

## Innovative Research

### Peer reviewed publications

#### B-Scalar Sensor Using CMR Effect in Thin Polycrystalline Manganite Films

ZURAUSKIENE N.\*, BALEVICIUS S.\*, STANKEVIC V.\*, KERSULIS N.\*, SCHNEIDER M., LIEBFRIED O., PLAUSINAITIENE V.\*, ABRUTIS A.\*

*in: IEEE Transactions on Plasma Science, 2011, Vol. 39, No. 1, pp. 411-416; © IEEE*

(Ref. ISL-PR-U-PU 6003/2011)

#### Current Distribution and Contact Mechanisms in Static Railgun Experiments with Brush Armatures

LIEBFRIED O., SCHNEIDER M., BALEVICIUS S.\*

*in: IEEE Transactions on Plasma Science, 2011, Vol. 39, No. 1, pp. 431-436; © IEEE*

(Ref. ISL-PR-U-PU 6004/2011)

#### High-Power Actively Mode-Locked Sub-Nanosecond Tm<sup>3+</sup>-Doped Silica Fiber Laser

HÜBNER Ph., KIELECK C., JACKSON S.D.\*, EICHHORN M.

*in: OPTICS LETTERS, Vol. 36, No. 13, July 1, 2011; © 2011 Optical Society of America*

(Ref. ISL-PR-U-PU 6033/2011)

#### Rail Gun Muzzle Velocity Control with High Accuracy

SIAENEN T., SCHNEIDER M., LÖFFLER M.J.\*

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 1, 2011, pp. 133-137; © 2010 IEEE*

(Ref. ISL-PR-U-PU 6035/2011)

#### Some Aspects Concerning the Design of Multistage Earth Orbit Launchers Using Electromagnetic Acceleration

SCHNEIDER M., BOZIC O. \*, EGGERS T.\*

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 2, 2011, pp. 794-801; © 2010 IEEE*

(Ref. ISL-PR-U-PU 6036/2011)

#### Wideband Circularly Polarized Patch Antennas on Reactive Impedance Substrates

BERNARD L., CHERTIER G. \*, SAULEAU R.\*

*in: IEEE Antennas and Wireless Propagation Letters, Vol. 10, 2011, pp. 1015-1018; © IEEE*

(Ref. ISL-PR-U-PU 6049/2011)

#### Probing Structure and Phase-Transitions in Molecular Crystals by Terahertz Time-Domain Spectroscopy

MORTEN F.\*, FISCHER B.M., WALTHER M.\*

*in: Journal of Molecular Structure, Volume 1006, Issues 1-3, 14 December 2011, pp. 34-40; © 2011 Elsevier B.V.*

(Ref. ISL-PR-U-PU 6069/2011)

#### Low-Frequency Spectroscopic Analysis of Monomeric and Fibrillar Lysozyme

ZAKARIA H.A. \*, FISCHER B.M., BRADLEY A.P. \*, JONES I. \*, ABBOTT D. \*, MIDDELBERG A. P.-J. \*, FALCONER J. \*

*in: Applied Spectroscopy 2011, Vol. 65, No. 3, pp. 260 - 264; © 2011 Society for Applied Spectroscopy*

(Ref. ISL-PR-U-PU 6070/2011)

#### Next Step in Terahertz Multiple Scattering Modeling: the Strongly Diffusing Structures

De DOBBELEER D.M. \*, FISCHER B.M., VANDEWAL M. \*

*in: Photonics Technology Letters, IEEE 2011. 36th International Conference on Infrared, Millimeter and Terahertz Waves, Vols 1 and 2, Peer Reviewed Conference Proceedings; © 2011 IEEE*

(Ref. ISL-PR-U-PU 6080/2011)

#### Scattering Estimation from Spectral Moments of THz-TDS Signals

KAUSHIK M. \*, NG B.W.-H. \*, FISCHER B.M., ABBOTT D. \*

*in: Photonics Technology Letters, IEEE 2011. 36th International Conference on Infrared, Millimeter and Terahertz Waves, Vols 1 and 2, Peer Reviewed Conference Proceedings; © 2011 IEEE*

(Ref. ISL-PR-U-PU 6083/2011)

