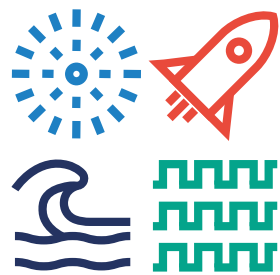


PROGRAM



EURO PYRO

46th IPS SEMINAR • 2023

**SEPTEMBER,
11 - 14th
2023**

ST MALO
FRANCE



SEMINAR TOPIC

Af3P (Association Française de Pyrotechnie) and GTPS (Groupe de Travail de Pyrotechnie) organize the EUROPYRO 2023/46th IPS Seminar in Saint-Malo (France). This event gathers every 4 years representatives from industry and research working in the field of explosives, pyrotechnics and energetic materials.

On Wednesday September 13th, the congress welcomes the “Workshop on Explosives”, organized by the CEA. This workshop is intended for engineers and researchers interested in energetic materials science and technology. This time, it will be devoted to the study of the correlations between manufacturing processes, microstructure parameters and energetic behavior (detonics, safety, ...).

EUROPYRO 2023 46th IPS Seminar

150 papers presented during plenary and posters sessions :

- Official language is english
- No simultaneous translation
- The numerical Book of Proceedings will be provided in english

POSTER SESSION

Posters will be permanently exhibited during the entire seminar. Panels are provided by the convention center. A specific session, accompanied by a cocktail, will be held on Tuesday late afternoon.

EXHIBITION

Booths can be installed since Monday September 11th afternoon and must be released before 6:00 pm on Thursday September 14th.

For more informations, please contact the organization at :

✉ secretary@europyro2023.org



SEMINAR CHAIRMAN
















Chairman : Lionel HAIRAUT (CEA)
















SCIENTIFIC COMMITTEE

Chairman : Philippe Le Helley (ArianeGroup)

Secretary : Jean-François Guéry (ArianeGroup)

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	MBDA	Michel VIVES
	U.S. Navy NAWCWD	Ephraim WASHBURN
	ICT Fraunhofer	Volker WEISER



MONDAY, SEPTEMBER 11th

16:00 - 18:00

Reception of the delegates at the Palais du Grand Large

From 18:30

Official welcome reception at the Palais du Grand Large - Cocktail





TUESDAY, SEPTEMBER 12th

ROOM



AUDITORIUM DU GRAND LARGE

From 08:00

Registration

08:30 - 09:10

Opening Ceremony

09:10 - 09:30

Paul Vieille Special Award

09:30 - 10:00

Keynote 1

Fielding Safe and Effective Munitions in the Current Surge of Demand



Dr FUCHS Brian

Steering Committee Chair, Munitions Safety Information Analysis Center, MSIAC, NATO, USA

10:00 - 10:30

Coffee break





AWARD CEREMONY - AUDITORIUM DU GRAND LARGE

10:30 - 10:55

Frank Carver Bursary

10:55 - 11:20

Dr. Bernard E. Douda - Young Scientist Award

10:55 - 11:20

Special Af3P and GTPS french young scientist Award

11:20 - 11:45

Innovation GTPS Award

12:10 - 12:30

Group photo 

12:30 - 14:00

Lunch 



AUDITORIUM DU GRAND LARGE

SESSION 1 • Energetic Materials 1

Chairman :

SALLE GRAND LARGE

SESSION 2 • Pyrotechnics systems

Chairman :

SALLE BOUVET

SESSION 3 • Modeling 1

Chairman :

14:00

Flow Synthesis of Energic Materials



Presenter : FERRAN Matthew
Munitions Safety Information Analysis
Center (MSIAC)

Safety in Production approach applied to pyrotechnics



Presenter : COTTREL-BUSSENAULT Marie
ArianeGroup SAS

STASIS : A parallel multi-phase chemical equilibrium code



Presenter : PARKER Andrew
Fluid Gravity Engineering Ltd

14:20

Electrosynthesis of energetic materials



Presenter : PIERCEY Davin
Purdue Universit

Laser slapper detonator for shock compression study of energetic materials: free-space and fibered systems



