2016 IEEE/OES China Ocean Acoustics (COA 2016)

Harbin, China
9-11 January 2016

Pages 1-560
# TABLE OF CONTENTS

SOUND SPEED STRUCTURE MODELS OF SEAFLOOR SEDIMENTS IN THE SOUTHERN SOUTH CHINA SEA

Jingqiang Wang; Guozhong Han; Qiuhong Xie; Changsheng Guo; Zhengyu Hou; Baohua Liu .......................................................... 1

RESEARCH ON DATA ASSIMILATION METHODS FOR SOUND SPEED PROFILE INVERSION

Fengmao Yang; Yang Song ............................................................................................................................... 6

ANALYSIS AND ESTIMATION OF CRITICAL DEPTH BASED ON SODA DATASETS IN THE PHILIPPINE SEA

Huijun Xia; Kunde Yang; Rui Duan; Yaxiong Liu; Peng Xiao ............................................................................................... 11

UPGRADING AND EXPERIMENTATION OF THE HYDRAULIC-DRIVEN IN-SITU SEDIMENT ACOUSTIC MEASUREMENT SYSTEM

Guanbao Li; Guozhong Han; Guangming Kan; Baohua Liu .............................................................................................. 18

ASYNCHRONOUS FULL RATE COOPERATIVE TRANSMISSION FOR UNDERWATER ACOUSTIC COMMUNICATION

Jun Zhang; Xiao Zhou; Ting Li; Gengxin Ning; Yizhi Feng .................................................................................................................. 22

ACOUSTICAL SCATTERING BY SINGLE UNDERWATER GAS-FILLED CYLINDER SCATTER: THEORY AND EXPERIMENT

Chun Huang; Deze Zhang ..................................................................................................................................................... 28

SELF-STEERED ROBUST ADAPTIVE BEAMFORMING

Zhan Fan; Guolong Liang ...................................................................................................................................................... 34

THE INVESTIGATION ON DETERMINING FAR-FIELD DISTANCE OF UNDERWATER STRUCTURE SOUND SOURCES

Yongwei Liu; Dejiang Shang; Qi Li; Yan Xiao; Yu'An Hu ................................................................................................. 38

PILOT ALLOCATION FOR MIMO-ZP-OFDM SYSTEMS IN UNDERWATER ACOUSTIC CHANNEL BASED ON STRUCTURED COMPRESSION SENSING

Xuesi Wang; Jintao Wang ......................................................................................................................................................... 42

EXPERIMENTAL RESEARCH ON ACOUSTIC CHARACTERISTICS OF FLUID PIPELINE SILENCERS

Xiaying Hao; Tao He; Qiubo Wang; Suoquan Wang .................................................................................................................. 47

DESIGN OF UNDERWATER PARTICLE VELOCITY PICKUP SENSOR

Tianji Zhao; Hongjuan Chen; Hu Zhang; Zhi Li; Le Tong ........................................................................................................ 53

RESEARCH AND IMPLEMENTATION OF BISTATIC SONAR POSITIONING SYSTEM BASED ON VECTOR HYDROPHONE

Anbang Zhao; Lin Ma; Juan Hui; Liwei Liu ................................................................................................................................ 59

FEATURE DISCRIMINABILITY IMPROVE METHODS FOR CLASSIFICATION

Xiangdong Jiang ................................................................................................................................................................. 64

NOISE DETECTION AND FEATURE EXTRACTION METHOD FOR UNDERWATER VEHICLE ENGINE SPEEDUP RADIATED NOISE

Xiangdong Jiang ............................................................................................................................................................... 68

HIGHER-ORDER POLYNOMIAL BASED NCS ALGORITHM FOR BROADBAND AND WIDE SWATH SYNTHETIC APERTURE SONAR

Zhen Tian; Pan Huang; Jinsong Tang; Sen Zhang; Mengbo Ma ................................................................................................ 72

INVERSE PROPORTIONAL SURFACE FITTING-BASED IMAGE REGISTRATION METHOD FOR INTERFEROMETRIC SYNTHETIC APERTURE SONAR

Pan Huang; Jinsong Tang; Junbo Wang; Heping Zhong; Jun Yue; Mengqi Guo .................................................................................. 79

SIMULATION AND WORKING PARAMETERS' SELECTION METHOD OF A REMOTE CONTROL VEHICLE'S SOURCE SIGNAL

Anbang Zhao; Xuejie Bi; Juan Hui; Xiangling Meng .................................................................................................................... 83

A KIND OF GREAT DEPTH BROADBAND HIGH POWER TRANSDUCER

Shuchun Sun; Junhao Li; Liang Wang .............................................................................................................................................. 87

THEORY AND DESIGN OF ACOUSTIC DYADIC SENSOR

Shuang Liu; Ya Lan; Tianfang Zhou ............................................................................................................................................. 90

FAST PREDICTION OF BROADBAND SCATTERING FROM AN UNDERWATER TARGET USING NON-UNIFORM SAMPLING METHOD BASED MODE DECOMPOSITION

Peizhen Zhang; Dongyang Fu; Peizhen Zhang; Xiukun Li; Jun Fan ........................................................................................................ 95
SOUND RADIATION PREDICTION OF UNDERWATER LAMINATED COMPOSITE STRUCTURES .................................................................................................................. 99
   Haohao Hu

RESEARCH ON EXPERIMENTATION AND MODELING OF WIND AND RAIN GENERATED OCEAN AMBIENT NOISE .................................................................................................................. 104
   Lei Sun ; Qi Li ; Dajing Shang ; Lei Sun ; Fei Gao

A NEW METHOD OF PASSIVE BEARING ESTIMATION BASED ON COMPRESSED SENSING ................................................................. 108
   Bo Gao ; Dezhao Gao ; Huaizhong Wang ; Ning Wang

A SPATIAL RESAMPLING MINIMUM VARIANCE BEAMFORMING TECHNIQUE BASED ON DIAGONAL REDUCTION ................................................................. 112
   Bin Zhou ; Jie Yu ; Shibiao Mao ; Wei Sun

STUDY ON DATA ACQUISITION AND ANALYSIS METHOD FOR SONAR PLATFORM SELF-NOISE ........................................................................................................ 118
   Zhen Qi ; Qing-Yu Liu

A DETECTION METHOD OF DUFFING OSCILLATOR BASED ON ADAPTIVE ADJUSTING PARAMETER .................................................................................................................. 121
   Nan Li ; Xiuhua Li ; Caibong Liu

