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**11<sup>th</sup> European Conference on  
Non-Destructive Testing**

**Program**

11. 9. 2014

6.10.2014 Monday	10:00-12:00	ECNDT Opening Main Congress Hall								
	premises	Panorama Hall	Club A	Club B	Club C	Club D	Club E	Club H		
	capacity	400	150	70	70	70	150	70		
	14:00-15:4	01. NDT General	08. Phased Array (UT) I	16. Computed Tomography I	14. Magnetoresistance Methods (MR) and Magnetic Sensors	33. Public Security and Safety and Noninvasive Methods in Medicine and Biology	20. Novel and Non-traditional NDT Techniques and Applications	09. Acoustic Emission I		
15:40-16:0	coffee break									
16:00-18:0	01. NDT General	08. Phased Array (UT) I	16. Computed Tomography I	14. Magnetoresistance Methods (MR) and Magnetic Sensors	32. NDT in Conservation, Restoration, Heritage, Art and Architecture	20. Novel and Non-traditional NDT Techniques and Applications	09. Acoustic Emission I			
7.10.2014 Tuesday	09:00-10:4	03. Signal and image processing in NDT/NDE	08. Phased Array (UT) II	16. Computed Tomography II	04. Modeling and Simulations in NDT	31. NDT in Civil Engineering and Concrete Structures	34. NDT in Railways	09. Acoustic Emission II		
	10:40-11:0	coffee break								
	11:00-13:0	03. Signal and image processing in NDT/NDE	08. Phased Array (UT) II	16. Computed Tomography II	04. Modeling and Simulations in NDT	31. NDT in Civil Engineering and Concrete Structures	34. NDT in Railways	24. Structural Health Monitoring, Condition Monitoring and Maintenance		
		Lunch								
	14:00-15:4	03. Signal and image processing in NDT/NDE	06. Ultrasonic Testing (UT) I	16. Computed Tomography II	04. Modeling and Simulations in NDT	31. NDT in Civil Engineering and Concrete Structures	34. NDT in Railways	24. Structural Health Monitoring, Condition Monitoring and Maintenance		
15:40-16:0	coffee break									
16:00-18:0	03. Signal and image processing in NDT/NDE	06. Ultrasonic Testing (UT) I	02. Training, Certification, Education, Accreditation, Standardization I	04. Modeling and Simulations in NDT	31. NDT in Civil Engineering and Concrete Structures	34. NDT in Railways	18. Structural Health and Vibration Monitoring			
8.10.2014 Wednesday	09:00-10:4	37. Academia NDT "European Research Day" (Prof. HIGGS lecture)								
	10:40-11:0	coffee break								
	11:00-13:0	37. Academia NDT "European Research Day" (Prof. CHUA lecture)	06. Ultrasonic Testing (UT) II	02. Training, Certification, Education, Accreditation, Standardization II	10. Visual / Optical (VT) and Penetrant and Leak Testing (PT and LT)	26. NDT in Pressure Equipment, Pipelines and Welding	05. Transducers and Sensors	Reserve		
		Lunch								
	14:00-15:4	37. Academia NDT&ICNDT: "European Research Day"	06. Ultrasonic Testing (UT) II	35. Wave Modelling in Solids (mini-symposium)	21. Material Characterization - Metals	26. NDT in Pressure Equipment, Pipelines and Welding	13. Magnetic Testing	28. NDT in Aerospace		
15:40-16:0	coffee break									
16:00-18:0	37. Academia NDT&ICNDT: "European Research Day"	27. NDT in Transportation (automotive, marine,..)	35. Wave Modelling in Solids (mini-symposium)	21. Material Characterization - Metals	26. NDT in Pressure Equipment, Pipelines and Welding	13. Magnetic Testing	28. NDT in Aerospace			
9.10.2014 Thursday	09:00-10:4	11. Infrared Testing, Thermography, Thermal NDT	15. Radiology and Radiographic Testing, Radiation Protection	36. SIMPOSIUM (FP7 project - simulations in NDT)	22. Material Characterization - Composites	29. In-service Inspection (offshores, chemical / petrochemical industry)	12. Eddy Current and Electromagnetic Testing	Defektoskopie preparation		
	10:40-11:0	coffee break								
	11:00-13:0	11. Infrared Testing, Thermography, Thermal NDT	15. Radiology and Radiographic Testing, Radiation Protection	36. SIMPOSIUM (FP7 project - simulations in NDT)	22. Material Characterization - Composites	25. Process Monitoring and Control	12. Eddy Current and Electromagnetic Testing	DEFEKTOSKOPIE (CZ)		
		Lunch								
	14:00-15:4	11. Infrared Testing, Thermography, Thermal NDT	15. Radiology and Radiographic Testing, Radiation Protection	07. Guided / Lamb waves (UT) I	22. Material Characterization - Composites	19. NDT Methods Based on Nonlinear and Time Reversal Techniques	12. Eddy Current and Electromagnetic Testing	DEFEKTOSKOPIE (CZ)		
15:40-16:0	coffee break									
16:00-18:0	11. Infrared Testing, Thermography, Thermal NDT	15. Radiology and Radiographic Testing, Radiation Protection	07. Guided / Lamb waves (UT) I	22. Material Characterization - Composites	19. NDT Methods Based on Nonlinear and Time Reversal Techniques	30. NDT in Power Generation I	DEFEKTOSKOPIE (CZ)	CNDT annual meeting		
10.10.2014 Friday	09:00-10:4	Reserve	17. Terahertz Waves Testing	07. Guided / Lamb waves (UT) II	23. Material Characterization - Polymers, Wood and Ceramics	Reserve	30. NDT in Power Generation II	DEFEKTOSKOPIE (CZ)		
	10:40-11:0	coffee break								
	11:00-13:0	ECNDT 2014 Closure						DEFEKTOSKOPIE (CZ)		

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<b>1. NDT General</b>	
Monday 6. Oct 14:00 - 18:00 Panorama Hall	
14:00	<b>Organizational Practice of NDT in Service Inspection Companies</b> <i>R. Holstein; DGZfP Ausbildung und Training GmbH, Berlin, Germany</i>
14:20	<b>Assessment of the Reliability of NDE: A Novel Insight on Influencing factors on POD and Human Factors in an organizational Context</b> <i>C. Mueller*, M. Bertovic, D. Kanzler, T. Heckel, R. Holstein, U. Ronneteg, J. Pitkänen, M. Rosenthal; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
14:40	<b>Running an NDT Society: a CEO's Perspective</b> <i>C. Sinclair; BINDT, Northampton, United Kingdom</i>
15:00	<b>Vision for innovating NDT technologies: matching NDT with engineering decisions</b> <i>C. Wassink*, R. De Vries; *Applus RTD, Capelle a/d IJssel, Netherlands</i>
15:20	<b>Modernization of the industrial safety system</b> <i>V. Petrov*, A. Petrov; *OOO "ORK", Saint-Petersburg, Russia</i>
16:00	<b>Assisted diagnosis solutions for fast decision making</b> <i>G. Ithurralde; NDT EXPERT / Testia, Toulouse, France</i>
16:20	<b>Improving the Reliability of NDT Inspection through Information Fusion: Applications in X-ray and Ultrasound Modalities</b> <i>A. Osman*, V. Kaftandjian, U. Haßler; *Fraunhofer IIS (EZRT), Fürth, Germany</i>
16:40	<b>Transferring NDT experience via Digitized Workflow Authoring for Portable NDT Devices</b> <i>R. Ward; GE Measurement &amp; Control, Lewistown PA, USA</i>
17:00	<b>Operational monitoring of metal fatigue by non-destructive coercive force method. Practical and philosophical aspects.</b> <i>R. Solomakha*, G. Bezlyudko, B. Popov; *Special Scientific Engineering, Kharkov, Ukraine</i>
17:20	<b>Comprehensive Study of the Transduction Mechanisms of Normally Biased EMATS Configuration Operating on Ferromagnetic Material.</b> <i>E. Ashigwuike*, W. Balachandran, S. Thomas, R. Nilavalan; *Brunel University, Uxbridge, United Kingdom</i>
17:40	<b>The Execution of NDT Proficiency Testing</b> <i>P. Chen*, J. Chen, C. Yang; *China Steel Corporation, Kaohsiung, Taiwan, China</i>

## 2. Training, Certification, Education, Accreditation, Standardization I

Tuesday 7. Oct 16:00 - 18:00  
Club B

- 16:00 **ICNDT Working Group 2 - feedback on activities during the past 2 years**  
*M. Johannes; CSIR and ICNDT WG2, Pretoria, South Africa*
- 16:20 **IT supported NDT training and certification**  
*R. Srebotnik\*, A. Lešnjak, B. Kaucic; \*Q TECHNA, Institute of Quality Assurance and Quality Control Ltd., Ljubljana, Slovenia*
- 16:40 **Virtual flaws for NDE training and qualification**  
*I. Virkkunen\*, K. Miettinen, T. Packalén; \*Trueflaw Ltd., Espoo, Finland*
- 17:00 **EN ISO/IEC 17024 and EN ISO 9712: as Team Players for an Accredited Certification Scheme**  
*N. Mahmutyazicioglu; SECTOR Cert - Gesellschaft für Zertifizierung mbH, Cologne, Germany*
- 17:20 **Certification of personnel on PA, TOFD and CR methods**  
*V. Sokovnin\*, N. Volkova, A. Mullin, V. Strizhakov; \*RTC Testing and diagnostics, Moscow, Russia*
- 17:40 **Certification scheme based on the ISO 9712:2012 for NDT personnel certification by the metal magnetic memory method (ISO 24497:2007)**  
*A. Dubov\*, S. Kolokolnikov; \*Energodiagnostika Co. Ltd, Reutov, Moscow region, Russia*

## 2. Training, Certification, Education, Accreditation, Standardization II

Wednesday 8. Oct 11:00 - 13:00  
Club B

- 11:00 **Proqualindt projects, leonardo da vinci programme. Development of NDT study material in different languages**  
*R. Rodríguez\*, E. Romero; \*Spanish Society for Non-Destructive Testing, Madrid, Spain*
- 11:20 **What We Learnt from Seven Proficiency Tests in the Hungarian Association for NDT**  
*F. Fücsök\*, B. Hámornik, F. Marcsó; \*Hungarian Association for NDT, Budapest, Hungary*
- 11:40 **Qualification and certification of NDT personnel in the Czech Republic**  
*H. Paterová\*, P. Janecek; \*Association for Personnel Certification, Prague, Czech Republic*
- 12:00 **Complex of national standards for NDT of mechanical stresses and application of acoustoelasticity methods in industry and transport**  
*N. Nikitina; Mechanical Engineering Research Institute of Russian Academy of Sciences, Nizhniy Novgorod, Russia*
- 12:20 **EN 16407 Parts 1 and 2: Newly published European standards for the in-service digital and film radiography of pipes**  
*S. Burch; ESR Technology, Abingdon, United Kingdom*

### 3. Signal and image processing in NDT/NDE

Tuesday 7. Oct 09:00 - 18:00  
Panorama Hall

09:00	<b>Zebra and Rainbow Example of Image Quality Standard in TOFD and Phased Array Technique</b> <i>G. Nardoni*, P. Nardoni, D. Nardoni, M. Feroldi; *I&amp;T Nardoni Institute, Brescia-Folzano, Italy</i>
09:20	<b>Tomographic Imaging Using Multi-Channel Low-Frequency Ultrasonic Measurement Systems</b> <i>M. Schickert; Materialforschungs- und -prüfanstalt an der Bauhaus-Universität Weimar (MFPA Weimar), Weimar, Germany</i>
09:40	<b>Implementation of the Total Focusing Method in the M2M Systems for Fast and High-Resolution Ultrasonic Imaging</b> <i>S. Robert*, J. Albertini, V. Saint-Martin, P. Brédif, F. Cartier, O. Roy; *CEA LIST, Gif-sur-Yvette, France</i>
10:00	<b>New processing to improve timber strength grading with a vibration method</b> <i>B. Béguet*, R. Maxime; *INNODURA, Villeurbanne, France</i>
10:20	<b>Creation of non-virtual acoustic Images in 3 Dimensions and Applications in NDT</b> <i>S. Falter*, R. Prause, D. Lange, S. Standop, R. Koch; *GE Measurement &amp; Control, Hürth, Germany</i>
11:00	<b>Comparison of Conventional and Spread Spectrum Signals Application in Thin Laminates Imaging</b> <i>L. Svilainis*, A. Rodriguez, A. Aleksandrovas, V. Eidukynas; *Kaunas University of Technology, Kaunas, Lithuania</i>
11:20	<b>Application of Arbitrary Position and Width Pulse Train Signals in Ultrasonic Imaging</b> <i>L. Svilainis*, A. Rodriguez, V. Dumbrava, A. Aleksandrovas, K. Lukoseviciute, D. Liaukonis; *Kaunas University of Technology, Kaunas, Lithuania</i>
11:40	<b>Mode-Selective Imaging Procedures of Acoustic Ultrasonic Data on Hollow Cylinder Geometries for Structural-Health-Monitoring</b> <i>R. Neubeck*, B. Weihnacht, B. Frankenstein; *Fraunhofer IKTS (MD), Dresden, Germany</i>
12:00	<b>Signal Processing Approach for Defect Classification Detected Using Ultrasonic Phased Array</b> <i>O. Popovych*, M. Karpash; *Ivano-Frankivsk National Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine</i>
12:20	<b>Plane Wave Imaging Using Phased Array</b> <i>A. Volker; TNO, Delft, Netherlands</i>
12:40	<b>Advanced imaging for non-destructive control of pressure vessels</b> <i>H. Walaszek; CETIM, Senlis, France</i>