### **Morphological Analyses of Polybutylene Terephthalate by Terahertz Time-Domain Spectroscopy**

FISCHER B.M., WIETZKE S.\*, REUTER M.\*, NESTLE N.\*, KLIMOV E.\*, KOCH M.\*

*in: Photonics Technology Letters, IEEE 2011. 36th International Conference on Infrared, Millimeter and Terahertz Waves, Vols 1 and 2, Peer Reviewed Conference Proceedings; © 2011 IEEE*

(Ref. ISL-PR-U-PU 6084/2011)

### **Near-Field & Far-Field Modelling of a Sub-Wavelength THz Source**

LIN H.\*, FUMEAUX Ch.\*, FISCHER B.M., ABBOTT D.\*

*in: Photonics Technology Letters, IEEE 2011. 36th International Conference on Infrared, Millimeter and Terahertz Waves, Vols 1 and 2, Peer Reviewed Conference Proceedings; © 2011 IEEE*

(Ref. ISL-PR-U-PU 6085/2011)

### **Carbon Nanotube Concentration and Distribution Determination with Terahertz Waves**

PETERS O.\*, FISCHER B.M., KOCH M.\*

*in: Photonics Technology Letters, IEEE 2011. 36th International Conference on Infrared, Millimeter and Terahertz Waves, Vols 1 and 2, Peer Reviewed Conference Proceedings; © 2011 IEEE*

(Ref. ISL-PR-U-PU 6090/2011)

### **Comparative Study of Heart Sound Localization Algorithms**

MOUKADEM A.\*, DIETERLEN A.\*, HUEBER N., BRANDT C.\*, RAYMOND P.

*Comparative Study of Heart Sound Localization*

*Algorithms; Bioelectronics, Biomedical and Bioinspired Systems V, Prague, CZ, 2011 in: SPIE Proceedings Vol. 8068; © SPIE*

(Ref. ISL-PR-U-PU 6093/2011)

### **Localization of Heart Sounds Based on S-Transform and Radial Basis Function Neural Network**

MOUKADEM A.\*, DIETERLEN A.\*, HUEBER N., BRANDT C.\*

*in: IFMBE Proceedings, 15th Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, Copenhagen, DK, 2011, Vol. 34, pp. 168-171; © IFMBE (Int. Federation for Medical and Biological Engineering)*

(Ref. ISL-PR-U-PU 6094/2011)

### **Automatic Pedestrian Detection and Counting Applied to Urban Planning**

MICHELAT T.\*, HUEBER N., RAYMOND P., PICHLER A., SCHAAL P.\*, DUGARET B.\*

*in: Aml'10 Proceedings of the First International Joint Conference on Ambient Intelligence, Springer-Verlag Berlin, Heidelberg, pp. 285-289; © Springer-Verlag*

(Ref. ISL-PR-U-PU 6096/2011)

### **Investigating a Radio Data Link to a Railgun Projectile - The Active Projectile**

HUNDERTMARK S., VINCENT G.

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 1, pp. 422-425, January 2011; © 2010 IEEE*

(Ref. ISL-PR-U-PU 6097/2011)

### **Development of Advanced Thermoplastic Composite Projectiles for High-Velocity Shots with the PEGASUS Railgun**

AVRIL C.\*, PERREUX D.\*, THIEBAUD F.\*, RECK B., HUNDERTMARK S.

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 12, pp. 3391-3395, Dec. 2011; © IEEE Nuclear and Plasma Sciences Society*

(Ref. ISL-PR-U-PU 6098/2011)

### **Micro-Scale Energy Dissipation Mechanisms during Dynamic Fracture in Natural Polyphase Ceramic Blocks**

HOGAN J.D.\*, SPRAY J.G.\*, ROGERS R.J.\*, BOONSUE S.\*, VINCENT G., SCHNEIDER M.

*in: International Journal of Impact Engineering 38 (2011), pp. 931-939; © 2011 ELSEVIER*

(Ref. ISL-PR-U-PU 6106/2011)

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### **Vortex Induced Mach Waves in Supersonic Jets**

OERTEL H.\*, SEILER F., SRULIJES J.

*in: Proceedings of the 28th International Symposium on Shock Waves, Manchester, UK, July 17-22, 2011*

(Ref. ISL-PU 6043/2011)

### **Detection and Identification of Explosives by their Spectral Fingerprints in the Far-Infrared or THz Region**

FISCHER B.M., DEMARTY Y., SCHNEIDER M.

