

ISSN: 2162-5786 Vol. 2, No. 4, December 2012



Scientific
Research

Open Journal of Acoustics



ISSN:2162-5786



<http://www.scirp.org/journal/oja>

Journal Editorial Board

ISSN 2162-5786 (Print) ISSN 2162-5794 (Online)

<http://www.scirp.org/journal/oja>

Editor in Chief

Dr. Wen L. Li

Wayne State University, USA

Editorial Board

Prof. Alberto Broatch	Polytechnic University of Valencia, Spain
Prof. Antonio Carcaterra	University 'La Sapienza', Italy
Dr. Kui-Fu Chen	China Agricultural University, China
Prof. Roger H. L. Chen	West Virginia University, USA
Dr. Lei Cheng	Advanced Acoustics Group, Bose Corporation, USA
Dr. Rodrigo Costa-Felix	National Institute for Metrology, Quality and Technology, Brazil
Prof. Massimo Garai	University of Bologna, Italy
Dr. Jose V. Garcia-Perez	Polytechnic University of Valencia, Spain
Dr. Luís Manuel Cortesão Godinho	University of Coimbra, Portugal
Dr. Guoyong Jin	Harbin Engineering University, China
Prof. Jian Kang	University of Sheffield, UK
Prof. Lok C. Lew Yan Voon	Wright State University, USA
Prof. Feng-Ming Li	Harbin Institute of Technology, China
Dr. Yi-Yang Li	The Chinese University of Hong Kong, China
Dr. Tian Ran (Terry) Lin	Queensland University of Technology, Australia
Prof. Cheuk-Ming Mak	The Hong Kong Polytechnic University, China
Dr. Víctor J. Sánchez Morcillo	Polytechnic University of Valencia, Spain
Dr. Qiao Sun	University of Calgary, Canada
Dr. Eng Leong Tan	Nanyang Technological University, Singapore
Dr. Antonio Uris	Polytechnic University of Valencia, Spain
Prof. Morten Willatzen	University of Southern Denmark, Denmark
Prof. Lei Xie	Northwestern Polytechnical University, China
Prof. Shefeng Yan	Chinese Academy of Sciences, China

TABLE OF CONTENTS

Volume 2 Number 4 December 2012

**Some Reasons to Revise the International Standard ISO 226:2003: Acoustics—Normal
Equal-Loudness-Level Contours**

J. Parmanen.....143

Open Journal of Acoustics (OJA)

Journal Information

SUBSCRIPTIONS

The *Open Journal of Acoustics* (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$39 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright©2012 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: oja@scirp.org



Call for Papers

Open Journal of Acoustics

ISSN 2162-5786 (Print) ISSN 2162-5794 (Online)

<http://www.scirp.org/journal/oja>

Open Journal of Acoustics (OJA) is an international journal dedicated to the latest advancement of acoustics. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of acoustics.

Editor in Chief

Dr. Wen L. Li

Wayne State University, USA

Editorial Board

Prof. Alberto Broatch
 Prof. Antonio Carcaterra
 Dr. Kui-Fu Chen
 Prof. Roger H. L. Chen
 Dr. Lei Cheng
 Dr. Rodrigo Costa-Felix
 Prof. Massimo Garai
 Dr. Jose V. Garcia-Perez
 Dr. Luis Manuel Cortesão Godinho
 Dr. Guoyong Jin
 Prof. Jian Kang
 Prof. Lok C. Lew Yan Voon
 Prof. Feng-Ming Li
 Dr. Yi-Yang Li
 Dr. Tian Ran (Terry) Lin
 Prof. Cheuk-Ming Mak
 Dr. Víctor J. Sánchez Morcillo
 Dr. Qiao Sun
 Dr. Eng Leong Tan
 Dr. Antonio Uris
 Prof. Morten Willatzen
 Prof. Lei Xie
 Prof. Shefeng Yan

Polytechnic University of Valencia, Spain
 University 'La Sapienza', Italy
 China Agricultural University, China
 West Virginia University, USA
 Advanced Acoustics Group, Bose Corporation, USA
 National Institute for Metrology, Quality and Technology, Brazil
 University of Bologna, Italy
 Polytechnic University of Valencia, Spain
 University of Coimbra, Portugal
 Harbin Engineering University, China
 University of Sheffield, UK
 Wright State University, USA
 Harbin Institute of Technology, China
 The Chinese University of Hong Kong, China
 Queensland University of Technology, Australia
 The Hong Kong Polytechnic University, China
 Polytechnic University of Valencia, Spain
 University of Calgary, Canada
 Nanyang Technological University, Singapore
 Polytechnic University of Valencia, Spain
 University of Southern Denmark, Denmark
 Northwestern Polytechnical University, China
 Chinese Academy of Sciences, China

Subject Coverage

This journal invites original research and review papers that address the following issues in acoustics. Topics of interest include, but are not limited to:

- Acoustic and Speech Signal Processing
- Acoustic Material
- Acoustic Measurement
- Acoustic Problems in Information Science
- Acoustic Signal Processing
- Acoustic Transducer, Acoustic Measurements and Methods
- Architectural Acoustics and Electroacoustics
- Fluid Dynamics and Acoustics
- Infrasonics
- Linear Acoustics
- Musical Acoustics
- Noise, Noise Effects and Control
- Nonlinear Acoustics
- Physical, Psychological Acoustics and Bioacoustics
- Sound of Water and Marine Acoustics
- Structural Acoustics and Vibration
- Ultrasonics in Medicine
- Ultrasonics, Quantum Acoustics and Acoustic Effects
- Other Physical and Acoustic-Related Issues and Cross-Disciplinary

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the **OJA**.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

<http://www.scirp.org/journal/oja>

Email: oja@scirp.org