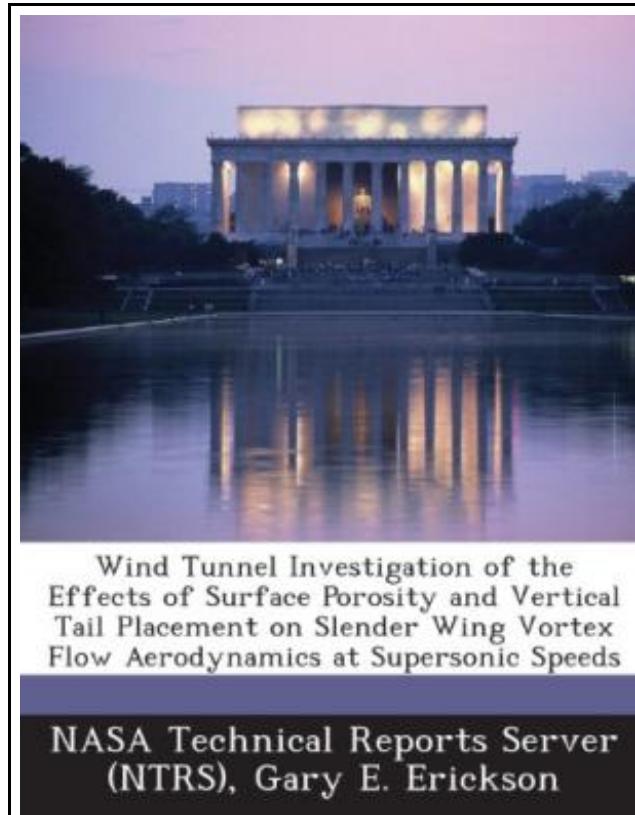


# Wind Tunnel Investigation of the Effects of Surface Porosity and Vertical Tail Placement on Slender Wing Vortex Flow Aerodynamics at Supersonic Speeds



Filesize: 7.31 MB

## Reviews

*This publication is amazing. It is actually loaded with knowledge and wisdom You will like the way the blogger write this publication.*  
*(Keon Altenwerth)*

## WIND TUNNEL INVESTIGATION OF THE EFFECTS OF SURFACE POROSITY AND VERTICAL TAIL PLACEMENT ON SLENDER WING VORTEX FLOW AERODYNAMICS AT SUPERSONIC SPEEDS

[DOWNLOAD](#)

To get **Wind Tunnel Investigation of the Effects of Surface Porosity and Vertical Tail Placement on Slender Wing Vortex Flow Aerodynamics at Supersonic Speeds** PDF, you should click the hyperlink listed below and download the ebook or get access to additional information which might be highly relevant to **WIND TUNNEL INVESTIGATION OF THE EFFECTS OF SURFACE POROSITY AND VERTICAL TAIL PLACEMENT ON SLENDER WING VORTEX FLOW AERODYNAMICS AT SUPERSONIC SPEEDS** book.

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 160 pages. Dimensions: 9.7in. x 7.4in. x 0.3in. A wind tunnel experiment was conducted in the NASA Langley Research Center (LaRC) Unitary Plan Wind Tunnel (UPWT) to determine the effects of passive surface porosity and vertical tail placement on vortex flow development and interactions about a general research fighter configuration at supersonic speeds. Optical flow measurement and flow visualization techniques were used that featured pressure sensitive paint (PSP), laser vapor screen (LVS), and schlieren. These techniques were combined with conventional electronically-scanned pressure (ESP) and six-component force and moment measurements to quantify and to visualize the effects of flow-through porosity applied to a wing leading edge extension (LEX) and the placement of centerline and twin vertical tails on the vortex-dominated flow field of a 65 cropped delta wing model. Test results were obtained at free-stream Mach numbers of 1.6, 1.8, and 2.1 and a Reynolds number per foot of 2.0 million. LEX porosity promoted a wing vortex-dominated flow field as a result of a diffusion and weakening of the LEX vortex. The redistribution of the vortex-induced suction pressures contributed to large nose-down pitching moment increments but did not significantly affect the vortex-induced lift. The trends associated with LEX porosity were unaffected by vertical tail placement. The centerline tail configuration generally provided more stable rolling moments and yawing moments compared to the twin wing-mounted vertical tails. The strength of a complex system of shock waves between the twin tails was reduced by LEX porosity. This item ships from La Vergne, TN. Paperback.

- [Read Wind Tunnel Investigation of the Effects of Surface Porosity and Vertical Tail Placement on Slender Wing Vortex Flow Aerodynamics at Supersonic Speeds Online](#)
- [Download PDF Wind Tunnel Investigation of the Effects of Surface Porosity and Vertical Tail Placement on Slender Wing Vortex Flow Aerodynamics at Supersonic Speeds](#)

## Related Books

---



### [PDF] **Animology: Animal Analogies**

Click the hyperlink beneath to download "Animology: Animal Analogies" PDF document.

[Read ePUB »](#)

---



### [PDF] **The Whale Tells His Side of the Story Hey God, Ive Got Some Guy Named Jonah in My Stomach and I Think Im Gonna Throw Up**

Click the hyperlink beneath to download "The Whale Tells His Side of the Story Hey God, Ive Got Some Guy Named Jonah in My Stomach and I Think Im Gonna Throw Up" PDF document.

[Read ePUB »](#)

---



### [PDF] **The Mystery at Motown Carole Marsh Mysteries**

Click the hyperlink beneath to download "The Mystery at Motown Carole Marsh Mysteries" PDF document.

[Read ePUB »](#)

---



### [PDF] **Yearbook Volume 15**

Click the hyperlink beneath to download "Yearbook Volume 15" PDF document.

[Read ePUB »](#)

---



### [PDF] **Memoirs of Robert Cary, Earl of Monmouth**

Click the hyperlink beneath to download "Memoirs of Robert Cary, Earl of Monmouth" PDF document.

[Read ePUB »](#)

---



### [PDF] **Aeschylus**

Click the hyperlink beneath to download "Aeschylus" PDF document.

[Read ePUB »](#)