*EUCDE - 1st EU Conference on the Detection of Explosives, Avignon, FR, March 14-16, 2011*

(Ref. ISL-PU 6099/2011)

### **Morphological Studies on Polymers Using Terahertz Time-Domain Spectroscopy**

WIETZKE S.\*, REUTER M.\*, JANSEN C.\*, JUNG T.\*, CHATTERJEE S.\*, FISCHER B.M., WIESAUER K.\*, KOCH M.\*

*Advances in Polymer Science and Technology (APST) 2, Linz, AT, September 28-30, 2011*

(Ref. ISL-PU 6100/2011)

### **Scattering Robust Features for Classification of Materials Using Terahertz**

KAUSHIK M.\*, NG B.W.-H.\*, FISCHER B.M., ABBOTT D.\*

*ISSNIP 2011: Seventh International Conference on Intelligent Sensors, Sensor Networks and Information Processing, Adelaide, AU, December 6-9, 2011*

(Ref. ISL-PU 6101/2011)

### **Three-Dimensional THz Active Imaging for Dual-Use**

DEMARTY Y., FISCHER B.M., SCHNEIDER M.

*6<sup>es</sup> Journées TéraHertz, La Grande-Motte, FR, 25-27 mai 2011*

(Ref. ISL-PU 6102/2011)

# Laser and Laser Applications

Peer reviewed publications

## Multi-kW Er<sup>3+</sup>:YAG Solid-State Heat-Capacity Laser

EICHHORN M.

*OSA Topical Meeting on Advanced Solid-State Photonics ASSP 2011, Istanbul, TR, February 14-18, 2011; © Optical Society of America. Postdeadline Paper AMF2*

(Ref. ISL-PR-U-PU 6007/2011)

## Novel All-Hardware Closed-Loop Adaptive Optics System Using Massively-Parallel Neural Processing

EICHHORN M., PICHLER A., RAYMOND P.

*Photonics West 2011, San Francisco, CA, USA, 24-28.11.2011, Proceedings SPIE 7912-44; © SPIE*

(Ref. ISL-PR-U-PU 6010/2011)

## Kilometer Range Filamentation: Study of Induced Damage on Target and Dazzling Effect

DURAND M.\*, HOUARD A.\*, PRADE B.\*, MYSYROWICZ A.\*, DURÉCU A.\*, MOREAU B.\*, FLEURY D.\*, VASSEUR O.\*, BORCHERT H., DIENER K., SCHMITT R., CARDINAL M.\*, FERNET A.\*, THÉBERGE F.\*, CHATEAUNEUF M.\*

*Conference on Lasers and Electro-Optics (CLEO US), Baltimore/MD, US, May 1-6, 2011; © Optical Society of America*

(Ref. ISL-PR-U-PU 6011/2011)

## High-Efficiency Multi-Kilowatt Er<sup>3+</sup>:YAG Solid-State Heat-Capacity Laser

EICHHORN M.

*in: OPTICS LETTERS Vol. 36, No. 7, pp. 1245-1247 (2011); © 2011 Optical Society of America*

(Ref. ISL-PR-U-PU 6019/2011)

## Image Coding for Three-Dimensional Range-Gated Imaging

LAURENZIS M., BACHER E.

*in: Applied Optics, Vol. 50, No. 21, 20 July 2011, pp. 3824-3828; © 2011 Optical Society of America*

(Ref. ISL-PR-U-PU 6038/2011)

## Acoustical Sensors and a Range-Gated Imaging System in a Self-Routing Network for Advanced Threat Analysis

HENGY S., LAURENZIS M., SCHNEIDER A.

*in: GI-Edition Lecture Notes in Informatics, 41. Jahrestagung der Gesellschaft für Informatik e.V. (GI), 6th Workshop Sensor Data Fusion: Trends, Solutions, Applications (SDF 2011), Berlin, DE, October 4-7, 2011; © IEEE*

(Ref. ISL-PR-U-PU 6072/2011)

## Reinforced Direct Bonding of Optical Materials by Femtosecond Laser Welding

HÉLIE D.\*, BÉGIN M.\*, LACROIX F., VALLÉE R.\*

*To be published in: Applied Optics - Paper in press*

(Ref. ISL-PR-U-PU 6088/2011)

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Imagerie active : la maturité des systèmes ouvre de vastes perspectives Active Imaging: The System Maturity Offers Great Opportunities

CHRISTNACHER F., LAURENZIS M., MONNIN D., LUTZ Y.