TARGET DEPTH EXTRACTION BASED ON THE CHARACTER OF SOUND FIELD VERTICAL WAVENUMBER SPECTRUM ........................................................................................................ 126
   Kun Liu ; Fuchen Liu ; Shanyi Wei ; Gang Wang

HIGH RESOLUTION MATCHED-FIELD SOURCE LOCALIZATION BASED ON SPARSE-RECONSTRUCTION ................................................................................................. 131
   M Jehanzeb Irshad ; Hangfeng Zhao ; Wen Xu

JOINT TIME-FREQUENCY DISTRIBUTION ANALYSIS OF SHIP RADIATED TRANSIENT NOISE .................................................................................................................. 136
   Tong-Kui Yu ; Wen-Shuai Liu ; Sheng-Guo Shi ; Shu-Hua Yu

A MACA-BASED COLLISION AVOIDANCE MAC PROTOCOL FOR UNDERWATER ACOUSTIC SENSOR NETWORKS ........................................................................ 141
   Jingxian Liu ; Jintao Wang

COMPUTATION OF ACOUSTIC ACATTERING FROM OBJECTS IN SHALLOW WATERS BY CONVENTIONAL AND FAST MULTIPOLAR BEM ........................................................................................ 145
   Jiayuan Gong ; Junying An ; Guoqing Ci ; Haiting Xu

ADAPTIVE ACTIVE SONAR SIGNAL PROCESSING FOR OPTIMAL LFM ECHO DETECTION OF SLOWLY MOVING TARGETS ........................................................................................................ 152
   Xiefan Pan ; Xuanmin Du ; Xin Yao ; Chuchu Wu

LABORATORY MEASUREMENTS OF ACOUSTIC PROPERTIES FOR MARINE FLUID-MUD DEPOSITS ........................................................................................................................................ 156
   Xiaolei Liu ; Jiewen Zheng ; Baohua Liu ; Yonggang Jia ; Lei Sun

DOLPHIN BIO-INSPIRED TRANSMITTING WAVEFORM DESIGN FOR COGNITIVE SONAR AND ITS PERFORMANCE ANALYSIS ........................................................................................................ 161
   Xin Qing ; Donghua Nie ; Gang Qiao ; Jiansheng Tang

PREDICTION METHOD OF ACOUSTIC SCATTERING FROM ELASTIC TARGET WITH STRUCTURE ANECHOIC COATING LAYER AT LOW FREQUENCY .................................................................................. 168
   Yang Sun ; Junying An ; Guoqing Ci ; Haiting Xu

THE INVESTIGATION OF THE METHODS FOR PREDICTING THE SOUND FIELD IN A NON-ANECHOIC TANK WITH ELASTIC BOUNDARY ........................................................................................................ 174
   Rui Tang ; Yiming Zhang ; Qi Li ; Dajing Shang

THE APPLICATION OF NDT ALGORITHM IN SONAR IMAGE PROCESSING ........................................................................................................................ 180
   Ke Tan ; Xiaonan Xu ; Hongyu Bian

MEASUREMENT DISTANCE OF UNDERWATER ELASTIC CYLINDRICAL SHELL FOR RADIATED SOUND POWER .................................................................................................................. 184
   Yan Xiao ; Dejiang Shang ; Yuan Hu

ACTIVE SONAR DETECTION USING ADAPTIVE TIME-FREQUENCY FEATURE ........................................................................................................................ 188
   Lina Zou ; Ke Tan ; Jilin Zha

PREDICTION OF SOUND RADIATION FROM SUBMERGED STRUCTURE BY TRANSFER METHOD BASED ON MEASURING VIBRATION .................................................................................................. 192
   Chao Zhang ; Dejiang Shang ; Guiyin Liu ; Peizheng Cao

A STUDY OF DEEPWATER BENDER DISK TRANSUDER ................................................................................................................................. 196
   Tianfang Zhou ; Yu Lan ; Wei Lu

A METHOD OF TARGET ECHOES CLASSIFICATION BASED ON SUB-BAND PROCESSING ........................................................................................................................ 201
   Fangyong Wang ; Shuanping Du ; Wei Sun ; Qiang Huang
A MOTION ERROR ESTIMATION METHOD BASED ON SEAFLOOR TRACKING .......................................................... 205
Bibo Zhu ; Weihua Cong ; Xia Ji

POWER ALLOCATION FOR SPACE SHIFT KEYING IN UNDERWATER ACOUSTIC COMMUNICATION .......................................................... 210
Yue Sun ; Jintao Wang ; Longzhong He

AN IMPROVED THREE-DIMENSIONAL BLOCK MATCHING IMAGE DE-NOISE ALGORITHM AND ITS APPLICATION IN A 3D IMAGING SONAR .......................................................... 215
Weihua Cong ; Jun Lu

A FAST AND EXACT SEABED IMAGE RECONSTRUCTION ALGORITHM OF SYNTHETIC APERTURE SONAR .......................................................... 219
Xia Ji ; Weihua Cong ; Lisheng Zhou

LINE SPECTRUM TRACKING CONTROL BASED ON THE METHOD OF BIORTHOGONAL DEMODULATION .......................................................... 223
Desen Yang ; Shiyuan Jin ; Bai Zhang ; Jie Shi ; Hongdao Li

AN ITERATIVE SOLVER FOR FE-BE COUPLING IN LARGE-SCALE FLUID-STRUCTURE INTERACTION .......................................................... 230
Liu Jinshi ; Sun Chao

PRELIMINARY STUDY ON EFFECTS OF TYPHOON USAGI ON UNDERWATER SOUND PROPAGATION .......................................................... 235
Hailin Ruan ; Yanning Yang ; Hongtao Wen ; Fuqiang Niu ; Xin Xie

PRELIMINARY ANALYSIS OF WIND-DRIVEN OCEAN AMBIENT NOISE IN THE NORTH AREA OF ZHONGSHA DURING TYPHOON .......................................................... 242
Hongtao Wen ; Ning Wang ; Yanning Yang ; Hailin Ruan

NULL SUBCARRIERS BASED DOPPLER SCALE ESTIMATION FOR MULTICARRIER COMMUNICATION OVER UNDERWATER ACOUSTIC NON-UNIFORM DOPPLER SHIFT CHANNELS .......................................................... 248
Yang Chen ; Ling Zou ; Anbang Zhao ; Jingwei Yin