<b>3. Signal and image processing in NDT/NDE</b>	
Tuesday 7. Oct 09:00 - 18:00 Panorama Hall	
14:00	<b>Dual High-Energy X-ray Digital Radiography for Material Discrimination in Cargo Containers</b> <i>S. Kolkoori*, N. Wrobel, A. Deresch, B. Redmer, U. Ewert; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
14:20	<b>Methods of processing and image compression in an X-ray micro tomographic scanner</b> <i>V. Syryamkin*, M. Kutsov, A. Osipov; *National Research Tomsk State University, Tomsk, Russia</i>
14:40	<b>Exploring the limits of limited-angle computed tomography complemented with surface data</b> <i>Y. Liu*, P. Schuetz, A. Flisch, U. Sennhauser; *EMPA, Swiss Federal Laboratories for Material Science and Technology, Dübendorf, Switzerland</i>
15:00	<b>Detections of Minute Defects and Accurate Measurements of Distance &amp; Area of Objects in Neutron Beam Computed Tomography and X-ray Radiography Images by a CAD Based on the De-Convolution Technique</b> <i>K. Chui; Image Enhancement Technology Ltd., Uxbridge, United Kingdom</i>
15:20	<b>Application of Multifrequency Spectral method of Lamb waves for structural health monitoring of composite laminates.</b> <i>A. Pogorielov; "SHM-ingenierie", SASU, Metz, France</i>
16:00	<b>Error Sources Analysis of Computed Tomography for Dimensional Metrology: an Experimental Approach.</b> <i>L. Franco*, J. Yagüe-Fabra, R. Jimenez, M. Maestro; *AIMEN Technological Center, O Porriño, Spain</i>
16:20	<b>Integrating Quality Control Tests in a Computed Tomography System</b> <i>L. Franco*, P. Tahoces; *AIMEN Technological Center, O Porriño, Spain</i>
16:40	<b>Infrared Thermography as an alternative for traditional weld inspection methods thanks to signal processing techniques</b> <i>A. García de la Yedra, A. Echeverria, A. Beizama, R. Fuente, E. Fernández*; *IK4-LORTEK, Ordizia, Spain</i>
17:00	<b>Restoration of actual image from noisy degraded images using blind deconvolution methods</b> <i>R. Mabuza; Vaal University of Technology, Vanderbijlpark, South Africa</i>



## 4. Modeling and Simulations in NDT

Tuesday 7. Oct 09:00 - 18:00  
Club C

09:00	<b>A Modeling Platform for Ultrasonic Immersion Testing of Polycrystalline Materials with Flaws</b> <i>F. Schubert; Fraunhofer IKTS (MD), Dresden, Germany</i>
09:40	<b>Validation of Simulation Tools for Ultrasonic Inspection of Austenitic Welds in the Framework of the MOSAICS Project</b> <i>S. Bannouf*, D. Elbaz, B. Chassignole, N. Leymarie, P. Recolin; *EXTENDE, Massy, France</i>
10:00	<b>Ultrasonic Wave Propagation in Dissimilar Metal Welds - Application of a Ray-Based Model and Comparison with Experimental Results</b> <i>A. Gardahaut*, H. Lourme, F. Jenson, S. Lin, M. Nagai; *CEA LIST, Gif-sur-Yvette, France</i>
10:20	<b>Modelling the mechanical properties of as-manufactured composite components based on 3D non-destructive characterisation</b> <i>R. Smith*, L. Nelson, N. Xie, S. Hallett; *University of Bristol, Bristol, United Kingdom</i>
11:00	<b>Use of modeling to design ultrasonic phased array control of shaft</b> <i>B. Dupont; CETIM, Senlis, France</i>
11:20	<b>A Novel Sensor Design for Generation and Detection of Shear-Horizontal Waves Based on Piezoelectric Fibres</b> <i>F. Schubert*, B. Koehler, U. Lieske; *Fraunhofer IKTS (MD), Dresden, Germany</i>
11:40	<b>Is the occurrence of an attractor in a multi-scale ultrasonic Ndt data analysis a good indicator of chaos theory modeling?</b> <i>F. Bettayeb; CSC, research center on welding and control, Algiers, Algeria</i>
12:00	<b>Optimal sensor distribution for impact loading identification</b> <i>J. Bartosek*, T. Kroupa, R. Zemcik, V. Las; *University of West Bohemia, Pilsen, Czech Republic</i>
12:20	<b>The implementation and validation of a phased array probe model into the simSUNDT software</b> <i>H. Wirdelius; Chalmers University of Technology, Göteborg, Sweden</i>
12:40	<b>Quantitative Simulation of Ultrasonic and EMAT Arrays using FEM and FDTD</b> <i>Y. Xie*, W. Yin, A. Peyton; *The University of Manchester, Manchester, United Kingdom</i>

## 4. Modeling and Simulations in NDT

Tuesday 7. Oct 09:00 - 18:00  
Club C

- |       |  |
|-------|--|
| 14:00 | <b>Working Group COFREND « Eddy Current NDT modeling »: Benchmarks for validating and improving simulation codes acceptance</b><br><i>F. Foucher*</i> , <i>L. Maurice</i> , <i>C. Reboud</i> , <i>F. Deneuille</i> , <i>A. Trillon</i> , <i>P. Thomas</i> ;<br><i>*EXTENDE, Massy, France</i>  |
| 14:20 | <b>Modelling of Pulsed Eddy Current Testing of Wall-thinning of carbon steel pipes through insulation and cladding using COMSOL Multiphysics</b><br><i>S. Majidnia*</i> , <i>J. Rudlin</i> , <i>R. Nilavalan</i> ; <i>*TWI Ltd, Cambridge, United Kingdom</i>  |
| 14:40 | <b>Efficient simulation of steam generator tubes inspection with the Pluspoint eddy current probe</b><br><i>E. Demaldent*</i> , <i>C. Reboud</i> , <i>T. Sollier</i> , <i>G. Cattiaux</i> ; <i>*CEA LIST, Gif-sur-Yvette, France</i>   |
| 15:00 | <b>Investigation of a Weld Crack in Eddy Current Testing Using the Finite Element Method</b><br><i>A. Rosell</i> ; <i>Chalmers University of Technology, Göteborg, Sweden</i>  |
| 15:20 | <b>Eddy Current Modelling of Austenite Stainless Steel Heat Exchanger Tube Inspection Using Finite Elements</b><br><i>M. Lopez Areiza*</i> , <i>C. Camerini</i> , <i>J. Gonçalves Rocha</i> , <i>J. Rebello</i> , <i>G. Pereira</i> ;<br><i>*Laboratory of Non Destructive Testing Corrosion and Welding - Federal University of Rio de Janeiro - Brazil, Rio de Janeiro, Brazil</i> |
| 16:00 | <b>Modeling of magnetic flux leakage testing through surface integral formulation</b><br><i>F. Deneuille*</i> , <i>E. Demaldent</i> , <i>A. Trillon</i> , <i>S. Barrez</i> , <i>C. Reboud</i> ; <i>*Vallourec Research Center France, Aulnoye Aymeries, France</i>   |
| 16:20 | <b>Sindbad: a Simulation Software Tool for Multi-Energy X-ray Imaging</b><br><i>V. Rebuffel*</i> , <i>J. Tabary</i> , <i>M. Tartare</i> , <i>A. Brambilla</i> , <i>L. Verger</i> ; <i>*CEA, Grenoble, France</i>   |
| 16:40 | <b>Simulation Study to Improve the Detection of Planar Defects Located Under Shrinkage Cavities</b><br><i>S. Bannouf</i> , <i>S. Lonné*</i> , <i>F. Foucher</i> , <i>J. Delemontez</i> , <i>L. Chappaz</i> ; <i>*EXTENDE, Massy, France</i>  |
| 17:00 | <b>Lamb mode separation at the plate edge by applying the orthogonality relation</b><br><i>M. Ratassepp*</i> , <i>K. Aleksander</i> ; <i>*Tallinn University of Technology, Tallinn, Finland</i>   |
| 17:20 | <b>Optimization design of pulsed eddy current probe based on simulation</b><br><i>L. Baoling*</i> , <i>P. Huang</i> , <i>X. Chen</i> , <i>L. Zhao</i> ; <i>*Zhejiang University, Hangzhou, China</i>   |
| 17:40 | <b>Guided ultrasonic waves in steel pipe with welded bend with defect</b><br><i>J. Tan*</i> , <i>A. Guo</i> , <i>X. Wang</i> , <i>J. Ho</i> ; <i>*Monash University Malaysia, Bandar Sunway, Malaysia</i>  |

## 5. Transducers and Sensors

Wednesday 8. Oct 11:00 - 13:00

Club E

- |       |   |
|-------|---|
| 11:00 | <b>Modeling and Analysis of the Partly Debonded Piezoelectric Wafer Active Sensors</b><br><i>M. Golub*</i> , <i>I. Buethe</i> , <i>A. Shpak</i> , <i>C. Fritzen</i> , <i>H. Jung</i> , <i>J. Moll</i> ; <i>*Institute for Mathematics, Mechanics and Informatics, Kuban State University, Krasnodar, Russia</i>                         |
| 11:20 | <b>Electromagnetic sensor using metamaterials for nondestructive evaluation</b><br><i>A. Savin*</i> , <i>R. Steigmann</i> , <i>G. Dobrescu</i> ; <i>*National Institute of Research and Development for Technical Physics, Iasi, Romania</i>  |
| 11:40 | <b>Ultrasonic testing of adhesively bonded joints using air-coupled cellular polypropylene transducers</b><br><i>M. Gaal*</i> , <i>E. Dohse</i> , <i>J. Bartusch</i> , <i>E. Köppe</i> , <i>M. Kreutzbruck</i> , <i>W. Hillger</i> , <i>J. Amos</i> ; <i>*BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i> |
| 12:00 | <b>Eddy Current Array Probes for Crack Detection and Sizing in Carbon Steel Welds</b><br><i>A. Raude</i> ; <i>Eddyfi, France, France</i>  |
| 12:20 | <b>Comprehensive Study of the Transduction Mechanisms of Normally Biased EMAT Configuration Operating on Ferromagnetic Material.</b><br><i>E. Ashigwuike*</i> , <i>W. Balachandran</i> , <i>S. Thomas</i> , <i>R. Nilavalan</i> ; <i>*Brunel University, Uxbridge, United Kingdom</i>   |
| 12:40 | <b>Non-contact ultrasonic examination of electronic components</b><br><i>A. Kirikov*</i> , <i>P. Pashkov</i> ; <i>*Nordinkraft AG, Heimsheim, Germany</i>   |

## 6. Ultrasonic Testing (UT) I

Tuesday 7. Oct 14:00 - 18:00

Club A

14:00	<b>Review of 30 Years Ultrasonic systems and developments for the future</b> <i>W. Hillger*, D. Ilse, L. Bühling; *Ingenieurbüro Dr. Hillger, Ultrasonic Techniques, Braunschweig, Germany</i>
14:20	<b>Air-coupled Ultrasonic Testing- Method, System and practical Applications</b> <i>W. Hillger*, L. Bühling, D. Ilse; *Ingenieurbüro Dr. Hillger, Ultrasonic Techniques, Braunschweig, Germany</i>
14:40	<b>Automatic non-contact ultrasonic examination of plates and coil with EMAT</b> <i>A. Kirikov*, F. Durnov; *Nordinkraft AG, Heimsheim, Germany</i>
15:00	<b>Modeling of EMAT Magnetic Systems for Ultrasonic Waves Generation in Elastic Layer, in Static and Pulsed Magnetic Fields</b> <i>S. Alekhin, A. Samokrutov, V. Bobrov, S. Bobrov, V. Shevaldykin, V. Suvorov*; *Acoustic Control Systems Ltd., Moscow, Russia</i>
15:20	<b>Surface and Thin Volumetric Inspection with EMAT</b> <i>B. Lopez, V. Garcia*, A. Syed; *Innerspec Technologies Europe, Alcalá de Henares, Spain</i>
16:00	<b>PROlineUSB Ultrasonic Testing Instrument and Systems</b> <i>G. Vogt; VOGT Ultrasonics GmbH, Burgwedel, Germany</i>
16:20	<b>Real Time 2D Ultrasound Camera Imaging: A Higher Resolution Option to Phased Array</b> <i>B. Lasser; Imperium, Inc., Beltsville, USA</i>
16:40	<b>Application laser ultrasound defectoscopy for control of solder joints of thin-walled products</b> <i>I. Kinzhagulov*, N. Anikeichik; *Saint - Petersburg National Research University of Information Technologies, Mechanics and Optics, Saint-Petersburg, Russia</i>
17:00	<b>Automated non-destructive examination of complex shapes</b> <i>F. Mohr*, W. Haase, D. Ungerer; *intelligeNDT Systems &amp; Services GmbH, Erlangen, Germany</i>
17:20	<b>The power of ultrasonic characterisation for completely assessing the elastic properties of materials</b> <i>J. Morvan; CANOE, Pessac, France</i>
17:40	<b>Non-contact Guided wave Tomographic Imaging in Plate by Laser-based Ultrasonic Techniques</b> <i>J. Park*, J. Lim, Y. Cho; *Pusan National University, Busan, South Korea</i>