*in: Revue de l'Électricité et de l'Électronique, REE n° 11, décembre 2010; © SEE, Société de l'Électricité, de l'Électronique et des Technologies de l'Information et de la Communication*

(Ref. ISL-U-PU 6008/2011)

## Optical Demining Probe: A Simple Device to Discriminate and Neutralize an Explosive Device

LACROIX F.

*Conference MINWARA 2010, Monterey/CA, US, May 17-20, 2010*

(Ref. ISL-PU 6013/2011)

## Multi-kW-Class 1.64 $\mu\text{m}$ Er<sup>3+</sup>:YAG Lasers Based on Heat-Capacity Operation

EICHHORN M.

*in: Optical Materials Express, Vol. 1, No. 3, pp. 321-331 (1 July 2011); © 2011 Optical Society of America*

(Ref. ISL-U-PU 6031/2011)

### Two Methods for 3D Kilometric Scene Reconstruction Using Range-Gated Active Imaging Systems

CHRISTNACHER F., LAURENZIS M., MONNIN D., SCHERTZER S., SCHMITT G.

8th NATO Military Sensing Symposium (SET-169), Friedrichshafen, DE, May 16-18, 2011

(Ref. ISL-PU 6032/2011)

### Near Infrared Laser Illuminator for Very Long-Range Flash Active Imaging Applications

LUTZ Y., METZGER N.

SPIE Conference on Optical Systems Design, Marseille, FR, September 5-8, 2011; © SPIE

(Ref. ISL-U-PU 6040/2011)

### Optical Bonding Reinforced by Femtosecond Laser Welding

LACROIX F., HÉLIE D.\*, VALLEE R.\*

Conference SPIE Optics and Photonics, Paper 8126-37, San Diego/CA, US, August 21-25, 2011; © SPIE

(Ref. ISL-U-PU 6041/2011)

### Damage Effects of Filaments on Non-Transparent Materials at Long Distances

DIENER K., BORCHERT H., SCHMITT R., DURAND M.\*, HOUARD A.\*, PRADE B.\*, MYSYROWICZ A.\*, DURÉCU A.\*, FLEURY D.\*, MOREAU B.\*, VASSEUR O.\*, THÉBERGE F.\*, CHATEAUNEUF M.\*, DUBOIS J.\*

SPIE Laser Damage Symposium XLIII: Annual Symposium on Optical Materials for High Power Lasers, Boulder/CO, US, September 18-21, 2011 in: SPIE Proceedings, Vol. 8190, Paper 8190-65; © SPIE

(Ref. ISL-U-PU 6047/2011)

### New Approaches of Three-Dimensional Range-Gated Imaging in Scattering Environments

LAURENZIS M., CHRISTNACHER F., BACHER E., METZGER N., SCHERTZER S., SCHOLZ Th.\*

Electro-Optical Remote Sensing, Photonic Technologies, and Applications V, edited by Gary W. Kamerman, Ove Steinvall, Keith L. Lewis, Gary J. Bishop, John D. Gonglewski, in: SPIE Proceedings Vol. 8186-818603, © SPIE

(Ref. ISL-U-PU 6060/2011)

### Investigation of the Image Coding Method for Three-Dimensional Range-Gated Imaging

LAURENZIS M., BACHER E., SCHERTZER S., CHRISTNACHER F.

in: Electro-Optical Remote Sensing, Photonic Technologies, and Applications V, edited by Gary W. Kamerman, Ove Steinvall, Keith L. Lewis, Gary J. Bishop, John D. Gonglewski, in: SPIE Proceedings, Vol. 8186-818604; © SPIE

(Ref. ISL-U-PU 6061/2011)

### Compact Efficient Mid-Infrared Laser Source: OP-GaAs OPO Pumped by Ho<sup>3+</sup>:YAG Laser

HILDENBRAND A., KIELECK C., LALLIER E.\*, FAYE D.\*, GRISARD A.\*, GERARD B.\*, EICHHORN M.

in: SPIE Proceedings, 2011, 8187, 81870H; © SPIE

(Ref. ISL-U-PU 6095/2011)

# Protection - Perforation - Detonics

## Peer reviewed publications

### Safer Energetic Materials by a Nanotechnological Approach

SIEGERT B., COMET M., SPITZER D.

*in: Nanoscale, 2011; © The Royal Society of Chemistry 2011*

(Ref. ISL-PR-U-PU 6045/2011)

### Evaluation of Strength Model Parameters from Taylor Impact Tests

NUSSBAUM J., FADERL N.