Presenter : HEBERT Philippe
CEA Le Ripault

CARTE thermochemical code : calculation of detonation properties



Presenter : DUBOIS Vincent
CEA DAM-Ile de France

14:40

Effect of Preparation Conditions on Cyclic Thermal Behaviors of Some Potassium Nitrate-doped Phase-stabilized Ammonium Nitrates



Presenter : DATE Shingo
National Defense Academy

Hydrotrial Initiator Characterisation Trial



Presenter : SCOTT Thomas
AWE

MAXIMUM LIKELIHOOD ANALYSIS OF THE JAMES CRITERION



Presenter : MAISEY Matthew
AWE

15:00

Combustion and mechanical properties of co(glycidyl nitrate-glycidyl azide) polymer energetic binders



Presenter : DUBOIS Charles
Polytechnique Montreal

Characterization of Pressure Output in Pyrotechnic Delays



Presenter : MOTYKA Mark
US Army

Correlation between gap-test and P-tau criterion applied to the determination of non-detonation



Presenter : ELIA Thomas
Thales LAS



AUDITORIUM DU GRAND LARGE

SESSION 1 • Energetic Materials 1

Chairman :

SALLE GRAND LARGE

SESSION 2 • Pyrotechnics systems

Chairman :

SALLE BOUVET

SESSION 3 • Modeling 1

Chairman :

15:20

Performance studies of Glycidyl Azide Polymers coated Aluminium particles



Presenter : KEERTHI Venu
Nanyang Technological University

A New Pyrotechnic Delay for the 120 mm HE RAP ammunition



Presenter : SABARD Jérémy
Thales LAS France

Application of machine learning to the design of energetic materials: preliminary experience and comparison with alternative techniques



Presenter : WESPISER Clément
CEA Le Ripault

15:40

Investigation of morphology-controllable synthesis of CuO and their catalytic efficiency for ammonium perchlorate



Presenter : SHEN Lixiao
Nanjing University of Science and Technology

Flyer plate ignition of launcher détonation based functions



Presenter : GLAVIER Ludovic
ArianeGroup SAS

RoseBoom2.4© (“Research output software for energetic materials based on observational modelling/machine learning”)



Presenter : WAHLER Sabrina
RoseEnergetic UG

16:00

Coffee break



16:30

Synthesis and characterization of a promising energetic polysaccharide derived from chitosan for potential application in advanced energetic formulations



Presenter : TARCHOUN Ahmed Fouzi
Ecole Militaire Polytechnique Algiers

Adequacy between linear charge dihedral pyrotechnic jetcord choice and mechanical parasitic ruptures in the case of pyrotechnical rings application



Presenter : MAR Modou
ArianeGroup SAS

Experimental measurement of heats of formation of explosives: towards reference cohesive energy data for energetic salts



Presenter : PASQUINET Eric
CEA Le Ripault

16:50

Nitrostarch as a promising insensitive energetic biopolymer: synthesis, characterization, and thermal decomposition kinetics



Presenter : ABDELAZIZ Amir
Ecole Militaire Polytechnique Algiers

Design and set-up of a high-speed isolation valve: application to hypervelocity impacts on hydrazine



Presenter : ABDULHAMID Hakim
Thiot Ingénierie

Experimental and modeling study of RDX-HTPB gun propellant decomposition



Presenter : EHRHARDT Jordan
French-German Research Institute of Saint-Louis (ISL)



AUDITORIUM DU GRAND LARGE

SESSION 1 • Energetic Materials 1

Chairman :

SALLE GRAND LARGE

SESSION 2 • Pyrotechnics systems

Chairman :


SALLE BOUVET

SESSION 3 • Modeling 1


Chairman :

17:10

Formulation, synthesis and characterization of nitroglycerin inclusion compounds

 Presenter : COMET Marc
ISL/CNRS/UNISTRA

Hybrid Gas Generation for Small Size Applications

 Presenter : LE BRETON Gaël
Pyroalliance

Kinetic Analysis of the Thermal Decomposition of Three LOVA Gun Propellants Based on RDX and Nitrocellulose

 Presenter : DELBARRE Samuel
Univ. Orleans

17:30

Overview of the lead substitution in solventless EDB propellants - Issues and performances

 Presenter : MOMBELLI Jean-Baptiste
ROXEL France

Analytical and numerical approach for the modelling of a leaking high-pressure pyromechanism

