

Contents

The Acoustics of Flow over Rough Elastic Surfaces.	1
William K. Blake and Jason M. Anderson	
 Part I Source Characterization	
Spectral Properties of Wall-Pressure Fluctuations and Their Estimation from Computational Fluid Dynamics.	27
Daniel Juvé, Marion Berton and Edouard Salze	
Effect of Developing Pressure Gradients on TBL Wall Pressure Spectrums	47
Mark J. Moeller, Teresa S. Miller and Richard G. DeJong	
Wall Pressure Fluctuations Induced by Supersonic Turbulent Boundary Layer	67
Roberto Camussi and Alessandro Di Marco	
Turbulent Surface Pressure Field in Low Speed Flow	91
Stéphane Caro, Vincent Cotoni, Phil Shorter and Fred Mendonça	
Characterization of Synthetic Jet Resonant Cavities	101
Luigi de Luca, Michele Girfoglio, Matteo Chiatto and Gennaro Coppola	

Part II Direct and Inverse Methods

Source Scanning Technique for Simulating TBL-Induced Vibrations Measurements. 121
Mathieu Aucejo, Laurent Maxit and Jean-Louis Guyader

Experimental Synthesis of Spatially-Correlated Pressure Fields for the Vibroacoustic Testing of Panels. 151
Olivier Robin, Alain Berry and Stéphane Moreau

Identification of Boundary Pressure Field Exciting a Plate Under Turbulent Flow 187
Nicolas Totaro, Charles Pézerat, Quentin Leclère, Damien Lecoq and Fabien Chevillotte

Part III Structural Vibration and Noise

Turbulent Flow-Induced Self Noise and Radiated Noise in Naval Systems—An Industry Point of View 211
Frédérique Chevalier and Christian Audoly

Vibroacoustics Under Aerodynamic Excitations 227
Mohamed N. Ichchou, Olivier Bareille, Bernard Troclet, Bastien Hiverniau, Marie De Rochambeau and Dimitrios Chronopoulos

Discussion About Different Methods for Introducing the Turbulent Boundary Layer Excitation in Vibroacoustic Models. 249
Laurent Maxit, Marion Berton, Christian Audoly and Daniel Juvé

Dimensionless Representations of the Interaction Between Turbulent Boundary Layer and Elastic Plates 279
Elena Ciappi, Sergio De Rosa and Francesco Franco

The Method of the Pseudo Equivalent Deterministic Excitations (PEDE_M) to Bound the Random Response. 299
Sergio De Rosa, Francesco Franco and Elena Ciappi

A Numerical Methodology for Resolving Aeroacoustic-Structural Response of Flexible Panel. 321
Randolph C.K. Leung, Harris K.H. Fan and Garret C.Y. Lam

**Calculating Structural Vibration and Stress from Turbulent
Flow Induced Forces 343**
Stephen A. Hambric, Matthew Shaw, Robert L. Campbell
and Stephen C. Conlon

**Appendix: Vortex Shedding from a Two-Dimensional Hydrofoil
at High Reynolds Number 357**

Flinovia - Flow Induced Noise and Vibration Issues and
Aspects

A Focus on Measurement, Modeling, Simulation and
Reproduction of the Flow Excitation and Flow Induced
Response

Ciappi, E.; De Rosa, S.; Franco, F.; Guyader, J.-L.;
Hambric, S.A. (Eds.)

2015, XVII, 358 p. 228 illus., 173 illus. in color.,
Hardcover

ISBN: 978-3-319-09712-1