

Reproduced Sound 2024

Proceedings of the Institute of Acoustics Volume 46 Part 3

Bristol, United Kingdom
12-14 November 2024

ISBN: 979-8-3313-0990-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by Institute of Acoustics
All rights reserved.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact Institute of Acoustics
at the address below.

Institute of Acoustics
3rd Floor St Peter's House
45-49 Victoria Street
St. Albans, Hertfordshire
AL13WZ
United Kingdom

Phone: +44(0) 1727 848195

Fax: +44(0) 1727 850553

ioa@ioa.org.uk

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

| | |
|--|-----|
| SOUND FIELD ANALYSIS USING A COMPLEX-VALUED NEURAL NETWORK..... | 1 |
| <i>V Paul, N Hahn, P Nelson</i> | |
| TUNING AND PERFORMANCE EVALUATION FOR SURFACE MOUNTED AUDIO HAPTIC TRANSDUCER SYSTEMS | 9 |
| <i>S Oxnard, L Hobden, E Stanhope, C Cotton, M Masri</i> | |
| BEYOND THE FRAME: TEXTURAL REALISATION IN CINEMA SOUNDS..... | 17 |
| <i>S Coleclough</i> | |
| REPRESENTATION OF DIRECTIONAL LOUDSPEAKERS IN A FINITE ELEMENT ROOM ACOUSTIC SIMULATION..... | 25 |
| <i>P Macey</i> | |
| WORD SCORE VS. STI TESTS OF A PUBLIC ADDRESS SYSTEM IN AN UNDERGROUND TRAIN STATION PLATFORM..... | 33 |
| <i>O Fong, C Hanrahan-Tan, G Leembruggen</i> | |
| RADIAL FILTER DESIGN FOR OPEN SPHERICAL MICROPHONE ARRAYS | 42 |
| <i>N Hahn, F Fazi, Vs Paul</i> | |
| AND THEN IT TURNED OUTSIDE IN: NEW INSIGHTS INTO SPATIAL GAME AUDIO..... | 50 |
| <i>M Dalgleish</i> | |
| ITERATIVE METRIC-BASED WAVEGUIDE OPTIMISATION | 58 |
| <i>L Macdonald, J Oclec-Brown, M Dodd, J Hargreaves</i> | |
| CHARACTERISATION OF A RESONATING SYSTEM BY MEANS OF ELECTRICAL IMPEDANCE MEASUREMENTS | 66 |
| <i>L Ausiello</i> | |
| ACOUSTICS: INSIDE OUT AND BACK TO FRONT | 77 |
| <i>K Holland</i> | |
| ENHANCED SOUND LEVEL MONITORING AT LIVE EVENTS BY MEASURING AUDIO PROGRAM LOUDNESS | 91 |
| <i>J Digby, A Hill</i> | |
| COMPLEX-VALUED NEURAL NETWORKS FOR THE REPRODUCTION OF SINGLE FREQUENCY SOUND FIELDS | 99 |
| <i>I Lambert, V Paul, P Nelson</i> | |
| TOWARDS AN INTERNET OF SOUNDS BASED METHOD FOR ACOUSTIC PROFILING OF ROOMS AND AUDIO SPACES..... | 108 |
| <i>I Ali-Maclachlan, S Hall, J Crawford</i> | |
| MEASUREMENTS OF MULTITONE DISTORTION IN OCTAVE BANDS OF A CINEMA MIXDOWN LOUDSPEAKER SYSTEM | 116 |
| <i>G Leembruggen, A Mardikian</i> | |
| HOW TO SHOOT YOURSELF IN THE FOOT WITH 'POINT AND SHOOT' LOUDSPEAKERS..... | 128 |
| <i>D Gilfillan, M Thompson, J Love, G Leembruggen</i> | |

CHALLENGES IN THE SUBJECTIVE EVALUATION OF SPATIAL AUDIO IN AUTOMOTIVE ENVIRONMENTS 136
B Bacila, M Orita, F Fazi

A SUBJECTIVE COMPARISON OF VIRTUAL STEREO MICROPHONE TECHNIQUES FOR RENDERING AMBISONICS..... 145
A Girjavallabhan, B Wiggins

Author Index