## 6. Ultrasonic Testing (UT) II

Wednesday 8. Oct 11:00 - 15:40

Club A

- |       |   |
|-------|---|
| 11:00 | <b>The System and Method of Ultrasonic Time-of-Flight-Diffraction Testing Based on Linear-Frequency-Modulation Technique</b><br><i>J. Zhang*</i> , <i>T. Gang</i> , <i>S. Cong</i> , <i>C. Wang</i> , <i>W. Feng</i> ; *Harbin Institute of Technology, Harbin, China |
| 11:20 | <b>Frequency and Location Dependent Attenuation in Copper Tubes for Radioactive Waste Deposit</b><br><i>A. Gianneo*</i> , <i>M. Carboni</i> , <i>C. Müller</i> , <i>T. Heckel</i> , <i>U. Ronneteg</i> , <i>J. Pitkänen</i> ; *Politecnico di Milano, Milano, Italy   |
| 11:40 | <b>Application of ultrasonic measurements to stress assesment on tightened bolts</b><br><i>H. Walaszek*</i> , <i>P. Bouteille</i> ; *CETIM, Senlis, France  |
| 12:00 | <b>3D Ultrasound Imaging of Flaws, Electronics and Spot Welds</b><br><i>G. Por*</i> , <i>M. Agocs</i> , <i>E. Kocso</i> , <i>B. Palotas</i> , <i>P. Trampus</i> ; *College of Dunaújváros, Dunaujvaros, Hungary   |
| 12:20 | <b>Pulse Compression Ultrasonic Non Destructive Evaluation of Thick Polymer Samples</b><br><i>I. Mohamed*</i> , <i>D. Hutchins</i> , <i>L. Davis</i> , <i>S. Laureti</i> , <i>M. Ricci</i> ; *University of Warwick, Coventry, United Kingdom                         |
| 12:40 | <b>Simultaneous determination of thickness and sound velocities in layered structures</b><br><i>S. Kümritz*</i> , <i>M. Wolf</i> , <i>E. Kühnicke</i> ; *TU Dresden, Dresden, Germany   |
| 14:00 | <b>Application of Subsurface Laser Engraving in Ultrasonic Testing of Materials</b><br><i>J. Szelazek</i> ; Institute of Fundamental Technological Research, Warsaw, Poland   |
| 14:20 | <b>High Resolution Ultrasonic Measurements using Immersion Technique</b><br><i>T. Heckel*</i> , <i>D. Gohlke</i> , <i>D. Kotschate</i> ; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany   |
| 14:40 | <b>Reliability of time of flight diffraction technique for characterizing defects in thin materials</b><br><i>N. Netshidavhini</i> ; Vaal University of Technolgy, Vanderbijlpark, South Africa   |
| 15:00 | <b>Ultrasonic Method for Measuring Frictional Temperature Rise in Rubbing Surface</b><br><i>I. Ihara*</i> , <i>S. Aoki</i> ; *Nagaoka University of Technology, Nagaoka, Japan  |
| 15:20 | <b>Reliable Identification of Damage Growth Using Guided Wave PIMS Systems</b><br><i>P. Cawley*</i> , <i>A. Galvagni</i> ; *Imperial College, London, United Kingdom  |

## 7. Guided / Lamb waves (UT) I

Thursday 9. Oct 14:00 - 18:00

Club B

14:00	<b>Non-Invasive monitoring strategies for engineering structures using guided waves</b> <i>P. Mudge*</i> , <i>P. Jackson</i> , <i>K. Thornicroft</i> , <i>A. Haig</i> , <i>V. Dimlaye</i> ; *Plant Integrity Ltd, Cambridge, United Kingdom
14:20	<b>Elastic guided wave based assessment of laminate composite material constants</b> <i>E. Glushkov</i> , <i>N. Glushkova</i> , <i>A. Eremin*</i> , <i>R. Lammering</i> , <i>M. Neumann</i> ; *Kuban State University, Krasnodar, Russia
14:40	<b>New Instrument for Rock Bolt Inspection Using Guided Waves</b> <i>T. Stepinski*</i> , <i>K. Matsson</i> , <i>B. Ekenbro</i> ; *AGH Univ. of Science and Technology, Kraków, Poland
15:00	<b>EMAT application: Corrosion detection with guided waves in rods, pipes and plates</b> <i>P. Jäckel</i> , <i>F. Niese*</i> ; *Fraunhofer IZFP, Saarbruecken, Germany
15:20	<b>Hydrate plug localization and characterization using guided waves</b> <i>B. Chapuis*</i> , <i>V. Baronian</i> , <i>F. Jenson</i> , <i>L. Pomié</i> ; *CEA LIST, Gif-sur-Yvette, France
16:00	<b>Guided Waves Used for Corrosion Detection on Pipes and Pipelines</b> <i>T. Couturier</i> ; Olympus, Rungis, France
16:20	<b>New testing method for the rapid and flexible ultrasonic imaging of large metal structures of composites by combining Guided Wave and matrix phased Array Technologies</b> <i>H. Walaszek*</i> , <i>F. Zhang</i> , <i>M. Castaing</i> ; *CETIM, Senlis, France
16:40	<b>Lamb Wave Mode Conversion in CFRP Plates</b> <i>G. Mook*</i> , <i>C. Willberg</i> , <i>U. Gabbert</i> , <i>J. Pohl</i> ; *Otto-von-Guericke University Magdeburg, Magdeburg, Germany
17:00	<b>Application of ultrasonic guided waves for testing and structure health monitoring of honeycomb based composite constructions</b> <i>R. Raisutis*</i> , <i>R. Kazys</i> , <i>L. Mazeika</i> , <i>E. Zukauskas</i> , <i>V. Samaitis</i> , <i>L. Draudviliene</i> , <i>A. Vladisauskas</i> ; *Kaunas University of Technology, Kaunas, Lithuania
17:20	<b>Guided ultrasonic waves for the non-destructive evaluation of adhesive joints</b> <i>J. Prager*</i> , <i>M. Gaal</i> , <i>T. Homann</i> , <i>D. Brackrock</i> ; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany
17:40	<b>Investigation of spatial filtering effects on generation and reception of ultrasonic guided waves</b> <i>L. Mazeika</i> , <i>V. Samaitis*</i> ; *Kaunas University of Technology, Kaunas, Lithuania
18:00	<b>Guided Waves PPM Encoded System using AWG12 Cables as Communication channel</b> <i>R. Mijarez*</i> , <i>G. Trane</i> ; *Instituto de Investigaciones Eléctricas, Cuernavaca, Mexico

## 7. Guided / Lamb waves (UT) II

Friday 10. Oct 09:00 - 10:40

Club B

09:00	<b>1-D Profiling using highly dispersive guided waves</b> <i>A. Volker*</i> , <i>T. Van Zon</i> ; <i>*TNO, Delft, Netherlands</i>
09:20	<b>Guided Wave Travel Time Tomography for Quantitative wall thickness mapping</b> <i>A. Volker*</i> , <i>T. Van Zon</i> ; <i>*TNO, Delft, Netherlands</i>
09:40	<b>Attenuation and Signal Sensitivity of a Torsional Guided Wave from a Buried Pipe Mockup</b> <i>Y. Cheong</i> ; <i>Korea Atomic Energy Research Institute, Daejeon, South Korea</i>
10:00	<b>Investigation of the guided waves propagation through the lap joint</b> <i>A. Jankauskas*</i> , <i>L. Mazeika</i> ; <i>*Kaunas University of Technology, Kaunas, Lithuania</i>
10:20	<b>Temperature Gradients and Materials Properties Measurements using Ultrasonic Guided Waves</b> <i>S. Periyannan*</i> , <i>K. Balasubramaniam</i> ; <i>*IIT-Madras, Chennai, India</i>

<b>8. Phased Array (UT) I</b> Monday 6. Oct 14:00 - 18:20 Club A	
14:00	<b>Advanced Nondestructive Testing Techniques: Overview of Phased Array UT</b> <i>M. Carte*, A. Lamarre; *Olympus NDT, Houston, USA</i>
14:40	<b>New Standards for Ultrasonic Testing Using Phased-Array Equipment and Its Implementation at the Manufacturer</b> <i>J. Buechler*, U. Schlengermann; *GE Measurement &amp; Control, Hürth, Germany</i>
15:00	<b>Acoustic contact creation between phased array and object under test convex surface for FRP ultrasonic NDT</b> <i>A. Boychuk*, A. Generalov, I. Krasnov; *FSUE "VIAM" SRC RF, Moscow, Russia</i>
15:20	<b>Dynamic tracking of ultrasonic probe and real-time volumetric ray-tracing as a support to manual phased-array inspection of complex components</b> <i>A. Lamarre; Olympus NDT, Quebec, Canada</i>
16:00	<b>Recent computer modeling achievements in PAUT applications for WWER type NPPs</b> <i>L. Horacek*, P. Mareš, V. Kopál; *ÚJV Řež, a.s., Husinec-Řež, Czech Republic</i>
16:20	<b>Application of Phased Array Technology for Tube and Squared Bars during, On-line Inspection</b> <i>S. Štarman; STARMANS electronics, s.r.o., Prague, Czech Republic</i>
16:40	<b>Calculated Bandwidth Dependent DGS and DAC Curves for Phased Array Sizing</b> <i>W. Kleinert*, Y. Oberdoerfer; *GE Measurement &amp; Control, Hürth, Germany</i>
17:00	<b>Phased Array Transducer Instrumentation For Complex Geometry Component Inspection</b> <i>A. Vanhoye*, S. Bey, T. Desrez; *Commissariat à l'Energie Atomique, Saclay, France</i>
17:20	<b>Considerations on Linear Phased Array transducers with Circular Crystals</b> <i>Y. Oberdoerfer*, T. Bruch; *GE Measurement &amp; Control, Hürth, Germany</i>
17:40	<b>FAAST_II: Very Fast Phased Array System</b> <i>P. Coperet*, S. Carrascosa; *SOCOMATE International, Crecy la Chapelle, France</i>
18:00	<b>Application of Phased Array Ultrasonic Technique in Testing Electro-fusion Joint of Polyethylene Pipe</b> <i>Y. Zheng*, Z. Chen, W. Guo, S. Ding; *SIUI (Shantou Institute of Ultrasonic Instruments Co., Ltd.), Shantou, China</i>



## 8. Phased Array (UT) II

Tuesday 7. Oct 09:00 - 13:00

Club A

09:00	<b>Advanced portable Phased Arrays Techniques for industrial applications</b> <i>P. Benoist*, G. Neau, W. Deutsch; *M2M, Les Ulis, France</i>
09:20	<b>Wall crawler MAGNUS for Ultrasonic inspections</b> <i>U. Fau*, S. Scholz, M. Weiss; *intelligeNDT Systems &amp; Services GmbH, Erlangen, Germany</i>
09:40	<b>Phased-Array ROWA-SPA: High-performance testing machine for combined, 100-percent automated testing of square and round bars</b> <i>G. Fuchs*, C. Asche, M. Ruppenthal, S. Falter, T. Würschig, F. Henrix, D. Marina; *GE Measurement &amp; Control, Hürth, Germany</i>
10:00	<b>USIP xx Phased-Array Technology for Gapless Oblique Flaw Detection and New Geometry Evaluations with ROT and ROWA Ultrasonic Testing Machines</b> <i>D. Koers*, T. Weise, R. Prause, C. Breidenbach, W. Dick, T. Würschig, P. Meyer; *GE Measurement &amp; Control, Hürth, Germany</i>
10:20	<b>Phased Array UT Platform for Customizing Dedicated and Automated NDT Applications</b> <i>G. Dao*, R. Lallement; *Advanced OEM Solutions, Cincinnati, USA</i>
11:00	<b>Codes for Automatic Ultrasonic Testing ( AUT ) of Pipeline Girth Welds</b> <i>M. Ghaemi; IRAN NDT, Tehran, Iran</i>
11:20	<b>Practical guidelines for conversion of existing ultrasonic techniques to use phased array Technology</b> <i>J. Buckley*, J. Turcotte; *Sonatest Ltd, Milton Keynes, United Kingdom</i>
11:40	<b>Development of a procedure for the ultrasonic examination of small size austenitic stainless steel piping butt welds for the detection of stress corrosion cracking.</b> <i>A. Leleux*, V. Chardome, M. Plateau; *AIB Vincotte International, Vilvoorde, Belgium</i>
12:00	<b>Automated Ultrasonic Testing Systems for Bars and Tubes, Examples with Mono-Element and Phased Array Probes</b> <i>W. Deutsch*, M. Joswig, R. Kattwinkel, W. Roye, K. Maxam, M. Ranzeng; *KARL DEUTSCH Prüf- und Messgerätebau, Wuppertal, Germany</i>
12:20	<b>Determination of an Optimal Examination Grid for the Automated Ultrasonic Inspection of Heavy Rotor Forgings</b> <i>J. Vrana*, W. Heinrich, A. Zimmer, P. Archinger, O. Barbian, M. Böwe, F. Bonitz, G. Brekow, K. Conrad, W. Deutsch, K. Drewitz, W. Kappes, P. Kreier, R. Reimann, H. Rieder, U. Schlengermann, H. Willems; *Siemens, Munich, Germany</i>
12:40	<b>Automated Ultrasonic Inspection improves quality and benefits economy in welding workshops</b> <i>O. Olsdal*, S. Nielsen, L. Jeppesen; *FORCE Technology, Brøndby, Denmark</i>

