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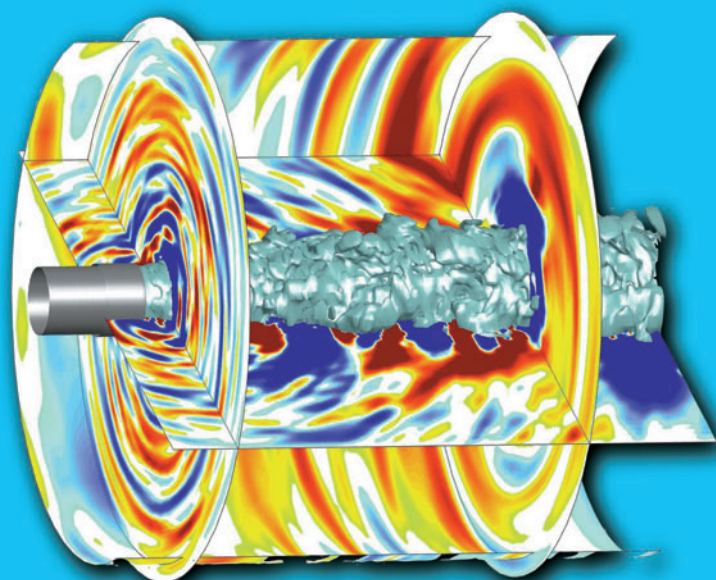
## *Computational Aeroacoustics*

**Edited by Ganesh Raman**

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### **About the Book:**

Computational Aeroacoustics (CAA) deals with the simulation of sound generated by unsteady flows and is a rapidly growing area due to advances in computational power and the significant projected growth in global transportation. With the era of widespread supersonic flight and the proliferation of general aviation aircraft on future horizons, the noise generated by aircraft is of great concern for communities near airports, for passengers in the aircraft's cabin, and for the structural integrity of the airframe. In addition, there are a number of situations that desire lower noise including underwater vehicles, wind turbines, and helicopter rotors. Understanding the source of the noise itself, its manifestation in the nearfield and propagation to the farfield are all critical in the development of future noise reduction technologies. When compared to conventional flow computations, CAA requires special treatment in the areas of numerical errors, low numerical noise, numerical dispersion, dissipation, non-reflective boundary conditions, methodologies to test boundary condition performance, and consideration of multiple scales. The perspectives in this book are provided by internationally recognized experts in the field. The book will provide a student, scientist or practicing engineer with a concise overview of developments in the field of computational aeroacoustics and a good starting point for further research.



### **About the Editor:**

Dr. Ganesh Raman's research interests are in the areas of supersonic jet noise, screech and high speed jet flows. He has over 20 years of experience working with Industry, Academia and the U.S. Government. He is Associate Dean for Research at the Illinois Institute of Technology (IIT) and Associate Professor for Mechanical and Aerospace Engineering. Before coming to IIT he spent 14 years performing contract research at

NASA Glenn Research Center on jet aeroacoustics. He is a Fellow of the American Society of Mechanical Engineers (ASME), Fellow of the Royal Aeronautical Society, Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and serves as Editor-in-Chief of the International Journal of Aeroacoustics. Dr. Raman obtained a Bachelor's degree from the Indian Institute of Technology, Bombay and a Ph.D. from Case Western Reserve University, USA.

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# CONTENTS

## Preface

## Acknowledgements

## Part I: Computational Methods

### **Surface integral methods in computational aeroacoustics—from the (CFD) near-field to the (acoustic) far-field**

Anastasios S. Lyrintzis

### **Comparison of numerical schemes for a realistic computational aeroacoustics benchmark problem**

R. Hixon, M. Nallasamy, S. Sawyer and R. Dyson

### **A new time domain formulation for broadband noise predictions**

J. Casper and F. Farassat

### **A boundary element method for aerodynamics and aeroacoustics of bodies in arbitrary motions**

L. Morino, G. Bernardini and M. Gennaretti

### **A three-dimensional parallel discontinuous Galerkin solver for acoustic propagation studies**

A. Crivellini and F. Bassi

### **On the accuracy of direct noise calculations based on the Euler model**

Ilya V. Abalakin, Alain Dervieux and Tatyana K. Kozubskaya

### **A Fourier pseudospectral method for some computational aeroacoustics problems**

Xun Huang and Xin Zhang

### **A splitting method for aeroacoustic noise prediction of low Mach number viscous flows**

Young J. Moon and J. H. Seo

### **Assessment of computational models for the effect of aeroelasticity on BVI noise prediction**

Giovanni Bernardini, Jacopo Serafini, Sandro Ianniello and Massimo Gennaretti

### **Validation of a time domain formulation for propeller noise prediction**

Ghader Ghorbaniasl and Charles Hirsch

### **Hybrid RANS-LES modeling for cavity aeroacoustics predictions**

Srinivasan Arunajatesan and Neeraj Sinha

## Part II: Computational Applications

### **Landing gear aerodynamic noise prediction using unstructured grids**

F. J. Souliez, L. N. Long, P. J. Morris and A. Sharma

### **The simulation of airframe noise applying Euler-perturbation and acoustic analogy approaches**

R. Ewert, J. W. Delfs and M. Lummer

### **Wake-airfoil interaction as broadband noise source: a large-eddy simulation study**

Jérôme Boudet, Nathalie Grosjean and Marc C. Jacob

### **Numerical evidence of mode switching in the flow-induced oscillations by a cavity**

Xavier Gloerfelt, Christophe Bogey and Christophe Bailly

### **Computation of engine noise propagation and scattering off an aircraft**

D. Stanescu, J. Xu, M. Y. Hussaini and F. Farassat

### **A three-dimensional linearized Euler analysis of classical wake/stator interactions: validation and unsteady response predictions**

D. Prasad and J. M. Verdon

### **Fan interaction noise predictions using RANS-BEM coupling**

C. Polacsek and S. Burguburu

### **Computation of fan noise radiation through an engine exhaust geometry with flow**

S. K. Richards, X. X. Chen, X. Huang and X. Zhang

### **RANS and DES turbulence model predictions of noise on the M219 cavity at $M=0.85$**

Fred Mendonça, Richard Allen and David Kirkham

### **Numerical investigation of high speed free shear flow instability and Mach wave radiation**

Alexey N. Kudryavtsev and Dmitry V. Khotyanovsky

### **Application of numerical and experimental techniques for the aeroacoustic characterisation of a car rear-view mirror**

Christoph Reichl, Christian Krenn, Martin Mann and Hermann Lang

## Sources

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