

# ACTA ACUSTICA

UNITED WITH

# ACUSTICA

*The Journal of the European Acoustics Association (EAA) · International Journal on Acoustics*

## Table of Contents

### Fast Track Articles (Open Access)

#### Hearing, Audiology and Psychoacoustics

**B. Skerritt-Davis, M. Elhilali**

A Model for Statistical Regularity Extraction from Dynamic Sounds ..... 1

#### Building Acoustics

**J. H. Jeong, S. H. Park, P. J. Lee**

Single-Number Quantities of Heavyweight Impact Sound Insulation ..... 5

**S. Kang, D. Ou**

The Effects of Speech Intelligibility on Work Performance in Chinese Open-Plan Offices: A Laboratory Study ..... 9

### Preface

**Special Issue on Fan Noise** ..... 14

### Scientific Papers

#### Fan Noise

**C. Kissner, S. Guérin, L. Enghardt, H. Siller, M. Pott-Pollenske**

The Challenge of Tonal Fan Noise Prediction for an Aircraft Engine in Flight ..... 17

**S. Moreau**

Direct Noise Computation of Low-speed Ring Fans ..... 30

**S. M. Alavi Moghadam, M. Meinke, W. Schröder**

Numerical Analysis of the Acoustic Field of a Ducted Axial Fan at Varying Tip Clearances ..... 43

**B. Fenyvesi, K. Tokaji, C. Horváth**

Investigation of a Pylons Effect on the Character of Counter-Rotating Open Rotor Noise Using Beamforming Technology ..... 56

**C. Ocker, G. Herold, F. Krömer, W. Pannert, E. Sarradj, S. Becker**

A Comparison of Frequency-Domain Microphone Array Methods for the Characterization of Rotating Broadband Noise Sources ..... 66

**J. Dominique, J. Christophe, R. Corralejo, C. Schram**

Multi-Port Eduction of Installation Effects Applied to a Small Axial Fan ..... 75

**Y. Pasco, S. Moreau**

Sound Radiation of a Smoke-Removal Fan System ..... 86

# ACTA ACUSTICA

UNITED WITH

# ACUSTICA

*The Journal of the European Acoustics Association (EAA) · International Journal on Acoustics*

<b>F. J. Krömer, S. Becker</b>	
Off-Design Sound Emission of Low-Pressure Axial Fans Under Distorted Inflow Conditions: An Experimental Study	95
<b>T. F. Geyer, A. Lucius, M. Schrödter, M. Schneider, E. Sarradj</b>	
Reduction of Turbulence Interaction Noise Through Airfoils With Perforated Leading Edges .....	109
<b>C. Feldmann, T. Carolus</b>	
Context Effect in Fan Sound Evaluation by Jury Tests Using the Method of the Semantic Differential .....	123
 <i>Ultrasonics</i>	
<b>D. Lemonnier, J.-M. Mac-Thiong, P. Belanger</b>	
Flow Quantification in a Wall-Less Multiple Flow Phantom Using Ultrasound Plane Wave Doppler Imaging .....	130
 <i>Structural Acoustics</i>	
<b>C. A. Merlo, A. Mattioli Pasqual, E. Bauzer Medeiros</b>	
Sound Field Synthesis on Flat Panels Using a planar Source Array Controlled by its Active and Reactive Radiation Modes .....	139
 <i>Noise Control</i>	
<b>A. Alonso, J. Patricio, F. Schiappa</b>	
Criteria for Vibration Levels from Metro Lines to Comply With Acceptable Noise Inside Residential Buildings .....	152
 <i>Environmental Noise</i>	
<b>L. Brocolini, C. Lavandier, I. Schmich-Yamane, M. Alayrac</b>	
Energy Production Plant Noise Unpleasantness Reduction: The Benefits of a Sound Design Approach .....	162
 <i>Computational and Numerical Acoustics</i>	
<b>P. Bakardjiev, A. Voigt, U. Marschner, M. E. Altinsoy, A. Richter</b>	
Improved Linear Network Models of Air Filled Tubes, Slits and Cavities .....	174
 <i>Speech</i>	
<b>J. B. Nielsen, T. Dau (Open Access)</b>	
A Danish Nonsense Word Corpus for Phoneme Recognition Measurements .....	183
 <i>Auditory Quality of Systems</i>	
<b>S. Töpken, S. van de Par</b>	
Perceptual Dimensions of Fan Noise and Their Relationship to Indexes Based On the Specific Loudness .....	195

# ACTA ACUSTICA

UNITED WITH

# ACUSTICA

*The Journal of the European Acoustics Association (EAA) · International Journal on Acoustics*

**Technical and Applied Papers**

<b>T. F. Geyer, L. Kamps, E. Sarradj, C. Brücker</b> Vortex Shedding and Modal Behavior of a Circular Cylinder Equipped with Flexible Flaps .....	210
<b>G. Jomon, J. V. Jojish, T. Santhanakrishnan</b> MVDR Beamformer with Subband Peak Energy Detector for Detection and Tracking of Fast Moving Underwater Targets Using Towed Array Sonars .....	220
<b>W. Probst, L. Schade</b> Calculation of Multiple Diffraction in a Downward Refracting Atmosphere With Ray-Based Engineering Models ...	226
<b>D. M. Murillo, F. M. Fazi, J. Astley</b> Room Acoustic Simulations Using the Finite Element Method and Diffuse Absorption Coefficients .....	231
<b>S. Campeau, R. Panneton, S. Elkoun</b> Experimental Validation of an Acoustical Micro-Macro Model for Random Hollow Fibre Structures .....	240

**Short Communications**

<b>R. Cao, K. Yang, Y. Ma, Q. Yang, H. Xia, Y. Shi</b> Source Localization Using Multi-Path Time Delays Measured by Two Hydrophones in the Deep Ocean .....	248
--	-----

<b>Erratum</b> .....	253
----------------------	-----

<b>Instructions for Authors</b> .....	254
---------------------------------------	-----

<b>Editorial Board</b> .....	259
------------------------------	-----

<b>European Acoustics Association News</b> .....	260
--	-----