<b>9. Acoustic Emission I</b>	
Monday 6. Oct 14:00 - 18:00 Club H	
14:00	<b>AT and AE monitoring for a pressure equipment (cowper) for steel production</b> <i>P. Tscheliesnig*, G. Schauritsch; *TÜV AUSTRIA Services, Wien, Austria</i>
14:20	<b>Acoustic Emission Monitoring of Fiberglass and Composite Material under Stress</b> <i>G. Nardoni*, P. Nardoni, L. Beccalossi, S. Zanoletti; *I&amp;T Nardoni Institute, Brescia-Folzano, Italy</i>
14:40	<b>Time Reversal signal processing in acoustic emission testing</b> <i>Z. Prevorovsky*, J. Krofta, J. Kober, Z. Dvořáková, M. Chlada; *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic</i>
15:00	<b>Design, description and calibration of the wideband acoustic emission sensors</b> <i>P. Beneš*, J. Fialka; *Brno University of Technology, Brno, Czech Republic</i>
15:20	<b>The challenges and solutions of permanent AE monitoring of an engineering structure</b> <i>T. Thenikl*, H. Vallen, I. Baran; *Vallen Systeme GmbH, Icking, Germany</i>
16:00	<b>Acoustic events detected during tensile testing of TWIP steels</b> <i>G. Por*, G. Csicsó, Z. Danko, G. Manhertz, P. Bereczki, G. Gardonyi, V. Szombathelyi, P. Trampus, B. Vero; *College of Dunaújváros, Dunaújváros, Hungary</i>
16:20	<b>Multilevel Analysis of Continuous AE from Helicopter Gearbox</b> <i>M. Chlada*, Z. Prevorovsky, J. Hermanek, J. Krofta; *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic</i>
16:40	<b>Utilization of Non-Destructive Methods for Monitoring Fatigue Crack Growth in Power Plant Material</b> <i>V. Koula, J. Volak, F. Vlašic*, M. Dráb, T. Slunecko; *Brno University of Technology, Faculty of Mechanical Engineering, Brno, Czech Republic</i>
17:00	<b>Remote Monitoring of Offshore Structures using Acoustic Emission.</b> <i>D. Duthie*, F. Gabriels; *TUV Rheinland Sonovation, Aberdeen, United Kingdom</i>
17:20	<b>Acoustic Emission noise sources during storage tank floor corrosion tests.</b> <i>D. Duthie*, F. Gabriels; *TUV Rheinland Sonovation, Aberdeen, United Kingdom</i>

## 9. Acoustic Emission II

Tuesday 7. Oct 09:00 - 10:40  
Club H

09:00	<b>Application of Acoustic Emission signature for the Assessment of Wind Turbine drive train</b> <i>J. Jimenez Garrido; TWI Ltd, Great Abington, United Kingdom</i>
09:20	<b>Real Time &amp; Long Term Acoustic Emission Monitoring: A new way to use Acoustic Emission - Application to Hydroelectric Penstocks and Paper Machine</b> <i>J. Catty*, P. Bryla, H. Walaszek; *CETIM, Senlis, France</i>
09:40	<b>The importance of acoustic emission method in the evaluation of durability of rolling contact</b> <i>L. Nohal*, L. Komenda, J. Dvoracek, P. Mazal; *Brno University of Technology, Brno, Czech Republic</i>
10:00	<b>Acoustic emission source localisation in thin plates through a dispersion compenstation approach</b> <i>K. Grabowski*, M. Gawroński, W. Staszewski, T. Uhl, W. Spychalski, I. Baran, P. Paćko; *Akademia Górniczo-Hutnicza w Krakowie, Kraków, Poland</i>

## 10. Visual / Optical (VT) and Penetrant Testing (PT), Leak Testing (LT)

Wednesday 8. Oct 11:00 - 13:00

Club C

- |       |   |
|-------|---|
| 11:00 | <b>Technological Status of UV-A-LED Techniques - Application in Magnetic Particle and Penetrant Inspection</b><br><i>R. Link*, N. Riess; *Unternehmensberatung Dr. Rainer Link, Kerpen, Germany</i>                                   |
| 11:20 | <b>New spheres of non-destructive penetrant testing method's application</b><br><i>M. Kazakevych*, O. Semenets, V. Derecha, V. Kazakevych; *Institute of Physical chemistry National academy of science of Ukraine, Kiev, Ukraine</i> |
| 11:40 | <b>Minimization of impacts on the user's health and the environment by PT and MT consumables</b><br><i>K. Lessmann; Pfinder KG, Boeblingen, Germany</i>   |
| 12:00 | <b>High-Speed Process Visualization Using Metal Vapor Brightness Amplifiers</b><br><i>F. Gubarev*, G. Evtushenko, M. Trigub, D. Shiyanov, S. Torgaev; *Tomsk Polytechnic University, Tomsk, Russia</i>                                |
| 12:20 | <b>Differentiation of 3D scanners and their positioning method when applied to pipeline integrity</b><br><i>P. Allard; CREAFORM, Levis, Canada</i>  |
| 12:40 | <b>Qualification, specification and standardization of UV-LED-Source for fluorescent magnetic particle and penetrant inspection</b><br><i>M. Breit; RIL-CHEMIE Marc Breit, Kleinblittersdorf, Germany</i>                             |
| 13:00 | <b>Endoscopic Fluorescent Penetrant Inspection ( FPI)</b><br><i>J. Lemoal*, M. Allouard; *Snecma, Moissy-Cramayel, France</i>   |

<b>11. Infrared Testing, Thermography, and Thermal NDT</b>	
Thursday 9. Oct 09:00 - 18:00	
Panorama Hall	
09:00	<b>Fast online near infrared technique to predict modulus of elasticity and moisture content of sawn lumber</b> <i>S. Tsuchikawa*</i> , <i>H. Kobori</i> , <i>T. Inagaki</i> , <i>T. Fujimoto</i> ; *Nagoya University, Nagoya, Japan
09:20	<b>Improvement of detectability of defects using infrared pulse phase thermography</b> <i>H. Kitamura*</i> , <i>M. Ishikawa</i> , <i>H. Hatta</i> ; *Tokyo University of Science, Tokyo, Japan
09:40	<b>Inspection of CFRP laminates using phase-transformed induction heating thermography</b> <i>M. Ishikawa*</i> , <i>Y. Shiiya</i> , <i>Y. Kogo</i> , <i>H. Hatta</i> , <i>Y. Habuka</i> , <i>R. Fukui</i> , <i>S. Utsunomiya</i> ; *Tokyo University of Science, Tokyo, Japan
10:00	<b>Infrared thermography to monitor thermoplastic composites under load</b> <i>C. Meola*</i> , <i>G. Carlomagno</i> , <i>S. Boccardi</i> , <i>G. Simeoli</i> , <i>D. Acierno</i> , <i>P. Russo</i> ; *University of Naples Federico II, Napoli, Italy
10:20	<b>Pulsed Eddy Current Thermography for Defects Detection in Joints of Metal Sheets</b> <i>W. Swiderski</i> ; Military Institute of Armament Technology, ZIELONKA, Poland
11:00	<b>Validation of active thermography techniques for the characterization of CFRP structures</b> <i>C. Maierhofer*</i> , <i>P. Myrach</i> , <i>M. Röllig</i> , <i>H. Steinfurth</i> ; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany
11:40	<b>Comparison between Induction Thermography and Conventional NDT Methods for Forged Parts</b> <i>P. Bouteille*</i> , <i>G. Legros</i> , <i>H. Walaszek</i> ; *CETIM, Senlis, France
12:00	<b>Design of and practical experience with a thermographic crack checking system using laser heating</b> <i>G. Traxler*</i> , <i>P. Thanner</i> , <i>P. Meyer-Heje</i> ; *PROFACTOR GmbH, Steyr-Gleink, Austria
12:20	<b>Eddy Current Thermography: Crack Detection and Characterisation of Ferromagnetic Welded Samples</b> <i>I. Zainal Abidin*</i> , <i>A. Hamzah</i> ; *Malaysian Nuclear Agency, Bangi, Malaysia
12:40	<b>Contactless thermal parameters characterization based on infrared image methods: Uncertainly improvement of flash method for thin samples.</b> <i>S. Sánchez-Carballido*</i> , <i>C. Justo-Maria</i> , <i>F. López</i> ; *Universidad Carlos III de Madrid, Leganes, Spain

<b>11. Infrared Testing, Thermography, and Thermal NDT</b>	
Thursday 9. Oct 09:00 - 18:00 Panorama Hall	
14:00	<b>Evaluating the local constitutive behaviour of friction stir welded copper – stainless steel joints using Digital Image Correlation and Infrared Thermal Imaging</b> <i>K. Srinivas*, S. Ramachandran, L. Ak, S. Nagarajan, B. Venkataraman; *SSN College of Engineering, Kalpakkam, India</i>
14:20	<b>Study of time and wavelength filters in pulsed thermography using flash lamp excitation</b> <i>A. Runnemalm*, P. Broberg; *University West, Trollhättan, Sweden</i>
14:40	<b>The Application of PEC Thermography to Multiple Surface Defects Detection of Metal Material</b> <i>J. Xie*, C. Xu, N. Zhou, W. Huang, G. Chen; *China University of Petroleum (East China), Qingdao, China</i>
15:00	<b>Infrared thermographic nondestructive testing of defects between aluminium panel and foam core</b> <i>Y. Liu*, G. Guo; *Beijing Institute of Aeronautical Materials, Beijing, China</i>
15:20	<b>On-site detection of defective wind turbine rotor blades with thermography</b> <i>M. Doroshtnasir*, T. Worzewski, R. Krankenhagen, C. Maierhofer, M. Röllig, H. Steinfurth; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
16:00	<b>Study of Heat Transferring on Composite Cylinder Damage Thermography Inspection</b> <i>Y. Yu*, G. Shen, J. Qian, Z. Wu; *China Special Equipment Inspection and Research Institute, Beijing, China</i>
16:20	<b>The numerical modeling and the infrared thermography applied to the detection of fluids nature in pipes.</b> <i>S. Belattar*, A. Elamiri, S. Sahnoun; *Cadi Ayyad University, Faculty of Sciences, Marrakech, Morocco</i>
16:40	<b>Time-Dependent Thermographic Material Characterization</b> <i>S. Shepard; Thermal Wave Imaging, Inc., Ferndale, USA</i>
17:00	<b>Simulation of Non-destructive Testing on Weld Surface Crack of Metal Structure by Electromagnetically Stimulated Infrared Thermography</b> <i>H. Liu; Wuhan University of Technology, Wuhan, China</i>

## 12. Eddy Current and Electromagnetic Testing

Thursday 9. Oct 09:00 - 15:40

Club E

09:00	<b>Invariant parameter for eddy current coil efficiency estimation</b> <i>V. Uchanin; Promprylad LLC, Kiev, Ukraine</i>
09:20	<b>Eddy Current Imaging Using Array Probes</b> <i>G. Mook*, Y. Simonin; *Otto-von-Guericke University Magdeburg, Magdeburg, Germany</i>
09:40	<b>The Modern State of Eddy Current Testing in Russia</b> <i>A. Efimov*, A. Shubochkin; *JSC RII Spectrum, Moscow, Russia</i>
10:00	<b>Reduction of lift-off effect for pulsed eddy current testing based on equivalent magnetic circuit model analysis</b> <i>J. Li*, X. Wu, Q. Zhang, D. Deng; *Huazhong University of Science and Technology, Wuhan, China</i>
10:20	<b>Developing New Generation ECT Flaw Detectors to meet Client Needs</b> <i>J. Hansen; ETHER NDE, Harpenden, United Kingdom</i>
11:00	<b>Detection of Surface and Subsurface Defects in Ferrous Steel Components and New Inspection Technologies Development</b> <i>G. Nardoni*, V. Uchanin, P. Nardoni, D. Nardoni; *I&amp;T Nardoni Institute, Brescia-Folzano, Italy</i>
11:20	<b>New developments in the use of flexible PCB-based eddy current array probes for the surface inspection of welds and pipes</b> <i>A. Lamarre; Olympus NDT, Quebec, Canada</i>
11:40	<b>Development of Flexible Eddy Current Probes for the Inspection of Nuclear Components</b> <i>J. Decitre*, B. Marchand, T. Sollier, G. Cattiaux; *CEA LIST, Gif-sur-Yvette, France</i>
12:00	<b>Development of multichannel computer-aided testing systems based on eddy current method application</b> <i>A. Opanasenko*, V. Uchanin, V. Mishchenko; *Scientific and Production Company "Promprylad", Kiev, Ukraine</i>
12:20	<b>Electromagnetic thickness measurement of coatings. Situation and prospects.</b> <i>V. Syasko*, A. Polacek; *NDT1 KRAFT Ltd., Prague, Czech Republic</i>
12:40	<b>A new coating thickness measuring instrument based on eddy current sensor</b> <i>Y. Fu*, H. Xiao, H. Meng, X. Wang, H. Bai, H. Yu; *Chinese Academy of Inspection and Quarantine, Beijing, China</i>