 Presenter : BRATEAU Marion
CTAI

Chemical kinetic modeling study of double-base propellant decomposition

 Presenter : GLORIAN Julien
French-German Research Institute of Saint-Louis (ISL)

17:50

Chemical model to evaluate new htpb batch: Application to composite propellants tuning

 Presenter : REJSEK-RIBA Virginie
ROXEL France

Methodology for structural robustness evaluation of hybrid airbag inflator submitted to pyrotechnic pressure wave

 Presenter : DAVIOT Nicolas
Autoliv Livbag

A novel method for improving the reliability of simulation of the behavior of energetic materials based on kinetic analysis

 Presenter : RODUIT Bertrand
AKTS SA

18:15 - 20:00

Poster session and Cocktail





WEDNESDAY, SEPTEMBER 13th

08:30 - 09:00

Keynote 2

The Safety and Performance Characteristics of LLM-105 and its Plastic Bonded Formulations Correlated to Ingredient Properties



Dr GASH Alexander

Deputy Director, Energetic Materials Center, Lawrence Livermore National Laboratory, USA



AUDITORIUM DU GRAND LARGE

SESSION 4 • Modeling 2

Workshop on explosives (Journée détonique CEA)

Chairman :

SALLE GRAND LARGE

SESSION 5 • Mechanics

Chairman :

SALLE BOUVET

SESSION 6 • Testing facilities

Chairman :

09:10

Pressure and temperature dependent thermal conductivity tensor of high explosive crystals

 Presenter : PERRIOT Romain
Los Alamos National Laboratory

Multi-scale study of inelastic deformation mechanisms in propellants and plastic bonded explosives

 Presenter : BROWN Judith
Sandia National Laboratories

STASIS : A parallel multi-phase chemical equilibrium code

 Presenter : PARKER Andrew
Fluid Gravity Engineering Ltd

09:30

Towards modeling polycrystalline TATB at extreme conditions: a mesoscale model informed by atomistic simulations

 Presenter : LAFOUCARDE Paul
CEA DAM-Ile de France et Université Paris-Saclay

Modelling nano-indentation of single crystal beta-HMX.

 Presenter : DROUET David
Univ. Tours, Univ. Orléans, INSA CVL, LaMé

CARTE thermochemical code : calculation of detonation properties


 Presenter : DUBOIS Vincent
CEA DAM-Ile de France

09:50

Influence of microstructure on the Shock Detonation Transition of heterogeneous explosives

 Presenter : SAUNIER Jérôme
CEA Gramat / Institut Pprime

Fatigue of a TATB-based plastic bonded explosive

 Presenter : PICART Didier
CEA Le Ripault

STASIS : A parallel multi-phase chemical equilibrium code

 Presenter : PARKER Andrew
Fluid Gravity Engineering Ltd

10:10

Pore-scale simulations of pop-plot in HMX and HMX-based explosives

 Presenter : GALLIER Stany
ArianeGroup SAS

HVEV: A nonlinear viscoelastic model applied to energetic materials

 Presenter : RABETTE François
ArianeGroup SAS

CARTE thermochemical code : calculation of detonation properties

 Presenter : DUBOIS Vincent
CEA DAM-Ile de France

10:30 - 11:00

Break 



AUDITORIUM DU GRAND LARGE

SESSION 7 • Co-crystals

Workshop on explosives (Journée détonique CEA)

Chairman :

11:00

Successful journey in preparation of the energy-safety balanced cocrystals of attractive nitramines via coagglomeration



Presenter : PATIL Veerabhadragouda B.
University of Pardubice

11:20

Detonation Performance and Material Characterization of CL-20 and MDNT Co-crystal Versus Physical Mixture



Presenter : LAWRENCE Joseph
Purdue University

11:40

Molecular Dynamic Simulations for Stability Prediction of Energetic Cocrystals



Presenter : POSSEL Clemens
Fraunhofer Institute for Chemical Technology (ICT)

12:00

Preparation and energetic characterization of azole-oxidizer ionic cocrystals



Presenter : KAZUKI Inoue
Yokohama National University

SALLE GRAND LARGE

SESSION 8 • Environment

Chairman :

How to approach Energetic Materials in Eco-design ?



