

# ► Energetic materials and systems

## Peer reviewed publications

---

### Impact sensitivities of energetic materials derived from easy-to-compute ab initio rate constants

R. CLAVEAU, J. GLORIAN, D. MATHIEU

*Physical Chemistry Chemical Physics*; © the Owner Societies 2023; doi.org/10.1039/D2CP05742E

R-01/19/01/000/0/00-00/PR-318/2023

## Publications

---

### Detailed kinetic modeling of low vulnerability gun propellant based on RDX

J. EHRHARDT, J. GLORIAN, B. BASCHUNG

*ISL Scientific Symposium 2023, Saint-Louis, FR, 14–15 March 2023*

R-01/21/01/000/0/00-00/PU-59/2023

### Impact sensitivities of energetic materials derived from easy-to-compute ab initio rate constants

R. CLAVEAU, J. GLORIAN, D. MATHIEU

*Physical chemistry chemical physics: PCCP*, 12 Apr. 2023, Vol. 25, Issue 15, pp. 10550 - 10560; © Royal Society of Chemistry, 2023; DOI: 10.1039/d2cp05742e

R-01/19/01/000/0/00-00/PU-72/2023

### Experimental and modeling study of RDX-HTPB gun propellant decomposition

J. EHRHARDT, J. GLORIAN, B. BASCHUNG

*EuroPyro, 46th IPS Seminar 2023, Saint-Malo, FR, September 11-14, 2023*

R-01/21/01/000/0/00-00/PU-98/2023

### Detailed kinetic mechanism for nitrocellulose low temperature decomposition

J. EHRHARDT, J. GLORIAN, L. COURTY, B. BASCHUNG, P. GILLARD

*Combustion and Flame* 258 (2023) 113057; ©2023PublishedbyElsevierInc.; doi.org/10.1016/j.combust-flame.2023.113057

R-01/21/01/000/0/00-00/PU-230/2023

### Chemical kinetic modeling study of double-base propellant decomposition

J. GLORIAN, J. EHRHARDT, B. BASCHUNG

*EuroPyro 2023, 46th IPS Seminar, Saint-Malo, FR, September 11-14, 2023*

R-01/19/01/000/0/00-00/PU-316/2023

### Reaction rate rules for detailed kinetic modelling of nitrite and nitratefunctional groups

H. MINWEGEN, J. GLORIAN, K.A. HEUFER, B. BASCHUNG

*52nd International ICT-Conference, Karlsruhe, DE, June 27-30, 2023*

R-01/19/01/000/0/00-00/PU-317/2023

### Modeling the decomposition of energetic materials and their sensitivity

R. CLAVEAU, J. GLORIAN, D. MATHIEU

*EuroPyro 2023, 46th IPS Seminar, Saint-Malo, FR, September 11-14, 2023*

R-01/19/01/000/0/00-00/PU-319/2023

\* not member of ISL

© Publications with assignment of copyright cannot be ordered

# ► Flight techniques for projectiles

## Peer reviewed publications

---

### **Visual-Inertial Fusion on KITTI using MSF-EKF**

G. CHEVRIN, S. CHANGEY, M. REBERT, D. MONNIN, J.-P. LAUFFENBURGER

*ICARCV 2022, Singapur, 11-13/12/2022; doi: 10.1109/ICARCV57592.2022.10004344*

R-02/21/02/000/0/00-00/PR-7/2023

### **Control Moment Gyro Actuator for a Guided Projectile**

E. ROUSSEL

*AIAA Journal of Guidance, Control and Dynamics; doi: 10.2514/1.G006516*

R-02/23/03/000/0/00-00/PR-47/2023

### **Practical Use of Starlink Downlink Tones for Positioning**

N. JARDAK, R. ADAM

*Sensors 2023, 23, 3234; doi.org/10.3390/s23063234*

R-02/21/02/000/0/00-00/PR-82/2023

### **Mortar Trajectory Estimation by a Deep Error-State Kalman Filter in a GNSS-Denied Environment**

A. ROUX, S. CHANGEY, J. WEBER, J.-P. LAUFFENBURGER

*IEEE/ION PLANS 2023, Position Location and Navigation Symposium, Monterey/CA, USA, April 24-27, 2023*

