

Estimation of the Unsteady Aerodynamic Load on Space Shuttle External Tank Protuberances from a Component Wind Tunnel Test (Paperback)



Filesize: 3.68 MB

Reviews

This pdf will never be straightforward to get going on studying but quite enjoyable to read through. This is certainly for all those who state there was not a really worth studying. You are going to like the way the blogger publish this publication.
(Mrs. Adah Sawayn)

ESTIMATION OF THE UNSTEADY AERODYNAMIC LOAD ON SPACE SHUTTLE EXTERNAL TANK PROTUBERANCES FROM A COMPONENT WIND TUNNEL TEST (PAPERBACK)

[DOWNLOAD PDF](#)

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.At the wake of the Columbia (STS-107) accident it was decided to remove the Protuberance Aerodynamic Load (PAL) Ramp that was originally intended to protect various protuberances outside of the Space Shuttle External Tank from high buffet load induced by cross-flows at transonic speed. In order to establish the buffet load without the PAL ramp, a wind tunnel test was conducted where segments of the protuberances were instrumented with dynamic pressure transducers; and power-spectra of sectional lift and drag forces at various span-wise locations between two adjacent support brackets were measured under different cross flow angles, Mach number and other conditions. Additionally, frequency-dependent spatial correlations between the sectional forces were also established. The sectional forces were then adjusted by the correlation length to establish span-averaged spectra of normal and lateral forces that can be suitably added to various other unsteady forces encountered by the protuberance. This paper describes the methodology used for calculating the correlation-adjusted power spectrum of the buffet load. A second part of the paper describes wind-tunnel results on the difference in the buffet load on the protuberances with and without the PAL ramp. In general when the ramp height is the same as that of the protuberance height, such as that found on the liquid Oxygen part of the tank, the ramp is found to cause significant reduction of the unsteady aerodynamic load. However, on the liquid Hydrogen part of the tank, where the Oxygen feed-line is far larger in diameter than the height of the PAL ramp, little protection is found to be available to all but the Cable Tray.



[Read Estimation of the Unsteady Aerodynamic Load on Space Shuttle External Tank Protuberances from a Component Wind Tunnel Test \(Paperback\) Online](#)



[Download PDF Estimation of the Unsteady Aerodynamic Load on Space Shuttle External Tank Protuberances from a Component Wind Tunnel Test \(Paperback\)](#)

Other Kindle Books



Index to the Classified Subject Catalogue of the Buffalo Library; The Whole System Being Adopted from the Classification and Subject Index of Mr. Melvil Dewey, with Some Modifications . (Paperback)

Rarebooksclub.com, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.This historic book may have numerous typos and missing text. Purchasers can usually...

[Save ePub »](#)



The First Epistle of H. N. a Crying-Voyce of the Holye Spirit of Loue. Translated Out of Base-Almayne Into English. (1574) (Paperback)

Eebo Editions, Proquest, United States, 2010. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.EARLY HISTORY OF RELIGION. Imagine holding history in your hands. Now...

[Save ePub »](#)



Two Treatises: The Pearle of the Gospell, and the Pilgrims Profession to Which Is Added a Glasse for Gentlewomen to Dresse Themselves By. by Thomas Taylor Preacher of Gods Word to the Towne of Reding. (1624-1625) (Paperback)

Proquest, Eebo Editions, United States, 2010. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.EARLY HISTORY OF RELIGION. Imagine holding history in your hands. Now...

[Save ePub »](#)



Two Treatises: The Pearle of the Gospell, and the Pilgrims Profession to Which Is Added a Glasse for Gentlewomen to Dresse Themselves By. by Thomas Taylor Preacher of Gods Word to the Towne of Reding. (1625) (Paperback)

Proquest, Eebo Editions, United States, 2010. Paperback. Book Condition: New. 246 x 189 mm. Language: English Brand New Book ***** Print on Demand *****.EARLY HISTORY OF RELIGION. Imagine holding history in your hands. Now you...

[Save ePub »](#)



Symphony No.2 Little Russian (1880 Version), Op.17: Study Score (Paperback)

Petrucci Library Press, United States, 2015. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.Composed in 1872 and first performed in Moscow at the Russian...

[Save ePub »](#)