## 12. Eddy Current and Electromagnetic Testing

Thursday 9. Oct 09:00 - 15:40

Club E

14:00	<b>Assessment of microstructural changes in Grade 91 power station tubes through permeability and magnetic Barkhausen noise measurements</b> <i>J. Wilson*, J. Liu, N. Karimian, C. Davis, A. Peyton; *The University of Manchester, Manchester, United Kingdom</i>
14:20	<b>Location of buried water pipes using evanescent electromagnetic waves</b> <i>A. Savin*, N. Iftimie, G. Dobrescu; *National Institute of Research and Development for Technical Physics, Iasi, Romania</i>
14:40	<b>Barkhausen noise technique for Non-destructive characterization of mechanical components</b> <i>H. Walaszek*, F. Zhang, C. Gos; *CETIM, Senlis, France</i>
15:00	<b>Detection of imperfections on internal surface of super-duplex stainless steel tubes designated for oil and gas exploration by means of eddy current method</b> <i>M. Bohacova; INDETEC ndt, Chomutov, Czech Republic</i>
15:20	<b>Improved repeatability testing with segmented encircling coils</b> <i>M. Böcker; Institut Dr. Foerster, Reutlingen, Germany</i>



<b>13. Magnetic Testing</b> Wednesday 8. Oct 14:00 - 18:00 Club E	
14:00	<b>Energy Diagnostics - is a physical basis of the Metal Magnetic Memory Method</b> <i>A. Dubov*, A. Dubov; *Energoagnostika Co. Ltd, Reutov, Moscow region, Russia</i>
14:20	<b>Tensile Testing of Steel Specimens Using the Metal Magnetic Memory Method</b> <i>A. Dubov*, A. Dubov, P. Ladanyi; *Energoagnostika Co. Ltd, Reutov, Moscow region, Russia</i>
14:40	<b>On the Feasibility of Magnetic Diagnostics of the Stress State in a Two-Layer Ferromagnet Consisting of Components with Different Magnetostriction Signs</b> <i>E. Gorkunov*, Y. Subachev, A. Povolotskaya, S. Zadvorkin; *Institute of Engineering Science, RAS (UB), Ekaterinburg, Russia</i>
15:00	<b>Monitoring magnetic anisotropy in cold-rolled steels by magnetic barkhausen noise method</b> <i>C. Gur*, F. Akcaoglu; *Middle East Technical University, Ankara, Turkey</i>
15:20	<b>Estimation of Residual Stress Profile by Magnetic Barkhausen Noise in Machined Steel Studying Different Frequency Bands</b> <i>A. Lasaosa*, K. Gurruchaga, A. Martínez-de-Guerenu, F. Arizti; *CEIT and Tecnun (University of Navarra), San Sebastián, Spain</i>
16:00	<b>Practical application of Magnetic Memory Method and comparison with Acoustic Emission and Ultrasonic Method</b> <i>V. Svoboda; Preditest, Prague, Czech Republic</i>
16:20	<b>Analysis of the Stress Concentration Zones for the Elements of Machines and Structures Using the Metal Magnetic Memory Method</b> <i>J. Juraszek*, A. Grzywa; *University of Bielsko-Biala, Bielsko-Biala, Poland</i>
16:40	<b>Bluetooth communication controlled magnetic inspection system for wire rope</b> <i>R. Md Supar; Universiti Teknologi Malaysia, Johor Bahru, Malaysia</i>
17:00	<b>Principle of the steel cable tension measurement based on spatial magnetic field distributions</b> <i>D. Deng*, X. Wu; *Huazhong University of Science and Technology, Wuhan, China</i>
17:20	<b>Combination of magnetic flux leakage and magnetostrictive guided wave testing method for flaws of Ferris wheel cables</b> <i>X. Wu*, P. Sun, G. Shen; *Huazhong University of Science and Technology, Wuhan, China</i>
17:40	<b>Magnetic Non-Destructive Testing with Controllable Magnetization Waveform</b> <i>A. Stupakov; Institute of Physics ASCR, Prague, Czech Republic</i>
18:00	<b>Experimental Study on Characteristic of Metal Magnetic Memory Signal for Gear Tooth during Fatigue Test</b> <i>D. Yang; National University of Defense Technology, Changsha, China</i>

## 14. Magnetoresistance Methods (MR, GMR) and Magnetic Sensors

Monday 6. Oct 14:00 - 18:00

Club C

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|-------|--|
| 14:00 | <b>Magneto Sensors in Non-Destructive Testing – A Journey through history</b><br><i>M. Kreutzbruck; BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 14:40 | <b>MR-based eddy current probe design for hidden defects detection</b><br><i>M. Pelkner*, T. Erthner, V. Reimund, M. Kreutzbruck, N. Sergeeva-Chollet; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 15:00 | <b>A CMOS ASIC for Precise Reading of a Magnetoresistive Sensor Array for NDT</b><br><i>D. Caetano*, M. Piedade, J. Fernandes, T. Costa, J. Graça, L. Rosado; *INESC-ID, IST, Lisbon, Portugal</i>   |
| 15:20 | <b>Intrinsic noise study of Eddy current probes based on magnetoresistive sensors</b><br><i>N. Sergeeva-Chollet*, C. Fermon, J. Decitre, F. Cardoso, R. Ferreira, S. Cardoso, P. Freitas; *CEA LIST, Gif-sur-Yvette, France</i>  |
| 16:00 | <b>Results of MR based ET probes for buried flaw detection over different metallic materials</b><br><i>B. Ribes Sáez*, N. Sergeeva-Chollet, F. Cardoso, L. Bragado, C. Fermon, S. Cardoso, P. Freitas, M. Piedade, L. Rosado; *TECNATOM, S.A., San Sebastian de los Reyes, Spain</i> |
| 16:20 | <b>Self-magnetic-leakage field detection using GMR sensor technology</b><br><i>R. Stegemann*, N. Sonntag, M. Kreutzbruck, B. Skrotzki; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 16:40 | <b>Examination of surface flaw detection by eddy current technique using Magneto-Impedance sensors</b><br><i>A. Tsuda*, J. Kim, T. Izawa, K. Inagaki, H. Hatanaka; *IHI Corporation, Yokohama, Japan</i>   |
| 17:00 | <b>Detection of microdimensional defects in titanium using magnetic tunnel junction sensors</b><br><i>L. Rosado*, F. Cardoso, F. Franco, R. Ferreira, E. Paz, S. Cardoso, P. Ramos, P. Freitas, M. Piedade; *INESC-ID, Lisbon, Portugal</i>  |
| 17:20 | <b>GMR Multilayer Sensor System for Nondestructive Testing of Magnetic Defects</b><br><i>M. Bürkle, H. Grimm, J. Paul*; *Sensitec GmbH, Mainz, Germany</i>   |
| 17:40 | <b>Detection of hidden defects in thin steel plates using GMR sensor arrays</b><br><i>M. Pelkner*, T. Erthner, R. Pohl, M. Kreutzbruck, C. Commandeur; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 18:00 | <b>Highly Sensitive InGaAs-AlGaAs-GaAs 2DEG Quantum Well Hall Effect Integrated Circuits</b><br><i>M. Sadeghi*, M. Missous; *The University of Manchester, Manchester, United Kingdom</i>  |

<b>15. Radiology and Radiographic Testing, Radiation Protection</b>	
Thursday 9. Oct 09:00 - 18:00 Club A	
09:00	<b>Minimum Requirements for Digital Radiography Equipment and Measurement Procedures by Different Industries and Standard Organizations</b> <i>U. Ewert*, U. Zscherpel; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
09:40	<b>High-Voltage Transmission Line and SF6 Gas-Insulated Substations Inspection Using Computed Radiography</b> <i>E. Lins*, A. Ferreira, G. Almeida; *BB&amp;E ENGENHARIA E CONSULTORIA, Salvador, Brazil</i>
10:00	<b>Evaluation of influencing factors in dual energy X-ray imaging</b> <i>A. Ennen*, J. Mühlbauer, M. Firsching, D. Bierl, M. Schmitt, V. Voland; *Fraunhofer IIS (EZRT), Fürth, Germany</i>
10:20	<b>High Energy Digital Radiography for Technical and Civil Applications</b> <i>B. Redmer*, S. Hohendorf, U. Ewert; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
11:00	<b>Digital Radiology with Photon Counting Detectors</b> <i>U. Zscherpel*, D. Walter, B. Redmer, U. Ewert, C. Ullberg, N. Weber, T. Pantsar; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
11:20	<b>X-ray dark field imaging</b> <i>A. Kupsch*, M. Hentschel, A. Lange, B. Müller; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
11:40	<b>Dual and Multi-energy Radiography for CFRP Composites Inspection</b> <i>M. Tartare, V. Rebuffel*, N. Ducros, L. Verger; *CEA, Grenoble, France</i>
12:00	<b>Multi-energy X-ray Techniques for NDT: a New Challenge</b> <i>V. Rebuffel*, M. Tartare, A. Brambilla, V. Moulin, L. Verger; *CEA, Grenoble, France</i>
12:20	<b>Imaging Plate Design and Use for Radiographic Nondestructive Evaluation</b> <i>J. Roussilhe*, E. Fallet, B. White; *Carestream Health France, Fragnes, France</i>
12:40	<b>New Inspection Systems Based on the Registration of the Backscattered X-rays</b> <i>A. Bukley, V. Klyuev, I. Parshin*; *ZAO "RII-MSIA "Spectrum", Moscow, Russia</i>

<b>15. Radiology and Radiographic Testing, Radiation Protection</b>	
Thursday 9. Oct 09:00 - 18:00 Club A	
14:00	<b>A new Computed Radiography system covering Corrosion to Weld NDT applications, performance assessment according international standards ISO 17636-2</b> <i>P. Willems*, M. Sauerschnig; *GE Measurement &amp; Control, Berchem, Belgium</i>
14:20	<b>Simulation of computed radiography x-ray imaging chain dedicated to complex shape objects</b> <i>M. Yao*, P. Duvauchelle, V. Kaftandjian, A. Peterzol-Parmentier, A. Schumm; *INSA-Lyon, Villeurbanne, France</i>
14:40	<b>Direct X-ray refraction of micro structures</b> <i>A. Kupsch*, A. Lange, M. Hentschel, G. Bruno, B. Müller; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
15:00	<b>A comparative study on the performance of digital detector systems for high energy applications</b> <i>A. Schumm*, N. Wrobel, B. Redmer, U. Zscherpel, U. Ewert, S. Kolkoori; *EDF, Clamart, France</i>
15:20	<b>Non Destructive Quantitative Dopant Profiling Technique by X Ray Radiography: Dopant Model – Method Capability</b> <i>A. Choux*, C. Hermerel, D. Tisseur, L. Jeannot, V. Vrunet; *CEA, Is sur Tille, France</i>
16:00	<b>Hybrid parallelization of computing the electron fluxes produced by photon radiation</b> <i>M. Zhukovskiy*, S. Podolyako, R. Uskov; *Keldysh Institute for Applied Mathematics of RAS, Moscow, Russia</i>
16:20	<b>TDI – based solution for Industrial X-Ray NDT Inspection</b> <i>M. Iovea*, M. Neagu, B. Stefanescu, G. Mateiasi, I. Nicholson, A. Clarke; *Accent Pro 2000 S.R.L., Bucharest, Romania</i>
16:40	<b>Validation of Procedures for Welding Inspection Using Computed Radiography</b> <i>D. Oliveira*, J. Nascimento, A. Machado, M. Aiub, C. Marinho, J. Hohemberger, E. Iguchi, R. Lopes; *Federal University of Rio de Janeiro - UFRJ, Rio de Janeiro, Brazil</i>