R-02/21/02/000/0/00-00/PR-83/2023

### **LSTM-based projectile trajectory estimation in a GNSS-denied environment**

A. ROUX, S. CHANGEY, J. WEBER, J.-P. LAUFFENBURGER

*Sensors 2023, 23, 3025; doi.org/10.3390/s23063025*

R-02/21/02/000/0/00-00/PR-84/2023

### **Ground Vehicle Navigation Based on the Skylight Polarization**

G. COURTIER, P.-J. LAPRAY, R. ADAM, S. CHANGEY, J.-P. LAUFFENBURGER

*IEEE/ION PLANS 2023, Position Location and Navigation Symposium, Monterey/CA, USA, April 24-27, 2023*

R-02/21/02/000/0/00-00/PR-85/2023

### **Architecture matérielle et traitement d'image pour un système de navigation basé sur la polarisation de la lumière solaire pour des drones terrestres**

G. COURTIER, E. PECHEUR, R. ADAM, P.-J. LAPRAY, S. CHANGEY, J.-P. LAUFFENBURGER

*GRETSI'2022, XXVIIIe Colloque Francophone de Traitement du Signal et des Images, Nancy, FR, 06-09 septembre 2022*

R-02/21/02/000/0/00-00/PR-86/2023

### **Image-based navigation system using skylight polarization for unmanned ground vehicle**

G. COURTIER, R. ADAM, P.-J. LAPRAY, E. PECHEUR, S. CHANGEY, J.-P. LAUFFENBURGER

*Proceedings Vol. 12124, Unmanned Systems Technology XXIV; 121240H (2022); doi.org/10.1117/12.2616833;*

*Event: SPIE Defense + Commercial Sensing, 2022, Orlando/FL, USA; © (2022) SPIE*

R-02/21/02/000/0/00-00/PR-88/2023

## **Circularly polarized global navigation satellite systems metasurface antennas in sub-wavelength metallic cavities**

L. GARCIA-GAMEZ, L. BERNARD, R. SAULEAU, S. COLLARDEY, K. MAHDJOURI, P. POULIGUEN, P. POTIER

*Circularly polarized global navigation satellite systems metasurface antennas in sub-wavelength metallic cavities, International Journal of Microwave and Wireless Technologies pp. 1–10, 2022; doi.org/10.1017/S1759078723000089*  
R-02/20/02/000/0/00-00/PR-148/2023

## **Robust gain-scheduled autopilot design with anti-windup compensation for a guided projectile**

S. THAI, S. THEODOULIS, C. ROOS\*, J.-M. BIANNIC\*

*CEAS Aeronautical Journal. Vol. 14, pp. 765–786 (2023); © Deutsches Zentrum für Luft- und Raumfahrt e.V. 2023; doi.org/10.1007/s13272-023-00668-9*  
R-02/23/04/000/0/00-00/PR-195/2023

## **Improvement of Guided Projectile Maneuverability Using Airframe-Controller Optimization**

V. RISS, E. ROUSSEL, E. LAROCHE

*AIAA Journal of Guidance, Control, and Dynamics; doi.org/10.2514/1.G007712*  
R-02/23/03/000/0/00-00/PR-320/2023

## **Cylindrical conformation and miniaturization of cavity-backed magnetoelectric antenna with an outer $\Gamma$ -shaped probe**

F. LECLINCHE, E. DREAN\*, D. ADOLPHE\*, V. ZIMPFER

*Journal of Sensor Studies, 2023;e12825; doi.org/10.1111/joss.12825; © 2023 Wiley Periodicals LLC.*  
R-02/20/02/000/0/00-00/PR-330/2023