*11th International Conference on the Mechanical Behavior of Materials, Como Lake, IT, June 5-9, 2011 in: Procedia Engineering, Volume 10, 2011, pp. 3453-3458; © 2011 Published by Elsevier Ltd.*

(Ref. ISL-PR-U-PU 6075/2011)

### Multi-Dimensional Two-Phase Flow Modeling Applied to Interior Ballistics

NUSSBAUM J., HELLUY P.\*, HÉRARD J.-M.\*, BASCHUNG B.

*Journal of Applied Mechanics, September 2011, Volume 78, Issue 5; © 2011 American Society of Mechanical Engineers*

(Ref. ISL-PR-U-PU 6103/2011)

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### Reduced-Sensitivity Nanothermites Based on Filled Carbon Nanofibers

SIEGERT B., COMET M., MULLER O., SCHNELL F., POURROY G.\*, SPITZER D.

*in: Proceedings of EUROPYRO 2011/IPS 2011, Reims, FR, May 17-19, 2011*

(Ref. ISL-PU 6025/2011)

### Control of the Functioning Time of an all Secondary Laser Ignited Detonator

MOULARD H., FOUSSON E., RITTER A., MORY J.

*EUROPYRO 2011, 37th IPS, Reims, FR, May 17-19, 2011*

(Ref. ISL-PU 6027/2011)

### Ignition Temperature of Aluminum Particles behind an Incident Shock Wave at Different Particle Load Factors

LIEB T., SCHLÖFFEL G., ALBERS H., EICHHORN A.

*Proceedings of European Combustion Meeting, 28th June-1st July 2011, Cardiff, UK*

(Ref. ISL-PU 6039/2011)

### Ballistic Performances of 2139-T8 and 7449-T6 Aluminum Alloys

GASQUERES C.\*, NUSSBAUM J., FALLET A.\*

*26th International Symposium on Ballistics, Miami/FL, US, September 12-16, 2011*

(Ref. ISL-PU 6073/2011)

### Evaluation of Strength Model Parameters for a CuTe Alloy

NUSSBAUM J., FADERL N., KLAVZAR A.

*Annual International Workshop 2011 on Dynamic Behavior of Structures and Materials, Interaction and Friction, Metz, FR, June 13-15, 2011*

(Ref. ISL-PU 6074/2011)

### Specific Properties of Textile Composite Solutions to Improve Impact Protection

PROVOST B.\*, LEFEBVRE M.\*, BOUSSU F.\*, NUSSBAUM J.

*2nd International Conference of Engineering Against Fracture (ICEAF II), Mykonos, GR, June 22-24, 2011*

(Ref. ISL-PU 6076/2011)

### 3D Flexible Hybrid Textile Structures against High Velocity Impact

VILFAYEAU J.\*, BOUSSU F.\*, NUSSBAUM J.

*26th International Symposium on Ballistics, Miami/FL, US, September 12-16, 2011*

(Ref. ISL-PU 6077/2011)

**Comportement spécifique de structures 3D interlock tissées contre les impacts à haute vitesse**

*Specific Behaviour of 3D Warp Interlock Structures against High-Velocity Impacts*

PROVOST B.\*, BOUSSU F.\*, LEFEBVRE M.\*, NUSSBAUM J.

*JNC 17 - Journées Nationales sur les Composites, Poitiers, FR, 15-17 juin 2011*

(Ref. ISL-PU 6078/2011)

**Experimental and Computational Study on High Velocity Fragment Impacts**

RONDOT F., NUSSBAUM J.

*26th International Symposium on Ballistics, Miami/FL, US, September 12-16, 2011*

(Ref. ISL-PU 6081/2011)

**Experimental Strategies for the Desensitization of Nanothermites**

COMET M., SIEGERT B., SCHNELL F., HAN K.-T., RISSE B., PICHOT V., SPITZER D.