## 16. Computed Tomography I

Monday 6. Oct 14:00 - 18:00

Club B

14:00	<b>New Directions in X-ray Tomography</b> <i>R. Kaufmann*, A. Flisch, M. Griffa, S. Hartmann, I. Jerjen, T. Lüthi, A. Neels, M. Plamondon, F. Reifler, P. Schütz, C. Stritt, F. Yang, L. Yu, A. Dommann; *EMPA, Swiss Federal Laboratories for Material Science and Technology, Dübendorf, Switzerland</i>
14:40	<b>Methods for quantitative characterization of large-scale high energy computed tomography systems</b> <i>M. Böhnel*, A. Gruber, N. Reims; *Fraunhofer IIS (EZRT), Fürth, Germany</i>
15:00	<b>Computed Tomography Systems with 600 kV and its Application in Various Fields of Industry</b> <i>C. Sauerwein*, M. Krumm, G. Knupe, S. Genot; *RayScan Technologies GmbH, Meersburg, Germany</i>
15:20	<b>Beam hardening correction in x-ray computed tomography: A comparison of two iterative model-based reconstruction methods</b> <i>K. Dremel*, T. Fuchs, R. Hanke, M. Firsching; *Universität Würzburg, Würzburg, Germany</i>
16:00	<b>Industrial Production Process Control with Advanced Cone Beam and Helix Computed Tomography and Implementation of the first Gantry Based Serial Fast CT Scanner at the Volkswagen Foundry Hannover</b> <i>O. Brunke, F. Hansen, F. Jeltsch, E. Neuser*, R. Rösch; *GE Measurement &amp; Control, Wunstorf, Germany</i>
16:20	<b>Methods to ensure accuracy and reliability of analyses and measurements done on CT data-sets</b> <i>S. Rieth-Hoerst, C. Reinhart, T. Guenther, J. Fieres, S. Gondrom*, T. Dierig; *Volume Graphics GmbH, Heidelberg, Germany</i>
16:40	<b>Fully automated in-line 3D CT inspection – example on the basis of an integration into an aluminum-casting production</b> <i>S. Gondrom*, T. Guenther, F. Jeltsch, F. Hansen; *Volume Graphics GmbH, Heidelberg, Germany</i>
17:00	<b>Computed Tomography &amp; 3D Metrology - Application of the VDI/VDE Directive 2630 and Optimization of the CT system</b> <i>E. Neuser*, A. Suppes; *GE Measurement &amp; Control, Wunstorf, Germany</i>
17:20	<b>Comparison of 450kV microfocus X-ray 2D CT scans with higher energy microfocus 3D CT scans</b> <i>A. Ramsey*, C. Rudolf; *Nikon Metrology NV, Tring, United Kingdom</i>
17:40	<b>High energy industrial CT reconstruction method of curved linear array detector</b> <i>H. Chen; Institute of Applied Electronics, China Academy of Engineering Physics, Mianyang, China</i>

## 16. Computed Tomography II

Tuesday 7. Oct 09:00 - 15:40

Club B

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|-------|---|
| 09:00 | <b>Detection of non-metallic inclusions in steel by X-ray computed tomography and after fatigue testing</b><br><i>C. Gusenbauer, M. Reiter, J. Kastner*, G. Kloesch; *University of Applied Sciences Upper Austria, Wels, Austria</i>   |
| 09:20 | <b>Challenges of X-ray Tomography Technique on Natural Fibre-Based Composites</b><br><i>F. Bensadoun*, M. Barburski, I. Straumit, N. Le Quan, C. Fuentes Rojas, J. Zenina, O. Shishkina, G. Pyka, M. Wevers, I. Verpoest, A. Van Vuure, S. Lomov; *KU Leuven, Leuven, Belgium</i> |
| 09:40 | <b>Quantitative Assessment of Scattering Contributions in MeV-Industrial X-Ray Computed Tomography</b><br><i>C. Stritt*, P. Schuetz, J. Hofmann, A. Flisch, U. Sennhauser; *EMPA, Swiss Federal Laboratories for Material Science and Technology, Dübendorf, Switzerland</i>      |
| 10:00 | <b>Progress towards high spatial resolution with large scale objects</b><br><i>V. Volland*, M. Schmitt, S. Reisinger, T. Wörlein, M. Salamon, W. Holub, U. Häbler; *Fraunhofer IIS (EZRT), Fürth, Germany</i>   |
| 10:20 | <b>Automatic determination of optimal CT measuring parameters for an unknown part</b><br><i>C. Kuhn*, M. Reiter, S. Schröpfer, S. Kasperl, D. Weiss, M. Erler; *Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen, Germany</i>   |
| 11:00 | <b>Non-destructive monitoring of multiphase hydrocarbon flow by high-speed gamma-ray tomography</b><br><i>G. Johansen, I. Meric*, R. Maad, E. Bruvik, B. Hjertaker, C. Sætre; *University of Bergen, Bergen, Norway</i>   |
| 11:20 | <b>Advanced Visualization and Exploration Techniques for Fiber Reinforced Polymers</b><br><i>J. Weissenböck*, A. Reh, D. Salaberger, C. Heinzl, J. Kastner; *University of Applied Sciences Upper Austria - Wels Campus, Wels, Austria</i>  |
| 11:40 | <b>CT simulation study to demonstrate material impact using hole plates</b><br><i>S. Kasperl*, R. Schielein, F. Sukowski, P. Hornberger, A. Gruber; *Fraunhofer IIS (EZRT), Fürth, Germany</i>  |
| 12:00 | <b>90 degree Compton scattering tomography</b><br><i>A. Lange*, M. Hentschel, A. Kupsch, N. Kardjilov, G. Jaenisch, C. Tötzke, H. Markötter, A. Hilger, I. Manke; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>                                  |
| 12:20 | <b>Beam attenuation grid-based scatter correction method for cone beam CT</b><br><i>D. Hu; Institute of Applied Electronics, China Academy of Engineering Physics, Mianyang, China</i>  |
| 12:40 | <b>Evaluating CT for metrology: the influence of material thickness on measurements</b><br><i>J. Schlecht*, E. Ferley, S. Coughlin, S. Phillips, V. Lee, C. Shakarji; *North Star Imaging, Rogers, USA</i>  |

## 16. Computed Tomography II

Tuesday 7. Oct 09:00 - 15:40  
Club B

14:00	<b>Reducing the influence of environmental scattering in industrial computed tomography by system modifications and correction algorithms</b> <i>P. Schuetz*, I. Jerjen, J. Hofmann, M. Plamondon, A. Flisch, U. Sennhauser;</i> <i>*EMPA, Swiss Federal Laboratories for Material Science and Technology, Dübendorf, Switzerland</i>
14:20	<b>GPU-accelerated Computed Laminography with Application to Non-destructive Testing</b> <i>C. Schorr*, L. Marsalek, J. Horacek, M. Maisl, P. Slusallek; *Fraunhofer IZFP, Saarbruecken, Germany</i>
14:40	<b>Use of Ultrasonic Tomography in the Evaluation of Timber Structures</b> <i>L. Perlin, R. Pinto*, A. Valle; *Federal University of Santa Catarina, Florianopolis, Brazil</i>
15:00	<b>Automation of a CT-Acquisition: A System-based User-Support</b> <i>B. Kratz*, F. Herold, M. Kurfiss; *YXLON International GmbH, Hamburg, Germany</i>

## 17. Terahertz Waves Testing

Friday 10. Oct 09:00 - 10:40  
Club A

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| 09:00 | <b>Ultrafast Pulsed Terahertz Sensing for Process Monitoring and Industrial Imaging</b><br><i>U. Schmidhammer*, P. Jeunesse, X. Neiers; *Université Paris Sud, CNRS, Orsay, France</i>                                  |
| 09:20 | <b>Evaluation of acid and alkali aqueous solution penetration in polymeric materials by Terahertz time-domain spectroscopy</b><br><i>M. Kusano*, M. Kubouchi, S. Aoki; *Tokyo Institute of Technology, Tokyo, Japan</i> |
| 09:40 | <b>Full polarimetric THz imaging system in comparison with infrared thermography</b><br><i>M. Nežadal*, J. Schür, L. Schmidt; *Friedrich-Alexander Universität Erlangen-Nürnberg (FAU), Erlangen, Germany</i>           |
| 10:00 | <b>THz FMCW Inspection of GFRP Composites: Comparison with Conventional NDT Techniques</b><br><i>J. Jonuscheit; Fraunhofer IPM, Kaiserslautern, Germany</i>   |
| 10:20 | <b>Overview and prospects in terahertz pulse-echo imaging technique applied to museum objects in practice</b><br><i>K. Fukunaga*, M. Picollo, Y. Kohdzuma; *National Institute of ICT, Tokyo, Japan</i>                 |
| 10:40 | <b>Remote detection of Corrosion Under Paint from distances greater than 5 metres</b><br><i>G. Diamond*, P. Kubasiak, K. Kyeyune; *Inspection Technologies Ltd, Royal Leamington Spa, United Kingdom</i>                |

## 18. Structural Health and Vibration Monitoring

Tuesday 7. Oct 16:00 - 18:00  
Club H

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| 16:00 | <b>Vibration Sensing technique for monitoring condition of ball/rolling bearings and gearboxes.</b><br><i>G. Zusman; PCB Piezotronics, Inc., Depew, USA</i>   |
| 16:20 | <b>Impact Damage Detection in Composites using Nonlinear Vibro-Acoustic Wave Modulations and Cointegration Analysis</b><br><i>P. Dao*, W. Staszewski, A. Klepka, F. Aymerich; *AGH University of Science and Technology, Kraków, Poland</i> |
| 16:40 | <b>Image Based Subpixel Techniques for Movement and Vibration Tracking</b><br><i>D. Mas, J. Espinosa*, A. Roig, B. Ferrer, J. Perez; *Universidad de Alicante, San Vicente del Raspeig, Spain</i>   |
| 17:00 | <b>Fractural Diagnosis of Reinforced Concrete Structure Using Piezo Sensor</b><br><i>S. Moharana; Shiv Nadar University, Dadri, India</i>   |



## 19. NDT Methods Based on Material Nonlinearity and Time Reversal Techniques

Thursday 9. Oct 14:00 - 18:00

Club D

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| 14:00 | <b>Simulation of Nonlinear Air-Coupled Emission from Defects</b><br><i>S. Delrue, K. Van Den Abeele*</i> ; *KU Leuven - Kulak, Kortrijk, Belgium   |
| 14:40 | <b>Acoustic wave focusing in complex media using Nonlinear Time Reversal coded signal processing</b><br><i>S. Dos Santos*, Z. Dvořáková, M. Lints, V. Kus, A. Salupere, Z. Prevorovsky;</i><br><i>*INSA Centre Val de Loire, Blois Campus, Blois, France</i>       |
| 15:00 | <b>Nondestructive inspection of concrete structures by nonlinear elastic wave spectroscopy methods</b><br><i>Z. Prevorovsky*, J. Krofta, J. Kober, M. Chlada;</i> *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic |
| 15:20 | <b>Ultrasonic resonance of defects for nonlinear acoustic imaging and NDT</b><br><i>I. Solodov;</i> University of Stuttgart, Institut für Kunststofftechnik, Stuttgart, Germany  |
| 16:00 | <b>Localization of closed cracks using multi-mode nonlinear resonance ultrasound spectroscopy</b><br><i>Y. Ohara*, B. Anderson, S. Hauptert, T. Ulrich, P. Le Bas, P. Johnson;</i> *Tohoku University, Sendai, Japan   |
| 16:20 | <b>Quick Simple and Sensitive Tomography by Nonlinear Ultrasonic Mixing Spectroscopy</b><br><i>K. Hajek*, V. Nenakhova;</i> *University of Defence, Brno, Czech Republic   |
| 16:40 | <b>Acoustic Modelling and Experimental Trials with Nonlinear Ultrasonic Testing of Friction Welded Components</b><br><i>F. Hagglund*, G. Asfis, G. Ptaszek;</i> *TWI Ltd, Cambridge, United Kingdom  |
| 17:00 | <b>Generation of Harmonics at a Real Fatigue Crack Interface</b><br><i>K. Chougrani*, L. Schröder;</i> *Applus RTD, Rotterdam, Netherlands   |
| 17:20 | <b>Simulation of Nonlinear Time Reversal wave propagation in carbon fibre reinforced polymer</b><br><i>M. Lints*, A. Salupere, S. Dos Santos;</i> *Institute of Cybernetics at Tallinn University of Technology, Tallinn, Estonia                                  |
| 17:40 | <b>Calibration of AE sensors using time reversal method</b><br><i>J. Kober*, Z. Prevorovsky;</i> *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic  |
| 18:00 | <b>Measurement of elastic nonlinear parameter in consideration of second harmonic frequency component of incident waves</b><br><i>S. Cho*, C. Park, D. Seo;</i> *Korea Research Institute of Standards and Science, Daejeon, South Korea                           |