## **Publications**

---

### **L1 Adaptive Augmentation of an Incremental Nonlinear Dynamic Inversion Autopilot for Dual-Spin Guided Projectiles**

S. PINEAU, S. THEODOULIS, M. ZASADZINSKI, M. BOUTAYEB, E. ROUSSEL

*AIAA SCITECH Forum, AA Science and Technology Forum and Exposition, National Harbor/MD, US, 23–27 January 2023; © 2023 American Institute of Aeronautics and Astronautics, Inc. All rights reserved*  
R-02/19/01/000/0/00-00/PU-22/2023

### **Linear Parameter Varying Pitch Autopilot Design for a class of Long Range Guided Projectiles**

G.M. VINCO, S. THEODOULIS, O. SENAME, G. STRUB

*AIAA SCITECH Forum, AA Science and Technology Forum and Exposition, National Harbor/MD, US, 23–27 January 2023; © 2023 American Institute of Aeronautics and Astronautics, Inc. All rights reserved*  
R-02/21/05/000/0/00-00/PU-51/2023

### **Eco-friendly based substrates for telemetry antennas in UHF- and S-bands**

L. BERNARD, C. CAMPO, E. ROUSSEL

*EuCAP 2023, 17th European Conference on Antennas and Propagation, Firenze, IT, March 26-31, 2023*  
R-02/20/02/000/0/00-00/PU-78/2023

### **A numerical simulation of radar-plasma-signatures of the RAM C-II re-entry flight experiment**

R. PETERVARI\*, S. WEIDNER, K. PSARRAS\*, S. BRÜGGENWIRTH\*, P. KNOTT\*

*15th 3AF International Conference Integrated Air and Missile Defence, Porto, PT, June 13-15, 2023*  
R-02/19/04/000/0/00-00/PU-202/2023

\* not member of ISL

## **Automated method for generating datasets of infrared or visible images for context-specific training of deep neural network-based object detectors**

A. PICHLER, N. HUEBER

*Proc. SPIE 12733, Image and Signal Processing for Remote Sensing XXIX, 127330I (19 October 2023); SPIE Remote Sensing, 2023, Amsterdam, NL, <https://doi.org/10.1117/12.2684062>; Authors retain copyright of content and research, SPIE retains exclusive distribution and marketing licence of paper*

R-02/23/04/000/0/00-00/PU-255/2023

## **Uneven grid-based linear parameter-varying controller design for guided projectiles**

G.M. VINCO, S. THEODOULIS, O. SENAME, G. STRUB

*Journal of Spacecraft and Rockets, American Institute of Aeronautics and Astronautics; doi.org/10.2514/1.A35271*

R-02/19/02/144/2/00-00/PU-323/2023

## **Uneven Grid-based Linear Parameter-Varying Controller Design for Guided Projectiles**

G.M. VINCO, S. THEODOULIS, O. SENAME, G. STRUB

*SAGIP 2023 1er Congrès Annuel, Marseille, FR, 7-9 June 2023*

R-02/19/02/144/2/00-00/PU-325/2023

## **Powder Launcher Experiments as a promising solution for Hypersonic Developments**

M. ALBISSER, A. ZEINER, R. WÖLBING, B. MARTINEZ, V. LIEBY, H. KAUFFMANN, J.-C. MEDURI, J.-L. STRIBY

*33rd ISB, International Symposium on Ballistics, Bruges, BE, 16-20 October 2023*

R-02/17/02/000/0/00-00/PU-331/2023

## **Application of complementary techniques towards aerodynamics evaluation of the SOCBT projectile**

B. MARTINEZ, M. ALBISSER, A. ZEINER, H. KAUFFMANN, J.-C. MEDURI, V. LIEBY, J.-L. STRIBY

*33rd ISB, International Symposium on Ballistics, Bruges, BE, 16-20 October 2023*