A BINNING METHOD BASED ON SPLIT-BEAM ARRAY TO SUPPRESS REVERBERATION .......................................................... 254
Huachui Cao ; Zhiming Cai

RELATIONSHIP BETWEEN SOUND VELOCITY AND PHYSICAL MECHANICAL PROPERTIES OF SEAFLOOR SEDIMENTS IN CONTROLLED THREE AXIS STRESS - STRAIN .......................................................... 260
Jianjun Long ; Huajian Zhou ; Cong Chen ; Guanxian Li

WHALE-INSPIRED SONAR IN COVERT DETECTION .......................................................... 268
Qingcui Wang ; Lujun Wang ; Lina Zou

THE INFLUENCE OF MARINE BIOLOGICAL NOISE ON SONAR DETECTION .......................................................... 272
Lujun Wang ; Qingcui Wang

SIMULATION RESEARCH ON THE EFFECT OF SURFACE MATERIAL ON GAS-FILLED OBJECTS SCATTERING .......................................................... 276
Deze Zhang

AN IMPROVED SUBBAND PEAK ENERGY DETECTION METHOD .......................................................... 282
Qingcui Wang ; Lujun Wang

AN IDENTIFICATION METHOD BASED ON MULTI-ASPECT TARGET SCATTERING CHARACTERISTICS .......................................................... 287
Tao Wen ; Feng Xu ; Juan Yang ; Xudong An ; Tao Wem ; Mengbin Wang

MATCHED FIELD PROCESSING FOR A SHORT VERTICAL ARRAY IN SHALLOW WATER USING THE GEOACOUSTIC PARAMETERS INVERSED FROM SHORT RANGE SOURCE DATA .......................................................... 291
Xian Zhu ; Zhongkang Wang ; Huihui Ge

SIMULATION RESEARCH ON MATCHED-MODE PROCESSOR IN MISMATCH ENVIRONMENT .......................................................... 296
Jian Li ; Xinyu Luo ; Mingsheng Gao ; Kai Xie ; Deju Zhou

ANALYSIS OF SHALLOW WATER SOUND VELOCITY PROFILE IMPACT ON DETECTION PERFORMANCE OF ACTIVE SONAR SIGNAL .......................................................... 300
Fa Chen ; Yongsheng Li ; Lixia Lv

RESEARCH ON PERFORMANCE OF THE PAGE TEST INDEPENDENT OF UNKNOWN SIGNAL LENGTH .......................................................... 304
Bo You ; Zhiming Cai

NOISE REDUCTION IN UNDERWATER ACOUSTIC SIGNALS FOR TROPICAL AND SUBTROPICAL COASTAL WATERS .......................................................... 309
Sumithra Ganapathi ; Suresh Minakanoor Kumar ; Meganathan Deivasigamani
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGN AND IMPLEMENTATION OF THE TRANSMITTER AND CONTROL SYSTEM FOR UNDERWATER ACOUSTIC TRANSPONDER</td>
<td>315</td>
</tr>
<tr>
<td>Fan Liao; Wensheng Yang; Daizhu Zhu</td>
<td></td>
</tr>
<tr>
<td>THE INFLUENCE OF THE SOUND SPEED PROFILE ON SIGNAL WAVEFORM CORRELATION FOR DIFFERENT NORMAL MODE IN SHALLOW WATER WAVEGUIDE</td>
<td>319</td>
</tr>
<tr>
<td>Xiaoman Li; Shengchuan Piao; Jianbo Zhou; Hongsong Zhou</td>
<td></td>
</tr>
<tr>
<td>IMPROVED PASSIVE RANGING ALGORITHM BASED ON THE WAVEGUIDE INVARIANT THEORY</td>
<td>324</td>
</tr>
<tr>
<td>Yan Yu; Zhao Hongwei; Yu Jie</td>
<td></td>
</tr>
<tr>
<td>RANGE PASSIVE LOCALIZATION OF THE MOVING SOURCE WITH A SINGLE VECTOR HYDROPHONE</td>
<td>330</td>
</tr>
<tr>
<td>Chen Yu; Meng Zhou; Ma Shaqing; Bao Changchun</td>
<td></td>
</tr>
<tr>
<td>ANALYSIS OF FLUCTUATING CHARACTERISTICS OF TEMPERATURE FIELD IN THE SHALLOW WATER ON MULTIPLE TEMPERATURE AND DEPTH SENSOR</td>
<td>335</td>
</tr>
<tr>
<td>Chuxia Meng; Shuwei Che; Jin Bai</td>
<td></td>
</tr>
<tr>
<td>RESEARCH AND ANALYSIS OF HYDRO-ACOUSTIC WEAK SIGNAL DETECTION TECHNOLOGY</td>
<td>339</td>
</tr>
<tr>
<td>Yu-Qiang Li; Yu-Kun Zheng; Xuan-Min Du</td>
<td></td>
</tr>
<tr>
<td>SIMULATE THE INDO-PACIFIC HUMPBACK DOLPHIN'S BEAM FORMATION THROUGH FINITE ELEMENT METHOD: BASED ON THE RECONSTRUCTION OF THE DOLPHIN'S SOUND VELOCITY DISTRIBUTION</td>
<td>344</td>
</tr>
<tr>
<td>Zhongchang Song; Yu Zhang; Chong Wei; Xianyan Wang; Qian Zhu; Kunru Liang; Feng Ye</td>
<td></td>
</tr>
<tr>
<td>SIMULATING VESSEL'S UNDERWATER RADIATED NOISE IN SPECTRUM BASED ON ACTUAL MEASUREMENT DATA</td>
<td>349</td>
</tr>
<tr>
<td>Chao Liang</td>
<td></td>
</tr>
<tr>
<td>SUB-PULSE PROCESSING OF M-SEQUENCES PHASE-CODED CONTINUOUS WAVEFORMS IN SHALLOW WATER</td>
<td>354</td>
</tr>
<tr>
<td>Yifei Wu; Yawei Li</td>
<td></td>
</tr>
<tr>
<td>A COASTAL ACOUSTIC TOMOGRAPHY EXPERIMENT IN THE QIONGZHOU STRAIT</td>
<td>358</td>
</tr>
<tr>
<td>Wenhua Liu; Xiaohua Zhu; Zenan Zhu; Xiaopeng Fan; Menghong Dong; Zhongzehe Zhang</td>
<td></td>
</tr>
<tr>
<td>SHALLOW WATER PULSED SOURCE RANGING BASED ON DEDISPERSION TRANSFORM</td>
<td>364</td>
</tr>
<tr>
<td>Dazhi Guo; Jie Li; Hanzhong Wang; Ning Wang</td>
<td></td>
</tr>
<tr>
<td>A NEW METHOD FOR DISTINGUISHING THE RESONANT OF SHELL</td>
<td>370</td>
</tr>
<tr>
<td>Tongkui Yu; Wenshui Liu; Sheng-Guo Shi; Yu Shuhua</td>
<td></td>
</tr>
<tr>
<td>KERNELIZED METHOD FOR COMPRESSIVE BEAMFORMING</td>
<td>375</td>
</tr>
<tr>
<td>Liying Yan; Hangfang Zhao</td>
<td></td>
</tr>
<tr>
<td>MOTION PARAMETER ESTIMATION OF MOVING SOUND SOURCE USING MULTIPATH DELAY MEASUREMENTS FROM A SINGLE HYDROPHONE</td>
<td>380</td>
</tr>
<tr>
<td>Loven Meng; Guangli Che; Mingmin Zhang</td>
<td></td>
</tr>
<tr>
<td>THE RESEARCH OF POLARIZATION FILTERING METHOD FOR INCREASING THE SIGNAL-TO-NOISE RATIO OF SEISMIC DATA CAUSED BY MOVING SHIP</td>
<td>385</td>
</tr>
<tr>
<td>Bo Du; Weining Zhang; Xiaomei Shi</td>
<td></td>
</tr>
<tr>
<td>THE INFLUENCE OF THE SEAWATER AND SEABED INTERFACE ON THE UNDERWATER LOW FREQUENCY ELECTROMAGNETIC FIELD SIGNATURES</td>
<td>388</td>
</tr>
<tr>
<td>Ruiyong Yue; Ping Hu; Jing Zhang</td>
<td></td>
</tr>
<tr>
<td>MICROCONTROLLER IMPLEMENTATION OF LOW-COMPLEXITY WAKE-UP RECEIVER FOR WIRELESS SENSOR NODES IN SEVERE MULTIPATH FADING CHANNELS</td>
<td>395</td>
</tr>
<tr>
<td>Ming Yue; Y. Rosa Zheng; Zhenrui Chen; Yanzfeng Han</td>
<td></td>
</tr>
<tr>
<td>THE SAME-MODE COHERENT CHARACTERISTIC QUANTITY IN DISTINGUISHING THE SURFACE AND UNDERWATER TARGET</td>
<td>401</td>
</tr>
<tr>
<td>Fuchen Liu; Lisheng Zhou; Kun Liu; Lingai Tian</td>
<td></td>
</tr>
<tr>
<td>CLASSIFICATION FOR UNDERWATER SMALL TARGETS WITH DIFFERENT MATERIALS USING BIO-INSPIRED DOLPHIN CLICK</td>
<td>409</td>
</tr>
<tr>
<td>Xin Qings; Donghu Nie; Gang Qiao; Jiansheng Tang</td>
<td></td>
</tr>
<tr>
<td>THE FLUCTUATION AND UNCERTAINTY OF ACOUSTIC MEASUREMENT IN SHALLOW WATER WAVE-GUIDE</td>
<td>415</td>
</tr>
<tr>
<td>Xuegang Zhang; Ning Wang; Feng Cao; Jing Han; Shuai Lv</td>
<td></td>
</tr>
<tr>
<td>APPROACH OF ELASTIC SCATTERING EXTRACTION OF UNDERWATER TARGET BASED ON WAVELET TRANSFORM AND MORPHOLOGICAL METHOD</td>
<td>420</td>
</tr>
<tr>
<td>Mingye Liu; Xiuank Li; Xuesong Guo</td>
<td></td>
</tr>
</tbody>
</table>
MULTI-DIMENSIONAL MULTI-TARGETS DETECTION AND INTERFERENCE SUPPRESSION WITH DSLA (DOUBLE SPIRAL LINE ARRAY) ................................................................. 428
Shanyi Wei ; Xianyi Gong ; Kun Liu