*in: Proceedings of the IPASS 2011, Bordeaux, FR, November 15-16, 2011*

(Ref. ISL-PU 6082/2011)

**Experimental and Computational Study of Lightweight Composite Armour against High Velocity Fragment Impact**

THORAL PIERRE K.\*, LEQUIN M.\*, RONDOT F., NUSSBAUM J., QUIRION Y.\*, VALLEE D.\*, PETITPAS E.\*

*LWAG - Light-Weight Armour Group for Defence & Security Meeting on "New Design Concepts in Light-Weight Armour for Vehicles", Aveiro, PT, October 27-28, 2011*

(Ref. ISL-PU 6086/2011)

**Experimental and Computational Study of High Velocity Fragment Impact**

RONDOT F., NUSSBAUM J., THORAL PIERRE K.\*, LEQUIN M.\*, QUIRION Y.\*, VALLEE D.\*, PETITPAS E.\*

*LWAG - Light-Weight Armour Group for Defence & Security Meeting on "New Concepts in Armour Engineering", Haifa, IL, March 16-17, 2011*

(Ref. ISL-PU 6087/2011)

**Enhanced Blast Evaluation in Confined Bunker**

STURTZER M.-O, ECKENFELS D., LEGENDRE J.-F.

*14th International Symposium on Interaction of the Effects of Munitions with Structures (ISIEMS), Seattle, WA/US, September 19-23, 2011*

(Ref. ISL-PU 6092/2011)

## Acoustics and Protection of the Soldier

Peer reviewed publications

### **Talker-to-Listener Distance Effects on the Variations of the Intensity and the Fundamental Frequency of Speech**

FUX T., FENG G.\*, ZIMPFER V.

*Proceedings of the 36th International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prague, CZ, May 22-27, 2011; © IEEE*

(Ref. ISL-PR-U-PU 6012/2011)

### **A Dome Shaped PVDF Loudspeaker Model**

GAZENGEL B.\*, HAMERY P., LOTTON P.\*, RITTY A.

*in: Acta Acustica United with Acustica, Vol. 97 (2011), pp. 800-808; © S. Hirzel Verlag - EAA*

(Ref. ISL-PR-U-PU 6054/2011)

### **The Use of Weather Forecasts to Characterise Near-Surface Optical Turbulence**

CHEINET S., BELJAARS A.\*, WEISS-WRANA K.\*, HURTAUD Y.\*

*in: Boundary Layer Meteorol., 138, 453-473 (2011), © Springer Science + Business Media B.V. 2010*

(Ref. ISL-PR-U-PU 6064/2011)

### **Local Structure Parameters of Temperature and Humidity in the Entrainment-Drying Convective Boundary Layer: A Large-Eddy Simulation Analysis**

CHEINET S., CUMIN P.\*

*in: Journal of Applied Meteorology and Climatology, 50, 472-481 (2011), © 2011 American Meteorological Society*

(Ref. ISL-PR-U-PU 6065/2011)

### **Intrathoracic Pressure Impulse Predicts Pulmonary Contusion Volume in Ballistic Blunt Thoracic Trauma**

PRAT N.\*, RONGIERAS F.\*, VOIGLIO E.\*, MAGNAN P., DESTOMBE C.\*, DEBORD E.\*, BARBILLON F.\*, FUSAI T.\*, SARRON J.-C.\*

*in: Journal of Trauma-Injury, Infection & Critical Care: October 2010, Volume 69, Issue 4, pp. 749-755;*

*© 2010 Lippincott Williams & Wilkins, Inc.*

(Ref. ISL-PR-U-PU 6071/2011)

### **Weapon Noise Exposure of the Soldier and its Measurement**

BUCK K., HAMERY P.

*159th Meeting of the Acoustical Society of America, Baltimore/MD, US, April 19-23, 2010 in: Journal of the Acoustical Society of America, Vol. 127, No. 3, p. 1878; © Acoustical Society of America*

(Ref. ISL-U-PU 6002/2011)

### **Relevant Acoustic Features of Speech Signals for Natural-to-Shouted Voice Transformation**

FUX Th., FENG G.\*, ZIMPFER V.

*Forum Acusticum 2011, Aalborg, DK, June 27-July 1st, 2011, © European Acoustics Association*

(Ref. ISL-U-PU 6016/2011)

### **Advanced Detection of Weapon Firing for the Dismounted Soldier**

NAZ P., CHRISTNACHER F., HAMERY P., MONNIN D., LAURENZIS M., HENGY S.

*8th NATO Military Sensing Symposium (SET-169), Friedrichshafen, DE, May 16-18, 2011*

(Ref. ISL-PU 6024/2011)

### **Networked Localization of Sniper Shots Using Acoustics**

HENGY S., HAMERY P., De MEZZO S., DUFFNER P.