R-02/17/02/000/0/00-00/PU-341/2023

## **Investigation of the Impact of the Sabot-Discard on the Trajectory of a Kinetic Energy Projectile**

D. KHARLAMOV, A. ZEINER, B. MARTINEZ

*AIAA AVIATION Forum and Exposition 2023 (AIAA: Aviation and Aeronautics), San Diego/CA, USA, 12-16 June 2023; AIAA 2023-3714; Session: Optical Diagnostics and Measurements in Hypersonic Flows; doi.org/10.2514/6.2023-3714*

R-02/17/02/000/0/00-00/PU-342/2023

# Electromagnetic technologies

## Peer reviewed publications

---

### **Investigations on a semiconductor switching array based on COTS SiC MOSFET devices**

R. BISCHOFF, R. HIMMELSBACH

*IEEE Transactions on Plasma Science, Vol. 51, No. 10, pp. 2781-2787, October 2023; © 2023 IEEE; doi: 10.1109/TPS.2023.3307735*

R-03/13/09/000/0/00-00/PR-311/2023

## Publications

---

### **Caractérisation dynamique de thyristors SiC avec gâchette amplificatrice**

S. SCHARNHOLZ, K. KOTRA, R. HASSDORF, L.V. PHUNG\*, D. PLANSON\*

*Symposium de Génie Électrique, SGE 2023, Lille, FR, 5-7 juillet 2023*

R-03/13/05/000/0/00-00/PU-314/2023

---

**Peer reviewed publications****High-efficiency 2.09  $\mu\text{m}$  single-oscillator monolithic thulium-doped fiber laser**

C. LOUOT, A. MOTARD, T. IBACH, I. MANEK-HÖNNIGER, T. ROBIN, B. CADIER, N. DALLOZ, A. HILDENBRAND-DHOLLANDE

*IEEE Photonics Technology Letters*, Vol. 35, No. 10, 15 May 2023; DOI: 10.1109/LPT.2023.3262296; © 2023 IEEE  
R-05/21/01/000/0/00-00/PR-21/2023

**Polarisation compensation in non-planar image-rotating OPO ring resonators**

M. PIOTROWSKI, M. SCHELLHORN, G. SPINDLER, M.A. MEDINA, C.W. MÜLLER, S. BIGOTTA, A. HILDENBRAND-DHOLLANDE

*Optics Express*, Vol. 31, No. 8; doi.org/10.1364/OE.487887; © 2023 Optica Publishing Group  
R-05/21/01/000/0/00-00/PR-69/2023

**A new setup to identify the radiative properties of absorbing-scattering materials at high temperatures**

V. ALLHEILY, F. RETAILLEAU, T. JEAN, L. MERLAT, J.-F. HENRY\*, J. RANDRIANALISOA\*

*17th Heat Transfer Conference, Cape Town, ZA, August 14-18, 2023; Proceedings IHTC-17 | ID: 484*  
R-05/21/03/000/0/00-00/PR-190/2023

**Thermoset polymers as host for optical limiting**

J. CAILLEAUDEAUX, O. MULLER, M. GUERCHOUX, C. BRUDER, L. MERLAT, A.-S. SCHULLER, C. DELAITE

*Journal of Applied Polymer Science* 2023; © 2023 Wiley Periodicals LLC.; doi.org/10.1002/app.54810  
R-05/21/04/000/0/00-00/PR-305/2023

---

**Publications****Modelling the behaviour of UAVs structural materials under continuous laser irradiations**

V. ALLHEILY, F. RETAILLEAU, T. JEAN, L. MERLAT

*SPIE Security + Defence, Proc. SPIE 12273, High-Power Lasers and Technologies for Optical Countermeasures, 1227306, Berlin, DE, 2 November 2022; doi: 10.1117/12.2637845; © 2022 SPIE*