ANALYTICAL STUDY OF ACOUSTIC RANGING ACCURACY ................................................................. 434
Zhao Li ; Dajun Sun ; Stan E. Dosso

RESEARCH OF ACOUSTIC SURVEY DEVICES APPLIED ON DEEPSEA VEHICLES .................................. 438
Zhen Hu ; Lei Wang ; Cong Ye ; Zaiming He

LOW-SPEED MOVING TARGET DETECTION OF SINGLE FRAME IMAGE BASED ON DOPPLER SHIFT ESTIMATION ................................................................. 443
Cong Huang ; Tingting Teng ; Dajun Sun

SUPPRESSION OF SHIP HARMONIC LINES USING THE COHERENT ONION PEELER ......................... 447
Anbang Zhao ; Fang Niu ; Juan Hu ; Baoshan Hou

AN ACOUSTIC BEACON DETECTION SYSTEM BASED ON WAVELET PACKET TRANSFORM ................. 451
Xiaoyuan Li ; Jisheng Qu ; Wei Ba

RESEARCH ON PASSIVE LOCALIZATION ALGORITHM BASED ON TWIN-LINE ARRAY FOUSED BEAMFORMING ................................................................. 455
Jidan Mei ; Chao Ma ; Liang Zhang ; Yinghui Zhu ; Fulian Xue

RESEARCH ON THE POST/STARBOARD DISCRIMINATION ALGORITHM FOR TWIN-LINE ARRAY AND THE INFLUENCE OF ARRAY SHAPE DISTORTION ............... 460
Jidan Mei ; Yinghui Zhu ; Chao Ma ; Fulian Xue

CHIRP SUB-BOTTOM PROFILER SIGNAL PROCESSING METHOD BASED ON FRACTIONAL FOURIER TRANSFORM ................................................................. 466
Jianjun Zhu ; Yukuo Wei ; Haisen Li ; Jingxin Ma

THE STUDY OF 32-MODE SINGLE CRYSTAL LONGITUDINAL TRANSDUCER ........................................ 471
Kai Zhang ; Yangwei Chen ; Kangyi Peng

HIGH ACCURACY ESPRIT WITHOUT LEFT-RIGHT AMBIGUITY USING AN ACOUSTIC VECTOR SENSOR ARRAY ................................................................. 475
Zhixiang Yao ; Rui Guo

ACOUSTIC CHANNEL FREQUENCY RESPONSE ESTIMATION USING SOURCES OF OPPORTUNITY .................... 479
Ana Bela Santos ; Paulo Felisberto ; Sergio M. Jesus