*SPIE Defense, Security + Sensing, Orlando/FL, US, April 25-28, 2011; © SPIE*

(Ref. ISL-U-PU 6030/2011)

### **Natural-to-Shouted Voice Transformation for Distance Cues**

FUX T., FENG G.\*, ZIMPFER V.

*Pan-European Voice Conference (PEVOC9), Marseille, FR, August 31-September 3, 2011*

(Ref. ISL-PU 6046/2011)



### **Asynchronous Localization of Snipers Using Acoustics: Challenges and First Results**

HENGY S., De MEZZO S., DUFFNER P.

*NATO RTO Meeting SET-176 / RSM-016 on Autonomous Sensing and Multi-Sensor Integration for ISR Applications, Cardiff, GB, October 24-25, 2011; © NATO*

(Ref. ISL-U-PU 6066/2011)

### **Ambiguity in Phoneme Recognition when Using a Bone Conduction Microphone**

BUCK K., ZIMPFER V.

*Invited Paper presented at the 162 Meeting of the Acoustical Society of America, San Diego/CA, US, October 31-November 4, 2011 in: The Journal of the Acoustical Society of America, Vol. 130, No. 4, pp. 2468-2469; © Acoustical Society of America*

(Ref. ISL-U-PU 6067/2011)

### **Evaluation of Hearing Protection Devices with High-Amplitude Impulse Noise**

BUCK K., De MEZZO S., HAMERY P.

*Invited Paper presented at the 162 Meeting of the Acoustical Society of America, October 31-November 4, 2011, San Diego/CA, US in: The Journal of the Acoustical Society of America, Vol. 130, No. 4, p. 2433; © Acoustical Society of America*

(Ref. ISL-U-PU 6068/2011)

### **Les équipements de protection individuelle contre le bruit en milieu opérationnel militaire. Partie 2 : Dualité protection et communication**

*Personal Protective Equipment against Noise in Military Environment. Part 2: Duality Protection and Communication*

HAMERY P., BUCK K., ZIMPFER V.

*in: Acoustique & Techniques, CIDB/SFA, n° 66, 4<sup>e</sup> trimestre 2011, pp. 15-19; © CIDB/SFA*

(Ref. ISL-U-PU 6089/2011)

### **Scattering of Plane Waves by Local Inhomogeneities and Turbulent Fluctuations: Comparison between Theory and Time-Domain Computations**

EHRHARDT L., CHEINET S., JUVÉ D.\*

*14th Long-Range Sound Propagation Symposium (LRSP), Baltimore/MD, US, March 17-18, 2011*

(Ref. ISL-PU 6104/2011)

# Electrical Engineering

## Peer reviewed publications

### Twenty-Stage Toroidal XRAM Generator Switched by Countercurrent Thyristors

DEDIÉ Ph., BROMMER V., SCHARNHOLZ S.

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 1, January 2011, pp. 263-267; © IEEE*

(Ref. ISL-PR-U-PU 6005/2011)

### Modular 50-kV IGBT Switch for Pulsed-Power Applications

ZORNGIEBEL V., HECQUARD M., SPAHN E., WELLEMAN A.\*, SCHARNHOLZ S.

*in: IEEE Transactions on Plasma Science, Vol. 39, No. 1, January 2011; © IEEE*

(Ref. ISL-PR-U-PU 6006/2011)

### Pulse Current Characterization of SiC GTO Thyristors

SCHARNHOLZ S., VERGNE B., KONRATH J.-P., PÂQUES G., ZORNGIEBEL V.

*in: Materials Science Forum, Vols. 679-680 (2011), pp. 682-685; © 2011 Trans Tech Publications, Switzerland*

(Ref. ISL-PR-U-PU 6014/2011)

### Graded Etched Junction Termination for SiC Thyristors

PÂQUES G., DHEILLY N.\*, PLANSON D.\*, De DONCKER R.W.\*, SCHARNHOLZ S.

*in: Materials Science Forum, Vols. 679-680 (2011), pp. 457-460; © 2011 Trans Tech Publications, Switzerland*

(Ref. ISL-PR-U-PU 6017/2011)

### Investigation of Epitaxial SiC PiN Diodes with Variable Mesa Height

PÂQUES G., SCHARNHOLZ S., KONRATH J.-P., DHEILLY N.\*, PLANSON D.\*, De DONCKER R.W.\*

*in: Materials Science Forum, Vols. 679-680 (2011), pp. 473-476, © 2011 Trans Tech Publications, Switzerland*

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