compressor located in the Compressor Aerodynamic Research Laboratory (CARL) at Wright-Patterson Air Force Base were visualized using Digital Particle Image Velocimetry (DPIV). These vortices are shed from the wake generators (WGs) and driven by the potential field of the blade. The axial distance between the WG and the blade leading edge is 56% of the chord at 50% of the WG span. The visualization was performed using a cross-correlation camera, with a double exposure of 1  $\mu$ s. The first frame was colored green and the second, red. The images were superimposed, resulting in the orange DPIV visualization.