R-05/21/03/000/0/00-00/PU-1/2023

**Compensation of polarization in non-planar image-rotating OPO ring resonators**

M. PIOTROWSKI, M. SCHELLHORN, G. SPINDLER, M.A. MEDINA, C.W. MÜLLER, S. BIGOTTA, A. HILDENBRAND-DHOLLANDE

*Laser Congress 2022 (ASSL, LAC, LS&C), Barcelona, Spain, 11-15 December 2022; JW3A.7; doi.org/10.1364/ASSL.2022.JW3A.7*

R-05/21/01/000/0/00-00/PU-70/2023

**Testing the vulnerability of lightweight drone propellers to high-energy laser irradiations**

V. ALLHEILY, B. FOULON, M. COUCHOUX, L.-X. LEFRANC, M. GUERCHOUX, C. BRUDER, L. MERLAT

*SPIE Security + Defence, Amsterdam, NL, September 03-06, 2023; Paper 12739-11*

R-05/21/03/000/0/00-00/PU-191/2023

# **Modelling the heating of GFRP by high-energy laser radiation considering the pyrolysis of binder material**

R. SCHMITT, V. ALLHEILY

*SPIE Security + Defence, Amsterdam, NL, September 03-06, 2023; doi.org/10.1117/12.2678922*

R-05/21/03/000/0/00-00/PU-321/2023

# ► Protection technologies, security, situational awareness

## Peer reviewed publications

---

### **Multiple-wavelength range-gated active imaging applied to the evaluation of simultaneous movement of millimeter-size objects moving in a given volume**

A. MATWYSCHUK, N. METZGER

*Applied Optics*, Vol. 62, No. 11; doi.org/10.1364/AO.487439; © 2023 Optica Publishing Group

R-04/19/02/000/0/00-00/PR-65/2023

### **Time-correlated single photon counting for evaluation of cavity dimensions with multibounce photons**

M. LAURENZIS, F. CHRISTNACHER

*Journal of Applied Remote Sensing*, Apr–Jun 2023, Vol. 17(2); DOI: 10.1117/1.JRS.17.024503

R-04/19/01/000/0/00-00/PR-74/2023

### **Sensory analysis of fabric friction noise: Methodology, training, and validation of a panel to evaluate fabric friction noise perception**

F. LECLINCHE, E. DREAN\*, D. ADOLPHE\*, V. ZIMPFER

*Journal of Sensor Studies*, 2023;e12825; doi.org/10.1111/joss.12825; © 2023 Wiley Periodicals LLC.

R-04/20/01/000/0/00-00/PR-89/2023

### **EBEN: Extreme Bandwidth Extension Network Applied to Speech Signals Captured with Noise-Resilient Body-Conduction Microphones**

J. HAURET, T. JOUBAUD, V. ZIMPFER, E. BAVU

*ICASSP 2023, 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 978-1-7281-6327-7/23; ©2023 IEEE, DOI: 10.1109/ICASSP49357.2023.10096301

R-04/20/01/000/0/00-00/PR-149/2023

### **High temperature spark plasma sintering, a fast and one step route to achieve dense and efficient SrTiO<sub>3</sub>-based thermoelectric ceramics**

E. BSAIBESS\*, F. MOITRIER, T. BOURRE, F. DELORME, M. ZAGHRIOUI\*, F. GIOVANNELLI\*

*Eur. Phys. J. Spec. Top.*, 231:4195–4204, April 15, 2022; doi.org/10.1140/epjs/s11734-022-00575-w

R-04/19/04/000/0/00-00/PR-153/2023

### **Methodology for strength distribution estimation of ceramics from ball-on-three-balls and four-point bending experiments, Weibull statistics and fractographic investigations. Application to magnesium aluminum spinel**

A. HEYER, A. BRACQ, J. ROSSIT, F. MOITRIER, G. GÜTTER, F. DELORME, S. LEMONNIER

*Ceramics International*, Volume 49, Issue 19, 1 October 2023, Pages 31988-31999; © 2023 Elsevier Ltd and Techna Group S.r.l.; doi.org/10.1016/j.ceramint.2023.07.163