A NEW RECOGNITION AND CLASSIFICATION ALGORITHM OF UNDERWATER ACOUSTIC SIGNALS BASED ON MULTI-DOMAIN FEATURES COMBINATION .......... 483
Huan Shi ; Jinyu Xiong ; Chenyang Zhou ; Su Yang

TARGET SPATIAL FEATURE ABSTRACTION BASING ON BEAM FORMING ................................................................. 490
Zhaohui Zhang ; Chen Hu ; Yuan Peng ; Fengzheng Zhang ; Ma Lin

THE OPTIMAL DESIGN OF A 3D COLUMN TYPE FIBER-OPTIC VECTOR HYDROPHONE ................................................................. 494
Mengqun Jin ; Huiliang Ge ; Zili Zhang

STUDY ON THE DRIVING ELEMENT OF GOURD TRANSDUCER ................................................................. 499
Yong Chai ; Xiping Mo ; Yongping Liu ; Yaozong Pan ; Yunqiang Zhang

EFFECT OF ENVIRONMENT DEPENDENCE OF CONVERGENCE ZONES IN THE TROPICAL AND SUBTROPICAL SEA AREAS OF WESTERN PACIFIC ................................................................. 503
Chen Cheng

ACOUSTIC PROPAGATION PROPERTIES IN THE SEASONAL CHANGE ENVIRONMENT OF SHALLOW SEA AREA ................................................................. 508
Xu Zhang ; Chen Cheng ; Xu Han

A METHOD OF CALCULATING PROPAGATION LOSS OF SOUND WAVE IN AIR FROM AN UNDERWATER SOUND SOURCE ................................................................. 513
Zuoxi Tian ; Kaina Jiang

THE DESIGN OF ADAPTIVE SIMO EQUALIZER IN THE TIME-VARYING CHANNEL ................................................................. 519
Yewu Ruan ; Xueli Sheng ; Lina Fan ; Yali Shi ; Dian Lu

LOW CONSUMPTION DYNAMIC TIME SYNCHRONIZATION FOR MOBILE AND HIGH LATENCY UNDERWATER ACOUSTIC COMMUNICATION NETWORKS ................................................................. 525
Yongheng Wang ; Dajun Sun ; Weivei Fan ; Youwen Zhang

LOW COMPLEXITY ORTHOGONAL MATCHING PURSUIT ALGORITHM FOR HIGH-RESOLUTION IMAGING SONAR ................................................................................................................................. 532
Youwen Zhang ; Diya Wang ; Tong Wang