Presenter : PERREON Julien
Autoliv Livbag

Feasibility of next-generation colored smoke compositions with reduced toxicity



Presenter : POINTART Céline
Etienne LACROIX

Development of an in vitro method to assess the cytotoxic effect of pyrotechnic smoke compositions



Presenter : ASHRIN Aya
INERIS

Design methodology for UneXploded Ordnance (UXO) protection structures in pyrotechnical depollution: illustration with a 155mm round and a 1000lbs GP bomb



Presenter : MESPOULET Jérôme
Thiot Ingenierie

SALLE BOUVET

SESSION 9 • Fireworks and decoy

Chairman :

Adiabatic flame temperatures of fireworks compositions



Presenter : HOBBS Michael
Sandia National Laboratories

Behavior of millimeter-wave radiation in the flame of Mg-based pyrotechnic composition



Presenter : LI Jingwei
Nanjing University of Science and Technology

Development of environmentally friendly pyrotechnic colored flame compositions



Presenter : ZEBREGS Martijn
TNO, Department of Energetic Materials

Development of a low-smoke lift system for fireworks shells



Presenter : DEN OTTER Arjan
TNO, Department of Energetic Materials



AUDITORIUM DU GRAND LARGE

SESSION 4 • Modeling 2

Workshop on explosives (Journée détonique CEA)

Chairman :

12:20

Energetic Ionic Cococrystals of Ammonium Nitrate



Presenter : BENNETT Andrew
University of Michigan

SALLE GRAND LARGE

SESSION 5 • Mechanics

Chairman :

UNDERWATER DEMILITARIZATION: A SAFE AND EFFICIENT WAY TO ELIMINATE SOLID PROPELLANT



Presenter : BOUTEILLE Frédéric
MERIEL Laurent
ROXEL France

SALLE BOUVET

SESSION 6 • Testing facilities

Chairman :

From pyrotechnic compositions to SARS-COV-2 virucidal disinfection; a (nice) ride with NOx



Presenter : ANDRES Didier
PYRAGRIC

12:45 - 14:00

Lunch



AUDITORIUM DU GRAND LARGE


SESSION 10

Workshop on explosives (Journée détonique CEA)

Chairman :

14:15

Spray flash evaporation (sfe) and spray flash synthesis (sfs), two continuous versatile processes to formulate and synthesize energetic nano- and submicronized materials with enhanced safety

 Presenter : SPITZER Denis
NS3E/ISL

14:35

Nanoporous Carbon Filled with Oxidizing Agents: an Effective and Pragmatic Approach to Energetic Nanomaterials

 Presenter : VAN RIET Romuald
Royal Military Academy, Brussels


14:55

Preparation and stabilisation of amorphous energetic materials

 Presenter : CHANDWANI CHANDWANI Monica
University of Edinburgh

15:15

Modeling the shock-to-detonation transition process in the TATB/HMX composition TX1 with a reactive burn model based on an implicit viscoplastic pore collapse model

 Presenter : BOUTON Eric
CEA Le Ripault

SALLE GRAND LARGE


SESSION 11 • Energetic Materials – Additive manufacturing and RAM

Chairman :

Additive Manufacturing of Energetic Materials at Los Alamos National Lab

 Presenter : MUELLER Alexander
Los Alamos National Lab

Additive manufacturing of explosives compositions

 Presenter : HOLSTEIN Audrey
ArianeGroup SAS

Developing Digital Twins of Additive Manufactured Components

 Presenter : KLINE Dylan
Lawrence Livermore National Laboratory

Additive Manufacturing of Dog Bones and Strands of an Ammonium Perchlorate/Thermoplastic Elastomer Propellant

 Presenter : BLADHOLM Viktor
Swedish Defence Research Agency

SALLE BOUVET

SESSION 12 • Testing

Chairman :


IM Signature of Aged Munitions

 Presenter : COLLET Christelle
MSIAC

TNT early reaction in shock Equation of State determinations

 Presenter : LEFRANCOIS Alexandre
CEA Gramat

Factors influencing ESD tests for pyrotechnic compositions

 Presenter : PELIKAN Vojtech
University of Pardubice

Blast effects of an underwater explosion: a small-scale approach using high-speed imaging

 Presenter : TRELAT Sophie
IRSN (Institut de Radioprotection et de Sûreté Nucléaire)