R-04/19/05/000/0/00-00/PR-177/2023

### **Experimental evaluation of earplug behavior in front of high-level impulse noise using laser Doppler vibrometer**

C. BLONDÉ-WEINMANN, T. JOUBAUD, V. ZIMPFER, P. HAMERY, S. DE MEZZO, S. ROTH

*J. Acoust. Soc. Am.* 154 (2), August 2023; © 2023 Acoustical Society of America; doi.org/10.1121/10.0020585

R-04/20/01/000/0/00-00/PR-185/2023

\* not member of ISL



## **Comparison of objective and subjective methods for evaluating speech quality and intelligibility recorded through bone conduction and in-ear microphones**

J. RICHARD, V. ZIMPFER, S. ROTH

*Journal of Applied Acoustics* 211 (2023) 109576; © 2023 Elsevier Ltd. All rights reserved; doi.org/10.1016/j.apacoust.2023.109576

R-04/20/01/000/0/00-00/PR-188/2023

## **Test methodology for evaluating thoracic personal protective equipment against blast loading**

J. BOUTILLIER, S. DEMEZZO, N. PRAT\*, P. MAGNAN, P. NAZ

*PASS 2023, 16th International Personal Armour Systems Symposium, Dresden, DE, September 11-15, 2023*

R-04/17/01/000/0/00-00/PR-215/2023

## **Effects of torso and head protection from blast overpressure on intracranial biomechanics**

P. MAGNAN, A. BARDIN, M. OGIER, S. DE MEZZO, V. CARDONA, P. NAZ, J. BOUTILLIER, N. PRAT

*PASS 2023, 16th International Personal Armour Systems Symposium, Dresden, DE, 11-15/09/2023*

R-04/17/01/737/9/00-00/PR-224/2023

## **Effect of Bone-Conduction Microphone Location and Mouth Opening on Transfer Function between Oral Cavity Sound Pressure and Skin Acceleration**

J. RICHARD, V. ZIMPFER, S. ROTH

*Forum Acusticum 2023, 10th Convention of the European Acoustics Association, Politecnico di Torino, Turin, IT, 11-15 September 2023*

R-04/20/01/000/0/00-00/PR-228/2023

## **On the effect of pitch and yaw angles in oblique impacts of small-caliber projectiles**

T. FRAS

*Defence Technology, 2023; © 2023 China Ordnance Society; doi.org/10.1016/j.dt.2023.06.004*

R-04/16/03/000/0/00-00/PR-240/2023

## **An experimental investigation into the threat posed by arrows to body armour**

M. SEIDL, K. LEHMANN, S. GROBERT

*PASS 2023, The 16th International Personal Armour Systems Symposium, Dresden, DE, September 11-15, 2023*

R-04/16/03/000/0/00-00/PR-244/2023

## **Configurable EBEN: Extreme Bandwidth Extension Network to Enhance Body-Conducted Speech Capture**

J. HAURET\*, T. JOUBAUD, V. ZIMPFER, E. BAVU\*

*IEEE/ACM TRANSACTIONS ON AUDIO, SPEECH, AND LANGUAGE PROCESSING, VOL. 31, 2023; © 2023 IEEE*

R-04/20/01/000/0/00-00/PR-257/2023

## **Publications**

---

## **Accélérométrie, vélocimétrie et chronologie de la position de particules en mouvement dans l'espace avec l'imagerie à quatre dimensions**

A. MATWYSCHUK, N. METZGER

*9ème Colloque Interdisciplinaire en Instrumentation, Grenoble, 25-27 janvier 2023*