RESEARCH ON MODE CONVERSION OF LAMB WAVE AT DIP END FACE OF ELASTIC PLATE ................................................................. 538
Minghui Zhang ; Hui Sun ; Tieli Sun ; Wenjian Chen ; Tianhang Zhang
CLOSE RANGE SHIP NOISE CROSS CORRELATIONS WITH A VECTOR SENSOR IN VIEW OF GEOACOUSTIC INVERSION .............................................................. 655
Yanqun Wu ; Ana Bela Santos ; Paulo Felisberto ; Sergio M. Jesus
GRIDLESS SPICE APPLIED TO PARAMETER ESTIMATION OF UNDERWATER ACOUSTIC FREQUENCY HOPPING SIGNALS .............................................................. 660
Youwen Zhang ; Xiaoping Hong ; Yonggang Wang ; Dajun Sun
INFLUENCE OF IMMERSION STATES ON COMPLEX STRUCTURAL VIBRATION .............................................................. 665
Guo Cheng ; Zhiqiang Lv ; Lin He
THE INVESTIGATION ON MEASURING SOURCE LEVEL OF UNMANNED UNDERWATER VEHICLES .............................................................. 671
Juan Liu ; Qi Li ; Dajing Shang
TERRAIN AIDED NAVIGATION FOR UNDERWATER VEHICLES USING MAXIMUM LIKELIHOOD METHOD .............................................................. 676
Dongdong Peng ; Tian Zhou ; Haisen Li ; Wanyuan Zhang
THE SIMULATION AND EMULATION PLATFORMS OF UNDERWATER ACOUSTIC SENSOR NETWORKS .............................................................. 682
Hongyu Cui ; Youwen Zhang ; Xin Liu ; Dajun Sun
TRAVEL TIME PROCESSING FOR LBL POSITIONING SYSTEM .............................................................. 687
Jun Cao ; Cuie Zheng ; Dajun Sun ; Dianlun Zhang
RESEARCH ON INFLUENCE OF DISTORTION OF LARGE APERTURE OPTICAL TOWED LINEAR ARRAY SHAPE ON NULL-FORMING ALGORITHM .............................................................. 692
Xiufen Qiu ; Heping Shen ; Chunyan Sun ; Yile Liu
APPLICATION OF NEAR-FIELD BEAM-FORMING IN LARGE-APERTURE OPTICAL TOWED LINEAR ARRAY .............................................................. 698
Chunyan Sun ; Heping Shen ; Xiufen Qiu ; Yile Liu
ADAPTIVE TURBO EQUALIZATION WITH SPARSE HOMOTOPY DCD-RLS ALGORITHM WITH VARIABLE FORGETTING FACTOR FOR UNDERWATER ACOUSTIC COMMUNICATION .................................................................................................. 703
Youwen Zhang ; Lu Liu ; Dajun Sun
WP-PAGE TEST DETECTION OF UNDERWATER ACOUSTIC TRANSIENT SIGNAL .............................................................. 709
Bo Wu ; Sichun Li ; Jianzheng Yang ; Lei Wang ; Ruici Liang
THE RESEARCH ON 1–3 TYPE PIEZOELECTRIC COMPOSITE MATERIAL APPLICATION IN VECTOR HYDROPHONE ............................................................................................................. 714
Hu Zhang ; Hong-Juan Chen
RESEARCH ON CALIBRATING VECTOR HYDROPHONES IN SMALL WATER TANK ............................................................................................................. 719
Le Tong ; Hong-Juan Chen ; Hu Zhang ; Tian-Ji Zhao ; Zhi Li
A MOSAIC METHOD BASED ON FEATURE MATCHING FOR SIDE SCAN SONAR IMAGES ............................................................................................................. 723
Jibo Zhang ; Bingshu Tao ; Hongbo Liu ; Wejie Jiang ; Zhengkang Gou ; Feng Wen
THE PARAMETER ESTIMATION OF FREQUENCY-HOPPING SIGNALS VIA L1-SPICE ............................................................................................................. 729
Yonggang Wang ; Xiaohui Yang ; Youwen Zhang ; Dajun Sun
IMPACT OF SEA WAVES ON PERFORMANCE OF SHALLOW WATER ACOUSTIC COMMUNICATIONS ............................................................................................................. 735
Shengxing Liu ; Chienchung Shen
RESEARCH ON TWO METHODS OF ACOUSTIC ISOLATION ............................................................................................................. 740
Shushu Si ; Qingsong Hu
SCALE-TRANSFORMATION STOCHASTIC RESONANCE APPLICATION FOR PROCESSING THE UNDERWATER ACOUSTIC SIGNAL ............................................................................................................. 744
Xudong He
THE EFFECT OF SEA-SURFACE ROUGHNESS ON AMBIENT NOISE VERTICAL DIRECTIONALITY IN SHALLOW WATER WAVEGUIDE ............................................................................................................. 749
Jianhao Zhou ; Shengchun Piao ; Yiyang Huang ; Xiaoman Li ; Hanhao Zhu
STUDY ON MODULATION SPECTRUM FEATURE EXTRACTION OF SHIP RADIATED NOISE BASED ON AUDITORY MODEL ............................................................................................................. 754
Lin Mu ; Yuan Peng ; Mengran Qiu ; Xuemeng Yang ; Chen Hu ; Fengzhen Zhang
AN ANTI-INTERFERENCE VARIABLE-STEP ADAPTIVE ALGORITHM AND ITS APPLICATION IN ACTIVE VIBRATION CONTROL ............................................................................................................. 759
Chunyu Wang ; Lin He ; Yan Li ; Xiaoping Zhang ; Lei Zuo
STUDY ON LINE-SPECTRUM STABILITY OF SHIP UNDERWATER RADIATED NOISE ............................................................................................................. 764
Xuemeng Yang ; Lin Mu ; Yansen Liu
PHASE DIFFERENCE TECHNOLOGY APPLY TO THE SOUNDING OF BROADBAND MULTI-BEAM BATHYMETRY SONAR ............................................................................................................. 769
Yuchun Yang ; Junsheng Jiao
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modeling Acoustic Coherent Communication under Wind-Driven Ocean</td>
<td>775</td>
</tr>
<tr>
<td>Surface Waves</td>
<td></td>
</tr>
<tr>
<td>Zhenguang Zou; Mohsen Badiei; Xiaomei Xu</td>
<td></td>
</tr>
<tr>
<td>Inversion Study of the Coastal Ambient Noise Measurement near Qingdao</td>
<td>781</td>
</tr>
<tr>
<td>Chen Liu; Ju Lin; Guofa Li; Huan Wang</td>
<td></td>
</tr>
<tr>
<td>Distributed Sensor Array for Bottom Inversion</td>
<td>787</td>
</tr>
<tr>
<td>Block Iterative FDE for MIMO Underwater Acoustic Communications</td>
<td>793</td>
</tr>
<tr>
<td>Weiin Duan; Yahong Rosa Zheng; Dajun Sun; Youwen Zhang</td>
<td></td>
</tr>
<tr>
<td>The Localization of Marine Mammal with LOPAS-D System</td>
<td>797</td>
</tr>
<tr>
<td>Ying Jiang; Zhi-Guo Yang; Li Lian-Gang</td>
<td></td>
</tr>
<tr>
<td>The Fast Prediction of Sound Radiation from Typical Submarine Cabin</td>
<td>802</td>
</tr>
<tr>
<td>Based on Acoustic Transfer Vector</td>
<td></td>
</tr>
<tr>
<td>Qifan Zhang; Wei Li; Chizhong Wang</td>
<td></td>
</tr>
<tr>
<td>The Design of a Kind of Free-Flooded Ring Transducer Used in Underwater Communication</td>
<td>814</td>
</tr>
<tr>
<td>Jiwu Liu</td>
<td></td>
</tr>
<tr>
<td>The Analysis of Hops for Multiple-Hop Cooperation in Underwater Acoustic Sensor Networks</td>
<td>817</td>
</tr>
<tr>
<td>Xiaotong Jin; Yougan Chen; Xiaomei Xu</td>
<td></td>
</tr>
<tr>
<td>Experimental Study of Underwater Propeller Low-Frequency Noise Flied</td>
<td>822</td>
</tr>
<tr>
<td>Song Li; Desen Yang; Haoyang Zhang</td>
<td></td>
</tr>
<tr>
<td>A Multi-View Sonar Image Fusion Method Based on the Morphological Wavelet and Directional Filters</td>
<td>826</td>
</tr>
