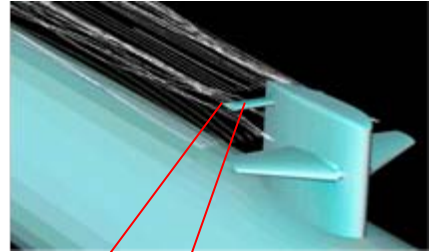
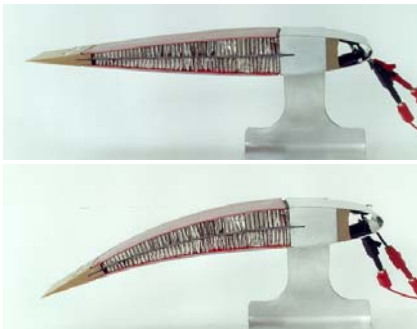




# Shape Memory Alloy (SMA) Devices for Vortex Wake Control

*SMA-actuated Vortex Leveraging Tabs (VLTs) are the heart of a novel scheme for accelerating submarine vortex wake breakup.*

Model VLT showing large static deflection capability: undeflected (top) and deflected (bottom)

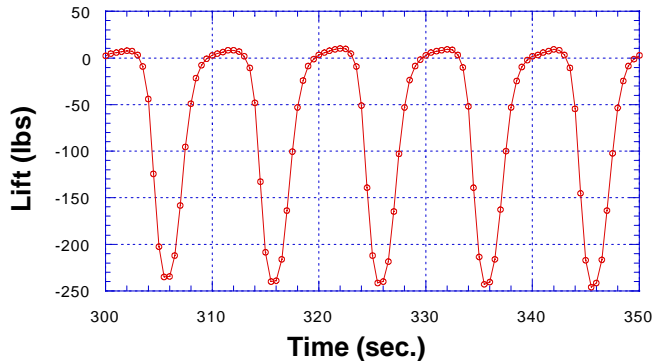


Submarine plus auxiliary sailplane surface with deformable trailing edge VLT installed

*A 27" prototype foil was fabricated by Lockheed Martin for testing at full scale dynamic pressure in the NSWC Carderock 36" water tunnel.*



*Testing at up to 17 fps (300 psf dynamic pressure) yielded robust, repeatable, high-force cyclic deflection.*



*This **proven** SMA actuation technology is readily adaptable to a wide range of marine, fixed-wing, and rotary-wing applications in control surface shape control and flow tailoring.*