<b>20. Novel and Non-traditional NDT Techniques</b>	
Monday 6. Oct 14:00 - 18:00	
Club E	
14:00	<b>Highly-sensitive and frequency-selective imaging of defects via local defect resonance</b> <i>I. Solodov*</i> , <i>M. Rahammer</i> , <i>N. Gulnizkij</i> ; *University of Stuttgart, Institut für Kunststofftechnik, Stuttgart, Germany
14:20	<b>Estimation of crack closure stress from ultrasonic phased array images during global preheating and local cooling (GPLC)</b> <i>Y. Ohara*</i> , <i>K. Takahashi</i> , <i>K. Jinno</i> , <i>K. Yamanaka</i> ; *Tohoku University, Sendai, Japan
14:40	<b>Characterization of small defects using total focusing method</b> <i>B. Dupont*</i> , <i>F. Berthelot</i> ; *CETIM, Senlis, France
15:00	<b>Ultrasonic Non-destructive Evaluation of Horizontal Planar Defects Using Time-of-Flight Diffraction</b> <i>S. Sodagar*</i> , <i>P. Bagheri</i> , <i>G. Rashed</i> ; *Abadan Faculty of Petroleum, Petroleum University of Technology, Abadan, Iran
15:20	<b>Water Detection and Quantification in Polymers Using a Non-destructive Microwave Technique</b> <i>E. Hernandez-Edo*</i> , <i>M. Hoffmann</i> , <i>M. Amkreutz</i> , <i>B. Mayer</i> ; *Fraunhofer IFAM, Bremen, Germany
16:00	<b>Micro surface defects detection by bacterial cells suspension</b> <i>T. Santos*</i> , <i>P. Inácio</i> , <i>A. Costa</i> , <i>P. Vilaça</i> , <i>R. Miranda</i> , <i>C. De Carvalho</i> ; *Faculdade de Ciências e Tecnologia - UNL, Caparica, Portugal
16:20	<b>Feasibility Testing of Nylon Propellers on Vehicle To Measure The Underwater Temperature Distribution</b> <i>D. Kotnise*</i> , <i>A. Davis</i> ; *Dr. T. Thimmaiah Institute of Technology, Kolar Gold Fields, India
16:40	<b>Monte Carlo X-ray Scattering Studies in the MeV Regime</b> <i>M. Kiunke*</i> , <i>R. Schielein</i> , <i>K. Dremel</i> , <i>S. Zabler</i> , <i>F. Sukowski</i> , <i>S. Kasperl</i> ; *University Wuerzburg, Wuerzburg, Germany
17:00	<b>Intermediate energy x-ray backscatter characteristics from the interaction with macroscopically thick layered media</b> <i>M. Esmaeili*</i> , <i>A. Sofiienko</i> , <i>G. Johansen</i> , <i>M. Holstad</i> , <i>D. Ponce</i> ; *Visuray AS, Randaberg, Norway
17:20	<b>The possibility of single crystal turbine blades inspection with laser ultrasound technique</b> <i>A. Zharinov*</i> , <i>A. Karabutov</i> , <i>V. Pyankov</i> ; *M.V.Lomonosov Moscow State University, Moscow, Russia
17:40	<b>A novel nondestructive testing method based on local contact stiffness detection</b> <i>J. Fu*</i> , <i>F. Li</i> ; *Peking University, Beijing, China

## 21. Materials Characterization - Metals

Wednesday 8. Oct 14:00 - 18:00

Club C

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|-------|--|
| 14:00 | <b>Exploring deformation mechanisms in magnesium alloys using in-situ neutron diffraction and acoustic emission techniques</b><br><i>K. Máthis*, J. Čapek; *Faculty of Mathematics and Physics, Charles University in Prague, Prague, Czech Republic</i>                           |
| 14:40 | <b>3D-microstructure characterization of thermomechanically treated Mg-alloys by high resolution X-ray computed tomography</b><br><i>J. Kastner*, S. Zaunschirm, G. Requena, S. Baumgartner, H. Pinto, G. Garces; *University of Applied Sciences Upper Austria, Wels, Austria</i> |
| 15:00 | <b>Progress in post weld residual stress evaluation using Barkhausen effect meter with novel rotating magnetic field probe</b><br><i>B. Augustyniak*, L. Piotrowski, M. Chmielewski, W. Kielczynski, K. Prokop; *Gdansk University of Technology, Gdansk, Poland</i>               |
| 15:20 | <b>Expert-System - Electromagnetic Intrinsic Properties and Microstructure of Steels</b><br><i>M. Seidel*, G. Dobmann, F. Glöckner, C. Götz; *imq Ingenieurbetrieb für Materialprüfung GmbH, Crimmitschau, Germany</i>   |
| 16:00 | <b>POD Evaluation of automated ultrasonic detection of hard alpha inclusions in titanium alloys</b><br><i>D. Lozhkova; FSUE "VIAM", Moscow, Russia</i>   |
| 16:20 | <b>Non-Destructive Characterization of II-VI hexagonal semiconductor compounds</b><br><i>P. Yadawa; Amity School of Engineering and Technology, New Delhi, New Delhi, India</i>  |
| 16:40 | <b>Magnetic Method of Continuous Inspection of Loads on Ship Hulls</b><br><i>V. Myroshnykov; Volodymyr Dahl East Ukrainian National University, Luhans'k, Ukraine</i>  |
| 17:00 | <b>Comparison study of correlative methods for express control of heating value of natural gas</b><br><i>T. Koturbash; KTH Royal Institute of Technology, Stockholm, Sweden</i>  |

## 22. Materials Characterization - Composites

Thursday 9. Oct 09:00 - 18:00  
Club C

09:00	<b>A Modular Approach to Non-Contact Ultrasonic Testing of Composites</b> <i>P. Holstein*, U. Heuert, H. Münch, M. Kiel; *SONOTEC Ultraschallsensorik Halle GmbH, Halle, Germany</i>
09:20	<b>Phased array data manipulation for damage tolerance assessment of composites using Finite Element analysis</b> <i>R. Freemantle*, S. Giannis, V. Matěják; *Wavelength NDT, Matlock, United Kingdom</i>
09:40	<b>Reconstruction Algorithm for Probabilistic Inspection of Damage (RAPID) in Composites.</b> <i>M. Tabatabaeipour, J. Hettler*, S. Delrue, K. Van Den Abeele; *KU Leuven - Kulak, Kortrijk, Belgium</i>
10:00	<b>High Speed Inspection of Composite Profiles</b> <i>G. Ithurralde*, V. Bissauge; *NDT EXPERT / Testia, Toulouse, France</i>
10:20	<b>Nondestructive testing of composite patch repairs</b> <i>L. Pieczonka*, W. Staszewski, T. Uhl, S. Pavlopoulou, C. Soutis; *AGH University of Science and Technology, Kraków, Poland</i>
11:00	<b>Access limited FRP structures NDT by through transmission velocimetric technique</b> <i>A. Generalov*, A. Boychuk, M. Dalin; *FSUE, Moscow, Russia</i>
11:20	<b>Broadband Laser-Ultrasonic Spectroscopy for Quantitative Evaluation of Porosity Effect on Acoustic Attenuation and Phase Velocity in CFRP Composites</b> <i>N. Podymova*, A. Karabutov, I. Belyaev; *M.V. Lomonosov Moscow State University, Moscow, Russia</i>
11:40	<b>Three-dimensional fibre-orientation characterisation in monolithic carbon-fibre composites</b> <i>L. Nelson, R. Smith*; *University of Bristol, Bristol, United Kingdom</i>
12:00	<b>3D characterisation of GLARE and other fibre-metal laminates</b> <i>I. Veres, R. Smith*; *University of Bristol, Bristol, United Kingdom</i>
12:20	<b>Impact damaging of carbon fibre reinforced composites: a comparison between infrared thermography and ultrasonics</b> <i>C. Meola*, S. Boccardi, N. Boffa, M. Di Palma, L. Maio, G. Carlomagno; *University of Naples Federico II, Napoli, Italy</i>

<b>22. Materials Characterization - Composites</b>	
Thursday 9. Oct 09:00 - 18:00 Club C	
14:00	<b>Validated Inspection Techniques for Composites in Energy Applications (VITCEA)</b> <i>L. Knazovicka*</i> , <i>A. Blahut</i> , <i>M. Gower</i> , <i>M. Lodeiro</i> , <i>C. Maierhofer</i> , <i>G. Brekow</i> , <i>C. Monte</i> , <i>S. Mahaut</i> ; *Czech Metrology Institute, Brno, Czech Republic
14:20	<b>Detection of delamination in thermoplastic CFRP weld parts using eddy current testing and induction heating</b> <i>K. Mizukami*</i> , <i>Y. Mizutani</i> , <i>A. Todoroki</i> , <i>Y. Suzuki</i> ; *Tokyo Institute of Technology, Tokyo, Japan
14:40	<b>Further development of an Optimised Array wheel probe for Inspection of Fibre Glass Composites</b> <i>J. Buckley*</i> , <i>J. Turcotte</i> ; *Sonatest Ltd, Milton Keynes, United Kingdom
15:00	<b>Reliable Automated NDT for Wind Rotor Blades</b> <i>S. Nielsen*</i> , <i>M. Troedsson</i> , <i>O. Olsdal</i> , <i>L. Jeppesen</i> ; *FORCE Technology, Brøndby, Denmark
15:20	<b>Acoustic-Laser Vibrometry for Standoff Detection of Defects in Materials</b> <i>O. Buyukozturk*</i> , <i>J. Chen</i> , <i>T. Emge</i> , <i>R. Haupt</i> ; *Massachusetts Institute of Technology, Cambridge, USA
16:00	<b>Characterization of damage mechanisms in glass fibre reinforced polymers using X-ray computed tomography</b> <i>D. Salaberger*</i> , <i>M. Arikan</i> , <i>T. Paier</i> , <i>J. Kastner</i> ; *FH OOE Forschungs & Entwicklungs GmbH, Wels, Austria
16:20	<b>Evaluation and Visualisation of Shape Factors in Dependence of the Void Content within CFRP by Means of X-ray Computed Tomography</b> <i>B. Plank*</i> , <i>G. Mayr</i> , <i>A. Reh</i> , <i>D. Kiefel</i> , <i>R. Stoessel</i> , <i>J. Kastner</i> ; *University of Applied Sciences Upper Austria, Wels, Austria
16:40	<b>Ultrasonic and Thermographic Analysis of Composite Adhesive Joints Subjected to Accelerated Aging</b> <i>R. Tamborrino*</i> , <i>P. Aversa</i> , <i>A. Tati</i> , <i>V. Luprano</i> , <i>U. Galietti</i> , <i>D. Palumbo</i> ; *ENEA, Brindisi, Italy
17:00	<b>Advanced composites design and ndt evaluation for high volume manufacturing</b> <i>M. Kireitseu</i> ; Cytec Composites, CORBY, United Kingdom

## 23. Materials Characterization - Polymers, Wood and Ceramics

Friday 10. Oct 09:00 - 10:40  
Club C

- 09:00 **NDT Applications for Raw Materials of Wood-Plastic Composites and Other Wood Based Products**  
*M. Tiitta; Univeristy of Eastern Finland, Kuopio, Finland*
- 09:20 **Thickness evaluation of mesoporous silicon layer using ultrasonic method**  
*J. Bustillo\*, J. Fortineau, M. Lethiecq; \*GREMAN, UMR 7347, université François Rabelais de Tours, Blois, France*
- 09:40 **Ageing Effects, Continuous Quality Control and Repair of Fibre-reinforced Thermoplastic Materials**  
*A. Toulitsis\*, R. Freemantle, V. Multane, V. Jha, J. Leyland, M. Roseman; \*Element Materials Technology, Hitchin, United Kingdom*

## 24. Structural Health Monitoring (SHM), Condition Monitoring and Maintenance (CM)

Tuesday 7. Oct 11:00 - 15:40  
Club H

- 11:00 **Big Data Fractal Analysis for Structural Health Monitoring**  
*V. Vengrinovich\*, V. Lykov; \*Institute of Applied Physics, Minsk, Belarus*
- 11:20 **Permanently installed guided-waves-based liquid level sensors for hermetically sealed tanks**  
*L. Ambrozinski\*, M. Lisowski, T. Stepinski, T. Uhl; \*AGH University of Science and Technology, Kraków, Poland*
- 11:40 **Production and in-service inspection of panels, skin, and other products made of different materials (aluminum sheets, plastics) used for aerospace engineering.**  
*A. Samokrutov, V. Shevaldykin, S. Alekhin, V. Suvorov\*; \*Acoustic Control Systems Ltd., Moscow, Russia*
- 12:00 **Ultrasonic monitoring of fatigue crack growth**  
*C. Nageswaran; TWI Ltd, Cambridge, United Kingdom*
- 12:20 **Toward Automated Interpretation of Integrated Information: Managing "Big Data" for Aerospace NDE**  
*S. Holland\*, E. Gregory, T. Lesthaeghe; \*Iowa State University, Ames, USA*

## 24. Structural Health Monitoring (SHM), Condition Monitoring and Maintenance (CM)

Tuesday 7. Oct 11:00 - 15:40  
Club H

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|-------|--|
| 14:00 | <b>Some Applications of Electromechanical Impedance Technology for SHM</b><br><i>V. Pavelko*, S. Kuznetsov, I. Ozolinsh, I. Pavelko; *Riga Technical University, Riga, Latvia</i>                                    |
| 14:20 | <b>Application of MFL Nondestructive Testing for Automated Rope Condition Monitoring</b><br><i>D. Slesarev*, V. Sukhorukov, A. Semenov; *INTRON PLUS, Moscow, Russia</i>   |
| 14:40 | <b>Modern Inspection Methodologies for RBI Programs of Atmospheric Storage Tanks</b><br><i>D. Papasalouros*, K. Bollas, N. Tsopeles, D. Kourousis, A. Anastasopoulos; *Mistras Group Hellas ABEE, Athens, Greece</i> |
| 15:00 | <b>Validation of Nondestructive Examination Methods for Turbine Field Service</b><br><i>S. Frank*, M. Clossen von Lancken-Schulz, M. Opheys, H. Rauschenbach; *Siemens AG, Mülheim, Germany</i>                      |
| 15:20 | <b>shM of steel structure on based of coercive force magnetic method</b><br><i>A. Pogorielov; "SHM-ingenierie", SASU, Metz, France</i>   |