AUDITORIUM DU GRAND LARGE

SESSION 10

Workshop on explosives (Journée détonique CEA)

Chairman :

15:35

Study on the Influence of microstructure on the Detonation Performance of a TATB-based PBX



Presenter : BOUCHET Thomas
CEA Le Ripault

15:55

The Enhanced Floret Test - Revealing the Surprising Insensitivity of LLM-105 Formulation Corner-Turning Behavior to Density



Presenter : HOBSON-DUPONT Maximillian
Lawrence Livermore National Laboratory

17:30

19:30

SALLE GRAND LARGE

SESSION 11 • Energetic Materials – Additive manufacturing and RAM

Chairman :

Probing the role of solids loading and mix procedure on the properties of acoustically mixed materials for additive manufacturing



Presenter : DOORENBOS Zac
Lawrence Livermore National Laboratory

New manufacturing process of energetic materials by Resonant Acoustic Mixing (RAM) - From lab to fab



Presenter : PEROUEL Julie
EURENCO

Visits in Saint-Malo

Gala Dinner at Palais du Grand Large



SALLE BOUVET

SESSION 12 • Testing

Chairman :

Effects of explosive charges in contact with steel plates: small-scale experimental investigation using high-speed imaging



Presenter : STURTZER Michel
French-German Research Institute of Saint-Louis (ISL)

Property Estimation of Energetic Composite Materials



Presenter : JAANSALU Kevin M.
Munitions Safety Information Analysis Center, NATO HQ



THURSDAY, SEPTEMBER 14th

08:30 - 09:00

Keynote 3

Metal combustion



Prof. HALTER Fabien

Institut de Combustion Aérodynamique Réactivité et Environnement (ICARE), Orleans University, France



AUDITORIUM DU GRAND LARGE

SESSION 13 • Combustion 1

Chairman :

SALLE GRAND LARGE

SESSION 14 • Energetic materials 2

Chairman :

SALLE BOUVET

SESSION 15 • Prevention and detection

Chairman :

09:10

Reaction Mechanisms In Powdered Thermites



Presenter : SULLIVAN Kyle
Lawrence Livermore National Laboratory

Insensitive High Explosive Qualification of LLM-105 Based Explosive



Presenter : HERNANDEZ Patricia
Lawrence Livermore National Laboratory

Phlegmatization of highly sensitive Explosives for the Use in Explosive Detection Dog Training



Presenter : WILHELM Isabel
Fraunhofer Institute for Chemical Technology (ICT)

09:30

Toward a computational tool to simulate for the combustion of thermites powders



Presenter : GLAVIER Ludovic
ArianeGroup SAS

To predict energetic material critical diameter



Presenter : POIREY Gilles
ArianeGroup SAS

Characterization of Homemade Explosives for Aviation Security: The Effect of Material Properties on X-ray Feature Spaces



Presenter : DEPIERO Sabrina
Lawrence Livermore National Laboratory

09:50

Use of Design of Experiments and Dimensional analysis to create surrogate burn rate models of thermite mixtures



Presenter : KNAPP Sebastian
Fraunhofer Institute for Chemical Technology ICT

Effect of the initiation point on the blast generated by a high explosive cylinder of varying shape



Presenter : OSMONT Antoine
CEA/DAM

Detonation Simulant of Homemade Explosive as Donor Charge for Tertiary Explosives



Presenter : BELMEHDI Djamal
Ecole Militaire Polytechnique, Algiers

10:10

Multilinear analysis of influential parameters on the combustion velocity of ternary pyrotechnic compositions



Presenter : ROSÈRES Charles
INERIS

Anisotropic Detonation to shape directional effects



Presenter : ASCHEHOUG Laure
EURENCO

Global HME Precursor Testing Project



Presenter : COLLEY Thomas
US Department of Homeland Security

10:30 - 11:00

Coffee break 

Requirements for post-blast explosive forensics underwater



Presenter : ÖNNERUD Hans
Swedish Defence Research Agency (FOI)



AUDITORIUM DU GRAND LARGE

Session 16 : Combustion 2

Chairman :

SALLE GRAND LARGE

Session 17 : Energetic materials 3

Chairman :