<tr>
<td>Zhigang Zhang; Hongyu Bian; Ziqi Song</td>
<td></td>
</tr>
<tr>
<td>Simulation and Testing of a Noise-Limited Demodulation System for a Fiber-Optic Hydrophone System Based on a Michelson Interferometer</td>
<td>831</td>
</tr>
<tr>
<td>Jiangfei Hu; Daoming Li</td>
<td></td>
</tr>
<tr>
<td>Joint Temporal-Sparse Recovery Approach for Estimation of Underwater Acoustic MIMO Channels</td>
<td>836</td>
</tr>
<tr>
<td>Yue-Hai Zhou; Feng Tong; Dong-Sheng Chen</td>
<td></td>
</tr>
<tr>
<td>Seafloor Parameterization Using Simple Reflection Quantities in Matched Field Inversion</td>
<td>841</td>
</tr>
<tr>
<td>Ke Qu; Changqing Hu; Mei Zhao</td>
<td></td>
</tr>
<tr>
<td>A Slide Match and Iteration Approach for Mobile Underwater Acoustic Communication</td>
<td>848</td>
</tr>
<tr>
<td>Songwei Liu; Gang Qiao; Lei Liu; Yunliang Zhu</td>
<td></td>
</tr>
<tr>
<td>Research on Measurements Method for Fish School Migration Velocity Based on Five-Beam Phased-Array</td>
<td>853</td>
</tr>
<tr>
<td>Chao Li; Haixen Li; Weidong Du</td>
<td></td>
</tr>
<tr>
<td>Effects of Hydrophone Gain Errors and Self-Noise on the DOA Performance</td>
<td>857</td>
</tr>
<tr>
<td>Shaohao Zhu; Kunde Yang; Yong Wang; Cheng Chen; Yaxiong Liu</td>
<td></td>
</tr>
<tr>
<td>Vertical Directionality of a Source Observed by a Short Vertical Line Array in Shallow Water</td>
<td>862</td>
</tr>
<tr>
<td>Tongwei Zhang; Kunde Yang; Yeyao Liu; Bo Yang</td>
<td></td>
</tr>
<tr>
<td>A Novel Dual-Hydrophone Localization Method in Underwater Sensor Networks</td>
<td>868</td>
</tr>
<tr>
<td>Sanfeng Zhu; Naigao Jin; Lei Wang; Xueshu Zheng; Shuailing Yang; Ming Zhu</td>
<td></td>
</tr>
<tr>
<td>Research on MPSK Modulation Classification of Underwater Acoustic Communication Signals</td>
<td>872</td>
</tr>
<tr>
<td>En Cheng; Jiaquan Yan; Haixin Sun; Jie Qi</td>
<td></td>
</tr>
<tr>
<td>Detection of Underwater Moving Object Based on the Compressed Sensing</td>
<td>877</td>
</tr>
<tr>
<td>Jie Qi; Weitao Sun; Haixin Sun; Congren Lin; Guangtao Yao</td>
<td></td>
</tr>
<tr>
<td>Angular Response Classification of Multibeam Sonar Based on Multiangle Interval Division</td>
<td>882</td>
</tr>
<tr>
<td>Chao Xu; Haixen Li; Baowei Chen; Xinyang Wang</td>
<td></td>
</tr>
</tbody>
</table>
PRELIMINARY EXPLORATION OF UNDERWATER NOISE IMPACT ON JAPANESE EEL (ANGUILLA JAPONICA) ELVERS.................................................................886
Xinhai Zhang ; Xiaomei Xu ; Xinxing Tu ; Wengpeng Wang ; Yougan Chen
APPLICATION OF SINGLE CARRIER FRACTIONAL FOURIER DOMAIN EQUALIZATION IN UNDERWATER ACOUSTIC COMMUNICATION.........................................................890
Xingbin Tu ; Xiaomei Xu ; Liangluang Yang ; Zhenwen Liu
UNDERWATER ACOUSTIC SCATTERING OF BESSEL BEAM BY SPHERICAL SHELL USING T-MATRIX METHOD .................................................................897
Shuigen Liu ; Zhixiong Gong ; Yingbin Chai ; Wei Li
COHERENT SUBARRAY DETECTION METHOD IN THE PRESENCE OF SPATIAL CORRELATION ATTENUATION .................................................................903
Xuan Shao ; Chao Sun
NOISE NORMALIZATION BASED ON THE POLARIZATION FILTERING OF FOURTH-ORDER MIXED CUMULANT SLICE.........................................................908
Xue Han ; Shengchun Piao ; Shizhao Zhang
MAPPING UNDERWATER SOUND NOISE AND ASSESSING ITS CHARACTERISTIC BASED ON AIS ..........................................................................................914
Shuwei Che ; Chuoxia Meng ; Jin Bai ; Wensi Wu
ADAPTIVE KALMAN FILTERING FOR TARGET TRACKING .................................................................................................................................918
Feng Xiao ; Mingyu Song ; Xin Guo ; Fengxiang Ge
REAL-TIME MEASUREMENT FOR EXPERIENCE QUALITY OF UNDERWATER ACOUSTIC VOICE COMMUNICATION .........................................................923
Weiling Chen ; Fei Yuan ; Yi Zhu ; En Cheng
ANALYSIS OF UNDERWATER OBJECT POSE ANGLE ESTIMATION METHOD BASED ON ECHO PREDICTION .................................................................929
Yang Zhang ; Guixuan Li ; Zhenshan Wang ; Bing Jia
A DIFFERENTIAL CHAOS-SHIFT KEYING SCHEME BASED ON HYBRID SYSTEM FOR UNDERWATER ACOUSTIC COMMUNICATION .........................................934
Chao Bai ; Hai-Peng Ren ; Jie Li
INSTRUMENTATION FOR UNDERWATER ACOUSTIC INTENSITY MEASUREMENT .........................................................................................................939
Zhi Li ; Hongquan Chen ; Hu Zhang ; Wenzhi Wang ; Tianji Zhao ; Le Tong
UNDERWATER ACOUSTIC NETWORK NODE DESIGN AND ANECHOIC POOL NETWORK EXPERIMENTATION WITH FIVE NODES ...........................................................................943
Ruiqin Zhao ; Haodu Mei ; Xiaohong Shen ; Wei Fang ; Haiyan Wang
WAVE PROPAGATION IN MARINE SEDIMENTS EXPRESSED BY FRACTIONAL WAVE AND DIFFUSION EQUATIONS .................................................................948
Sverre Holm ; Vikash Pandey
CHARACTERIZATION OF MARINE SEISMIC SURVEY INTER-PULSE SOUND FIELD IN AN ARCTIC SHALLOW-WATER ENVIRONMENT .................................................953
Shane Guan ; Joseph F. Vignola ; John A. Judge ; Diego Turo
OFDM TIME SYNCHRONIZATION METHOD OF UNDERWATER SOUND BASED ON SHORT-TIME FOURIER TRANSFORM ........................................................................960
Caiyun Zheng ; Xuefei Ma
SHIP PROPELLER BROADBAND NOISE PREDICTION USING THE LES AND CAA .........................................................................................................................965
Yi-Hong Chen ; Zhu-Qing Liu
THE RESEARCH ON SIMULATION OF SEABED REVERBERATION MODEL BASED ON MULTI-BEAM SOUNDING SYSTEM ........................................................................969
Yanyu Jiang ; Yu Luo ; Jian Shi
ANALYSIS OF VECTOR SOUND FIELD IN THE DIRECT-ARRIVAL ZONE IN DEEP WATER .................................................................................................974
Sun Mei ; Shihong Zhou ; Fenghua Li
SIMULATION OF THE EFFECT OF ACOUSTIC WINDOW TO THE PLANAR ARRAY AT DIFFERENT ANGLES .................................................................................979
Anbang Zhao ; Zhishan Zhao ; Juan Hui ; Fang Niu
A MACA-BASED POWER CONTROL MAC PROTOCOL FOR UNDERWATER WIRELESS SENSOR NETWORKS ............................................................................983
Liangfang Qian ; Senlin Zhang ; Metiqin Liu ; Qunfei Zhang
MODELLING ACOUSTIC VECTOR FIELDS FOR INVERSE PROBLEMS .................................................................................................................................991
Thomas Deal ; Kevin B. Smith
MODIFIED SOURCES NUMBER ESTIMATION METHODS OF THE ACOUSTIC VECTOR HYDROPHONE ARRAY BASED ON GERSCHGORIN DISK CRITERION ......................................................................996
Xuhu Wang ; Yongwei Liu ; Qunfei Zhang
THE RESEARCH OF DEEP-SEA WATER SCATTERING STRENGTH MEASUREMENT TECHNOLOGY .......................................................... 1000
Lin Guo ; Yang Shi