R-04/19/02/000/0/00-00/PU-12/2023

## **Analysis of time-correlated halos in scattering media for enhanced three-dimensional imaging**

M. LAURENZIS, F. CHRISTNACHER

*Proceedings of SPIE, Proc. SPIE 12537, Laser Radar Technology and Applications XXVIII, 1253703, SPIE Defense + Commercial Sensing, Orlando/FL, US, 12 June 2023; doi: 10.1117/12.2663032; © 2023 SPIE*

R-04/19/01/000/0/00-00/PU-132/2023

## **Classification of cavities by timecorrelated multi-bounce photon counting**

M. LAURENZIS, F. CHRISTNACHER

*Proceedings of SPIE, Proc. 12537, Laser Radar Technology and Applications XXVIII, 1253704, SPIE Defense + Commercial Sensing, Orlando/FL, US, June 12, 2023; doi: 10.1117/12.2663033; © 2023 SPIE*

R-04/19/01/000/0/00-00/PU-133/2023

## **Single photon flux imaging with sub-pixel resolution by motion compensation**

M. LAURENZIS, E. BACHER, T. SEETS\*, A. INGLE\*, A. VELTEN\*, F. CHRISTNACHER

*Proceedings of SPIE 12512, Advanced Photon Counting Techniques XVII, 125120E, SPIE Defense + Commercial Sensing, Orlando/FL, USA, 15 June 2023; doi: 10.1117/12.2663029*

R-04/19/01/000/0/00-00/PU-147/2023

## **Impact experiments on steel ropes for explosion debris catching**

M. SEIDL, A. KLAVZAR, R. PAHL\*, K. KÜHNER\*

*6th International Conference on Protective Structures (ICPS6); Auburn University, USA, 8 – 12 May 2023*

R-04/16/03/000/0/00-00/PU-163/2023

## **Blast mitigation with fluids**

T. RIGOULET, L. BLANC, F. DAGHIA\*, P. WRIGGERS\*

*25ème Congrès Français de Mécanique, Nantes, FR, 29 août au 2 septembre 2022*

R-04/16/01/067/2/00-00/PU-173/2023

## **The effect of boundary conditions in a fluid filled container on impulse spreading, a numerical investigation**

T. RIGOULET, L. BLANC, F. DAGHIA\*, P. WRIGGERS\*

*6th international conference on protective structures (ICPS6), Auburn University, Auburn/AL, US, May 14-17, 2023*

R-04/16/01/000/0/00-00/PU-174/2023

## **Comparaison entre les solveurs implicite et explicite pour l'analyse modale numérique de structures**

N. ELSTER, J. BOUTILLIER, P. MAGNAN, P. NAZ

*Congrès des Jeunes Chercheurs en Mécanique (Meca-J 2023), en ligne, 28-30 août 2023*

R-04/17/01/000/0/00-00/PU-183/2023

## **Effects of explosive charges in contact with steel plates. Small-scale experimental investigation using high-speed imaging**

M.-O. STURTZER, S. TRÉLAT\*, E. SCHMITT

*EuroPyro 2023, 46th IPS Seminar, Saint-Malo, FR, September 11-14, 2023*

R-04/16/03/000/0/00-00/PU-217/2023

## **Blast effects of an underwater explosion. A small-scale approach using high-speed imaging**

S. TRÉLAT\*, M.-O. STURTZER, P. LEGRAND\*, S. HEMMERLIN

*EuroPyro 2023, 46th IPS Seminar, Saint-Malo, FR, September 11-14, 2023*

R-04/16/03/000/0/00-00/PU-218/2023

## **Effect of the hardness of acoustic test fixtures' ears on the evaluation of earplug's direct transmissions facing high-level impulse noises**

C. BLONDÉ-WEINMANN, P. HAMERY, V. ZIMPFER, T. JOUBAUD

*Proceedings of Acoustics Week, Monteral, CA, 03-06 October 2023, Vol. 51, No. 3*

R-04/20/01/000/0/00-00/PU-226/2023

## **Time-domain numerical investigation to assess noise reduction allowed by a non-linear passive earplug facing impulse noises**