SALLE BOUVET

11:00

Silicon - a established pyrotechnic fuel as zero-carbon, high-density energy storage



Presenter : WEISER Volker
Fraunhofer Institute for Chemical Technology (ICT)

Self-Healing Cast Cured Energetic Materials



Presenter : DRU Delphine
EURENCO

11:20

Janus Type Hypergolic Fuels for Hybrid Propulsion



Presenter : GOZIN Michael
Tel Aviv University

The reaction kinetic handling of complex reaction behaviour in solid com-posite rocket propellants cured with aziridine type agents



Presenter : BOHN Manfred A.
Fraunhofer Institute for Chemical Technology (ICT)

11:40

Measurement of the temperature of burning aluminum particles using multi-spectral pyrometry



Presenter : GLASZIOU Valentin
CEA Gramat & CNRS-ICARE

Theoretical and practical approach of a new method for chemical compatibility tests applied to pyrotechnic compositions



Presenter : GLORIAN Julien
French-German Research Institute of Saint-Louis (ISL)

12:00

Aluminum combustion: from detonation to blast effects



Presenter : ARNAUD Nicolas
ArianeGroup SAS

New low cost melt-cast composition for IM mortar ammunition - Theoretical approach to experimental aspect



Presenter : GILLOUX Teddy
Thales

GTPS Workshop



AUDITORIUM DU GRAND LARGE

Session 16 : Combustion 2

Chairman :

12:20

SALLE GRAND LARGE

Session 17 : Energetic materials 3

Chairman :

Use of soluble desensitizer to pilot terminal performance and IM response for a TNT based melt-cast composition



Presenter : GILLOUX Teddy
Thales

SALLE BOUVET

GTPS Workshop

12:40 - 14:00

Lunch



AUDITORIUM DU GRAND LARGE

SESSION 18 • Combustion 3

Chairman :

SALLE GRAND LARGE

SESSION 19 • Reactivity

Chairman :


SALLE BOUVET

SESSION 20 • Safety


Chairman :

14:00


Experiment and Numerical Study on Near-field Underwater Explosion of Aluminized Explosive

 Presenter : SUN Yuanxiang
Beijing Institute of Technology

Impact Sensitivity Estimation of Pure Energetic Materials

 Presenter : OSMONT Antoine
CEA Gramat

Integrated Safety System Design for a Detonation Physics Laboratory

 Presenter : WELLE Eric
Air Force Research Laboratory - Munitions Directorate

14:20

Thermal performance of gelled thermobaric explosives based on isopropyl nitrate and reactive metal powders

 Presenter : BAJIC Danica
University of Defense, Military Academy, Belgrade

Rationalisation and Prediction of the Impact Sensitivity of Dinitramide Salts Based on Analysis of Intermolecular Interactions

 Presenter : AKACHAI Khumsri
University of Edinburgh

Investigation on the dual use of thermal insulation materials as blast mitigation solution


 Presenter : DROUET David
Académie militaire de Saint-Cyr Coëtquidan

14:40

Graphene Oxide as a Hybrid Oxidizing Additive for B/PTFE Composites

 Presenter : QUEK Sebastian Yongsen
Nanyang Technological University

Modeling the decomposition of energetic materials and their sensitivity

 Presenter : GLORIAN Julien
French-German Research Institute of Saint-Louis (ISL)

Designing a multicellular pyrotechnic facility against detonation - An actual case study

 Presenter : CHAMPASSITH Anousone
Technip Energies

15:00

Experimental and numerical methodologies to characterize base-bleed operation in internal ballistics conditions

 Presenter : GAILLARD Thomas
DMPE, ONERA, Université Paris Saclay

Analytical study of the HERMES ignition parameter under idealised conditions

 Presenter : SCHOFIELD Adam
AWE

Development of a non propagating container for A6 ESR neutralization

 Presenter : CLANCIER Ludovic
ArianeGroup SAS



AUDITORIUM DU GRAND LARGE

SALLE GRAND LARGE

SESSION 19 • Reactivity

Chairman :

SALLE BOUVET

SESSION 20 • Safety

Chairman :