SOUND INTENSITY FLUCTUATIONS DUE TO MODE COUPLING ON MOVING INTERNAL WAVES ................................................................. 1003
Boris Katnitsnelson ; Yun Ren

UNDER-ICE CDMA MULTIUSER ACOUSTIC COMMUNICATIONS ............................................................. 1008
Jingwei Yin ; Pengyu Du ; Zha Guangze ; Chen Wenjian ; Liu Qiang

ITERATIVE CHANNEL ESTIMATION AND EQUALIZATION FOR UNDERWATER ACOUSTIC MIMO SFBC OFDM COMMUNICATION .......................................................... 1014
Lingling Zhang ; Jing Han ; Jiangao Huang ; Quanfei Zhang

DESIGN ON A NOVEL BIREFRINGENT PHOTONIC CRYSTAL FIBER WITH POLYCARBONATE-ELLIPSE CORE FOR PRESSURE SENSING ............................................................ 1020
Duanming Li ; Jiangfei Hu

THE DESIGN OF THE SYSTEM USED FOR MEASURING RADIATED NOISE AT ANCHOR CONDITION .............................................................. 1024
Shouyong Gao

RESEARCH ON SIGNAL DETECTION BASED ON EEMD AND ENERGY ENTROPY ............................................................. 1028
Liu Yang ; Lanyue Zhang

SIMULATION STUDY ON MEASURING STRUCTURAL SURFACE IMPEDANCE IN AIR REVERBERATION ROOM .................................................. 1032
Fulin Zhou ; Bin Wang ; Jun Fan

CALCULATION OF FREQUENCY DISPERSION CURVES OF SUBMERGED ELASTIC CYLINDRICAL SHELLS BASED ON SPECTRAL METHOD .............................................................. 1038
Yangyang Guo ; Bin Wang ; Jun Fan

APPLICATION OF DUFFING OSCILLATOR IN SHIP PROPELLER BLADE NUMBER RECOGNITION ................................................................. 1042
Yichuan Wang ; Haitao Li ; Weiguo Dai

REDUCTION IN THE DYNAMICAL COMPLEXITY OF THE OCEAN AMBIENT NOISE IN THE PRESENCE OF TARGET ............................................................. 1047
Shashidhar Siddagangaiah ; Yaan Li

VIBROACOUSTIC BEHAVIOR AND APPLICATION OF SINGLE- AND DOUBLE-LEAF PARTITIONS ................................................................. 1051
Jia-Xi Duan ; Qi-Dou Zhou ; Jian-Bo Xie ; Zhen-Wei Huang

DYNAMIC SIMULATION OF ACOUSTIC WAVE SCATTERING ................................................................. 1057
Ying Liu ; Hongxing Zheng

SOUND PROPAGATION IN DEEP WATER WITH THE PRESENCE OF SEAMOUNTS ................................................................. 1064
Zhenglin Li ; Wen Li ; Renhe Zhang

THREE-DIMENSIONAL ANALYTICAL SOLUTION AND NUMERICAL SOLUTION IN A PENETRABLE WEDGE-SHAPED WAVEGUIDE ............................................................. 1068
Yang Chunmei ; Lyu Liangang ; Qiao Fangli ; Luo Wenyu

A METHOD TO IDENTIFY THE NOISE RADIATION REGIONS OF ACOUSTIC SOURCE ............................................................. 1074
Junbo Su ; Haichao Zhu ; Rongfu Hao ; Changwei Su ; Liang Guo

SIGNAL PROCESS METHOD RESEARCH ABOUT MULTI-COMPONENT SEISMIC WAVE INDUCED BY MOVING SHIP ................................................................. 1079
Junfeng Chen ; Junjun Lv ; Pei Cui ; Yunchao Wu

EFFECT OF PULSE LENGTH ON LOW FREQUENCY AVERAGE REVERBERATION INTENSITY IN SHALLOW WATER WAVEGUIDE ............................................................. 1083
Qiannan Hou ; Jinrong Wu ; Jianlan Zhang ; Li Ma

LINK STRENGTH FOR UNMANNED SURFACE VEHICLE'S UNDERWATER ACOUSTIC COMMUNICATION ................................................................. 1088
Zhichao Lv ; Jie Zhang ; Jiucui Jin ; Lanjun Liu

NUMERICAL SIMULATION OF UNDERWATER FLOW NOISE FROM OPEN CAVITY UNDER DIFFERENT ATTACK ANGLES ............................................................. 1092
Bo Zhang ; Dejiang Shang ; Juan Liu ; Hao Song

MULTI-SCALE PERMUTATION ENTROPY AS A TOOL FOR COMPLEXITY ANALYSIS OF SHIP-RADIATED NOISE ............................................................. 1096
Yang Wang ; Qing-Yu Liu

RAINFALL MEASUREMENTS IN THE NORTH ATLANTIC OCEAN USING UNDERWATER AMBIENT SOUND ............................................................. 1100
Jie Yang ; William E. Asher ; Stephen C. Riser
PRECISION ANALYSIS OF UNDERWATER ACOUSTIC SOURCE LOCALIZATION USING FIVE-ELEMENT PLANE CROSS ARRAY
.............................................................................................................................. 1104
Wen Zhang ; Xinwu Zeng ; Changchao Gong ; Yun Zhao

SHIP-NOISE BASED GEOACOUSTIC INVERSION VIA PARTICLE FILTERING OF VERTICAL SPECIFIC ACOUSTIC IMPEDANCE .................................................................................. 1110
Qun-Yan Ren ; Jean-Pierre Hermand

STUDY ON THE HOLOGRAPHY RECONSTRUCTION OF THE RADIATED ACOUSTIC FIELD OF THE STRUCTURE SOUND SOURCE WITH LARGE SCALE ................................................................. 1115
Yaohui Lyu ; Yu Cao ; Dajun Sun

Author Index