C. RUZYLA, P. HAMERY, C. BLONDÉ-WEINMANN, S. ROTH

*Proceedings of Acoustics Week, Monteral, CA, 03-06 October 2023, Vol. 51, No. 3*

R-04/20/01/000/0/00-00/PU-227/2023

## **Influence of Detection Precision when Tracking UAVs in an Urban Environment**

M. REBERT, F. CHRISTNACHER

*NATO SET-315/RSY "Detection, Tracking, ID and Defeat of Small UAVs in Complex Environments", Copenhagen, DK, 09-10 October 2023*

R-04/19/03/000/0/00-00/PU-234/2023

## **UAV detection: a review of ISL researches over the past ten years**

F. CHRISTNACHER, M. LAURENZIS, M. REBERT, A. MATWYSCHUK

*NATO SET-315/RSY "Detection, Tracking, ID and Defeat of Small UAVs in Complex Environments", Copenhagen, DK, 09-10 October 2023*

R-04/19/01/000/0/00-00/PU-235/2023

## **Overview of ISL research activities in the domain of Audio Communication for Hearing Protection Devices**

P. NAZ, V. ZIMPFER, T. JOUBAUD, L. KRÖNER, J. HAURET, J. RICHARD, P. HAMERY

*NATO/STO/HFM-285 Working Group, London, GB, 6-8 June 2023*

R-04/20/01/000/0/00-00/PU-256/2023

## **Experimental evaluation of injury risks in the context of NLW: High level noises, blast, wave and none-penetrating projectiles**

P. NAZ, P. MAGNAN, J. BOUTILLIER, N. ELSTER, B. FISCHER

*NLW meeting, Oberjettenberg, DE, 15-16 November 2023*

R-04/17/01/000/0/00-00/PU-329/2023

## **Measurements in the open and closed ear canal: Comparison between different artificial head concepts**

V. ZIMPFER, C. BLONDÉ-WEINMANN, P. HAMERY, T. JOUBAUD, F. SGARD\*

*Proceedings of Acoustics Week, Monteral, CA, 03-06 October 2023; Canadian Acoustics, Acoustique canadienne, Vol. 51, No. 3, pp.100, 2023*

R-04/20/01/000/0/00-00/PU-352/2023

## **A multimodal approach using deep learning for real-time drone detection, localization, tracking, and identification**

S. HENGY, A. MATWYSCHUK, S. SCHERTZER, H. PUJOL, E. BAVU

*NATO SET-315/RSY: Detection, Tracking, ID and Defeat of Small UAVs in Complex Environments; Copenhagen, DNK, 09-10 October 2023*

R-04/18/01/000/0/00-00/PU-353/2023

## **Efficient method to predict the strain rate sensitivity of an UHMWPE thin ply composite**

T. POULET, A. BRACQ, Y. DEMARTY, R. DELILLE\*, F. LAURO\*, N. BAHLOULI\*

*Materials Letters 352 (2023) 135081; © 2023 Elsevier B.V. All rights reserved; doi.org/10.1016/j.matlet.2023.135081*

R-04/19/05/000/0/00-00/PU-356/2023

## **Strain rate sensitivity of the in-plane mechanical properties of two UHMWPE thin ply composites**

T. POULET, A. BRACQ, Y. DEMARTY, F. LAURO\*, N. BAHLOULI\*

*Polymer Testing 127 (2023) 108187; doi.org/10.1016/j.polymeresting.2023.108187*

R-04/19/05/000/0/00-00/PU-357/2023

## **Lateral ring compression test applied to a small caliber steel jacket: Identification of a constitutive model**

Y. COGET, Y. DEMARTY, C. CZARNOTA\*, A. BRACQ, J.-S. BREST\*, A. RUSINEK

*Defence Technology; doi.org/10.1016/j.dt.2023.11.001; © 2023 China Ordnance Society*

R-04/19/05/000/0/00-00/PU-358/2023