15:20

Low-velocity impact and damage of a pressed high explosive



Presenter : HAMON Emilien
CEA Le Ripault

Blast wave mitigation by liquid foams



Presenter : REINDERS Aymerick
ENSTA Bretagne

15:40

Assessment of ammunition reaction violence for any mechanical load



Presenter : GATTINI Sébastien
ArianeGroup SAS

16:00 - 16:30

Closing Ceremony



POSTERS

- 1 A study of the Glycidyl Azide Polymer curing systems using triazole and urethane crosslinked networks**
Presenter: PALUSSIÈRE Ségolène - ONERA
- 2 Tests of colored smoke in an instrumented box**
Presenter: GUERIN Aurelie - DGA Land Systems
- 3 The Activation Energy of Hexanitrostilbene (HNS-IV) and the Study of Thermal Characteristics of HNS-IV with Accelerated Aging**
Presenter: KAMAL Hazal - Roketsan Inc.
- 4 Resonant acoustic mixing applied to energetic material**
Presenter: DAVID-QUILLOT Frank - CEA Le Ripault
- 5 STUDY OF PRESSING PROCEDURES OF PYROTECHNIC HEATING COMPOSITION**
Presenter: LOPES Ana - Cranfield University
- 6 Use of a Microcalorimeter to Evaluate Thermally Sensitive Energetic Materials**
Presenter: Presenter: MENDENHALL Ivan - Autoliv
- 7 Experimental Investigation of the Influence of Shock Tube Parameters on Reaction Propagation**
Presenter: KUNA Petr - University of Pardubice
- 8 TATB-based PBX characterization: deformation tools**
Presenter: LAGNY Clémentine - CEA Le Ripault
- 9 Sampling of automotive airbag inflator gas effluents during discrete periods of the inflator function**
Presenter: CARVER Paul - Autoliv Livbag
- 10 Effect of Nano Barium Oxide on Thermal decomposition properties and chemical stability of nitrocellulose**
Presenter: TOUIDJINE Sabri - Ecole Militaire Polytechnique, Algeria
- 11 A Combined Model for the Pinch and Shearing of an Explosive**
Presenter: CURTIS John - AWE Aldermaston
- 12 THALES R&T capacities dedicated to future ammunition**
Presenter: COULOUARN Christophe - Thales LAS
- 13 Measurement and Quantitative Evaluation of muzzle Flame**
Presenter: ZHU Chenguang - Nanjing University of Science and Technology
- 14 Fast cook-off simulations and comparison with experiments**
Presenter: ELIA Thomas - Thales LAS

15

Laser breakdown as an alternative to study blast waves at the lab scale

Presenter: LE CLANCHE Julien - IRDL (Institut de Recherche Dupuy de Lôme)

16

Some achievements in the synthesis of primary EMs

Presenter: LATYPOV Nikolaj - lan em consulting ab

17

Mica ng dual pulse rocket motor: on the way for a Murat * label

Presenter: BONHOMME Laurent - ROXEL

18

Simulation of confined high explosive ignition under low velocity impact

Presenter: CAMUS Stéphanie - CEA Le Ripault

19

Erosion model

Presenter: TIXIER Laurent - ROXEL

20

A methodology to optimise base bleed grain designs

Presenter: BODARD Sébastien - EURENCO

21

Assembly by fiber laser technology

Presenter: DOUAIS Christophe - ROXEL

22

An analytical model for the pinch of an unconfined hollow explosive cylinder

Presenter: BODARD Sébastien - EURENCO

23

Effect of pyrotechnical compositions on deflagration to detonation transition development in pentaerythritol tetranitrate

Presenter: SAZECEK FILIP - University of Pardubice

24

Assessment of ternary pyrotechnic compositions thermal conductivities using binary and multi-scale model

Presenter: ROSÈRES Charles - INERIS

25

Prediction of the enthalpy of formation of energetic materials by density functional theory calculations

Presenter: OMLOR Andreas - Fraunhofer Institute for Chemical Technology (ICT)

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SIMULATION FOR ENERGETIC MATERIALS Using Inert Crystalline Materials as a Simulation for Energetic Materials

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Presenter: HALLEUX Francis - Royal Military Academy, Brussels

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Presenter: CHEVALIER Jean-Marc - CEA CESTA

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A first approach of the use of laser-driven flyers for shock initiation of explosives: flyer acceleration

Presenter: MORAND Julie - CEA Le Ripault

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