## 25. Process Monitoring and Control

Thursday 9. Oct 11:00 - 13:00  
Club D

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| 11:00 | <b>Propagation of ultrasonic guided waves in solid waveguides used for process monitoring and control in extreme conditions</b><br><i>R. Kazys, E. Zukauskas, L. Mazeika, R. Raisutis*, R. Sliteris, A. Vladisauskas; *Kaunas University of Technology, Kaunas, Lithuania</i>              |
| 11:20 | <b>Advanced ultrasonic blade root examination</b><br><i>D. Agostinho*, J. Puybouffat; *Rotek Engineering, Johannesburg, South Africa</i>   |
| 11:40 | <b>Online Monitoring of Additive Manufacturing Processes Using Ultrasound</b><br><i>A. Dillhoefer, H. Rieder, M. Spies*, J. Bamberg, T. Heß; *Fraunhofer ITWM, Kaiserslautern, Germany</i>   |
| 12:00 | <b>New Phased-Array Ultrasonic Testing Gantry with Extended Testing Functions for Testing of Hot Rolled Seamless Steel Tubes and Pipes</b><br><i>C. Breidenbach*, S. Falter, R. Prause, E. Eufrazio, P. Bruschi, T. Würschig, R. Michel; *GE Measurement &amp; Control, Hürth, Germany</i> |
| 12:20 | <b>Online Material Characterisation at Strip Material, Report about a European funded Research project</b><br><i>M. Stolzenberg; Salzgitter Mannesmann Forschung GmbH, Salzgitter, Germany</i>   |
| 12:40 | <b>Dual energy radioscopia applied to waste sorting</b><br><i>F. Montagner, V. Kaftandjian*, P. Duvauchelle, N. Pedoussaut, A. Bourelly; *INSA-Lyon, Villeurbanne, France</i>  |

<b>26. NDT in Pressure Equipment, Pipelines and Welding</b>	
Wednesday 8. Oct 11:00 - 18:00	
Club D	
11:00	<b>Design of Pipelines for Guided Wave Testing (GWT)</b> <i>M. Evans*, T. Vogt; *Guided Ultrasonics Ltd, London, United Kingdom</i>
11:20	<b>Ultrasonic wall thickness monitoring of corroding pipework</b> <i>F. Cegla*, A. Gajdacs; *Imperial College London, South Kensington, United Kingdom</i>
11:40	<b>Fitness for Service of Cracked Valve on High Pressure Steam Line Header</b> <i>S. Purba; PT Badak NGL, Bontang, Indonesia</i>
12:00	<b>The Application of Guided Wave Inspection on Reducing the Risk of the Insulated Pipelines</b> <i>P. Lee*, C. Huang, J. Jeng, I. Tseng, S. Hung, C. Chen; *Taiwan Metal Quality Control Corporation, Kaohsiung, Taiwan, China</i>
12:20	<b>Simulation of the probability of detection of a flat-bottom hole within a pipe using ultrasounds</b> <i>O. Lazzari*, F. Deneuve, B. Bisiaux; *Vallourec Research Center France, Aulnoye Aymeries, France</i>
12:40	<b>A Novel PAUT System for On-Site Inspection of Welded Joints in Plastic (PE) Pipes</b> <i>F. Hagglund*, M. Robson, M. Troughton, W. Spicer, I. Pinson; *TWI Ltd, Cambridge, United Kingdom</i>
14:00	<b>Improved Inspection of CRA-Clad Pipeline Girth Welds with the Use of Accessible Advanced Ultrasonic Phased-Array Technology</b> <i>A. Lamarre; Olympus NDT, Quebec, Canada</i>
14:20	<b>Inspection of friction stir welds using triple array methods</b> <i>B. Van den Bos*, S. Axelsson, U. Ronneteg, T. Grybäck; *Exova Materials Technology AB, Linköping, Sweden</i>
14:40	<b>The Effect of Water Aging on Cured-In-Place Pipe (CIPP) Samples Using Non-Destructive Tests</b> <i>M. Manavipour*, J. Kurz, C. Sklarczyk, C. Boller; *Fraunhofer IZFP, Saarbruecken, Germany</i>
15:00	<b>Reliability Studies, a Tool in the NDT Development for the Canister for the Swedish Spent Nuclear Fuel</b> <i>U. Ronneteg*, M. Bertovic, M. Pavlovic, T. Grybäck; *SKB, Swedish Nuclear Fuel and Waste Management Co, Oskarshamn, Sweden</i>
15:20	<b>Ultrasonic Pipe Inspection with Conventional Transducers or Phased-Arrays? A Comparison Based on POD-Analysis Can Help</b> <i>T. Orth, M. Spies*; *Fraunhofer ITWM, Kaiserslautern, Germany</i>



<b>26. NDT in Pressure Equipment, Pipelines and Welding</b>	
Wednesday 8. Oct 11:00 - 18:00 Club D	
16:00	<b>Ultrasonic Multi-Skip Tomography for Pipe Inspection</b> <i>A. Volker*, T. Van Zon; *TNO, Delft, Netherlands</i>
16:20	<b>Developing and Improving Reliability of Phased Array Ultrasonic Testing for Inspection of Pressure Swing Adsorber Vessels</b> <i>M. Lozev; BP America, Naperville, USA</i>
16:40	<b>Comprehensive non-invasive heat exchanger tube inspection using dual-mode pulse reflectometry</b> <i>N. Amir*, Y. Harel; *AcousticEye, Houston, USA</i>
17:00	<b>Automatic inspection of metal body of gas pipelines with non-contact ultrasonic scanner-flaw detector A2075 «SoNet».</b> <i>A. Samokrutov, V. Shevaldykin, S. Alekhin, V. Suvorov*; *Acoustic Control Systems Ltd., Moscow, Russia</i>
17:20	<b>Application of LFM excitation on ultrasonic testing for austenitic stainless steel welds</b> <i>S. Cong*, T. Gang, J. Zhang; *Harbin Institute of Technology, Harbin, China</i>
17:40	<b>Inspection of Welds in Thin Structures</b> <i>J. Rudlin*, C. Carpentier, S. Majidnia; *TWI Ltd, Cambridge, United Kingdom</i>

<b>27. NDT in Transportation</b>	
Wednesday 8. Oct 16:00 - 18:00 Club A	
16:00	<b>Determination of Diameter and Thickness of Weld Nuggets in Resistance Spot Weldings by High Frequency Ultrasound Inspection</b> <i>F. Schubert*, R. Hipp, A. Gommlich; *Fraunhofer IKTS (MD), Dresden, Germany</i>
16:20	<b>Inspection of laser welded electrical connections for car batteries using eddy currents</b> <i>J. Rudlin*, P. De Bono, S. Majidnia; *TWI Ltd, Cambridge, United Kingdom</i>
16:40	<b>Non destructive testing for composites and adhesive bonding in automotive applications at AUDI</b> <i>M. Huppmann*, S. Schmidt, M. Sindel; *Audi AG, Neckarsulm, Germany</i>
17:00	<b>Evaluating Porosity in Cordierite Diesel Particulate Filter Materials: Advanced X-ray and new Statistical Analysis Methods.</b> <i>A. Kupsch, A. Lange, G. Bruno*, M. Hentschel, Y. Onel, T. Wolk, A. Staude, K. Ehrig, B. Müller; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
17:20	<b>Innovative Eddy Current Inspection on Lightweight Components</b> <i>G. Grzonkowski*, G. Schneibel; *Rohmann GmbH, Frankenthal, Germany</i>
17:40	<b>Development of Leak Tightness Requirements for Automotive Fuel System and Components for Recent Specifications and Best Practices.</b> <i>H. Sagi; Advanced Test Concepts (ATC), Inc., Indianapolis, USA</i>

<b>28. NDT in Aerospace</b> Wednesday 8. Oct 14:00 - 18:00 Club H	
14:00	<b>Nondestructive Testing and Characterization of Adhesive Joints</b> <i>M. Kreuzbruck*, C. Maierhofer, M. Gaal, J. Prager, D. Brackrock; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
14:20	<b>An approach for structural health monitoring of CFRP using aluminum foil sensors</b> <i>M. Burkov*, S. Panin, P. Lyubutin, A. Eremin; *National Research Tomsk Polytechnic University, Tomsk, Russia</i>
14:40	<b>Fast Scanning and Adaptive Beamforming: two innovative algorithms to improve ultrasonic inspections</b> <i>S. Hernandez Ruiz*, E. Cuevas; *TECNATOM, S.A., San Sebastian de los Reyes, Spain</i>
15:00	<b>Ultrasonic NDT of metal-composite joints</b> <i>E. Jasiuniene*, L. Mazeika, V. Samaitis, D. Mattsson; *Kaunas University of Technology, Kaunas, Lithuania</i>
15:20	<b>Damage detection in the composite aerospace structures based on embedded sensing</b> <i>K. Dragan*, M. Dziendzikowski, A. Kurnyta, A. Leski; *Air Force Institute of Technology, Warsaw, Poland</i>
16:00	<b>High-Frequency Eddy Current System for Analyzing Wet Conductive Coatings using Multi-frequency Algorithm</b> <i>I. Patsora*, S. Hillmann, H. Heuer, J. Calzada, B. Foos; *TU Dresden, Dresden, Germany</i>
16:20	<b>Thermal NDT of composites in the aero space industry: a quantitative approach</b> <i>V. Vavilov*, A. Chulkov, A. Chulkov; *Tomsk Polytechnic University, Tomsk, Russia</i>
16:40	<b>New X-ray Backscatter Imaging Technique for Nondestructive Testing of Aerospace Components</b> <i>S. Kolkoori*, N. Wrobel, U. Zscherpel, U. Ewert; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>
17:00	<b>Hw and Sw developments and solutions for obtaining a non-destructive inspection process automated, integrated and industrial</b> <i>E. Cuevas*, S. Hernandez Ruiz; *TECNATOM, S.A., San Sebastian de los Reyes, Spain</i>
17:20	<b>Design of Portable Leak Detector Used for Manned Spacecraft Based on Ultrasonic</b> <i>Y. Rongxin; BeiJing Institute of Spacecraft Environment Engineering, Beijing, China</i>
17:40	<b>Advances in automated high throughput fan beam CT for DICONDE-conform multi-wall turbine blade wall thickness inspection and 3D additive manufactured aerospace part CT inspection</b> <i>J. Luebbehuesen*, S. Telesz, O. Brunke; *GE Measurement &amp; Control, Wunstorf, Germany</i>

## 29. In-service Inspection (offshores, chemical / petrochemical industry)

Thursday 9. Oct 09:00 - 10:40

Club D

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|-------|--|
| 09:00 | <b>Outer Raceway Fault Detection and Localization for Deep Grove Ball Bearings by Using Thermal Imaging</b><br><i>R. Schulz*, M. Loccufier, S. Verstockt, K. Stockman, S. Van Hoecke; *Ghent University, Kortrijk, Belgium</i>   |
| 09:20 | <b>Visualization and Quantitative Evaluation of Stress Corrosion Cracks Using the Three-Dimensional Phased Array Ultrasonic Technique</b><br><i>S. Kitazawa*, N. Kono, H. Komuro, K. Ehara, Y. Nidaira, O. Kikuchi; *Hitachi, Ltd., Hitachi, Japan</i>   |
| 09:40 | <b>Multi-channel ultrasonic inspection of a mooring chain for fatigue cracks</b><br><i>J. Rudlin; TWI Ltd, Cambridge, United Kingdom</i>   |
| 10:00 | <b>Inspection of thin steel gauge welds for the shipping industry using laser guided inspection robot</b><br><i>G. Asfis*, C. Carpentier, D. Panggabean, C. Nageswaran, V. Papadimitriou, I. Reditis, P. Chatzakos, A. Chong, J. Ferrando Chacon, Z. Qu, V. Kappatos; *TWI Ltd, Great Abington, United Kingdom</i> |
| 10:20 | <b>Automated Detection Of Defects Signature in Pipelines Using Ultra Sonic Thickness Images</b><br><i>C. Fouquet, A. Histace*, P. Duvaut; *ETIS UMR 8051 CNRS, Cergy-Pontoise, France</i>  |

### 30. NDT in Power Generation I

Thursday 9. Oct 16:00 - 18:00  
Club E

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| 16:00 | <b>Investigation on the limits of ultrasonic analyse methods on dissimilar welds</b><br><i>G. Ahlers*, J. Ganswind, B. Gruhne, H. Bleher, T. Möhlenkamp; *E.ON Kernkraft GmbH, Hannover, Germany</i> |
| 16:20 | <b>Presentation of a system for AUT on pipelines and penstocks</b><br><i>S. Wolf; MISTRAS GROUP SA, Martigues, France</i>  |
| 16:40 | <b>Repair strategies based on UT examinations within WWER type NPP NDE issues with SCC occurrence</b><br><i>L. Horacek*, I. Buldra, P. Mareš; *ÚJV Řež, a.s., Husinec-Řež, Czech Republic</i>        |
| 17:00 | <b>Anisotropic welding structure's characterization for nuclear industry</b><br><i>I. Castro*, I. Aizpurua, I. Ayesta; *IK4-IDEKO, Elgoibar, Spain</i>   |
| 17:20 | <b>Ultrasonic production monitoring of small diameter ERW pipes</b><br><i>M. Macecek; Techno Scientific Inc., Concord, Canada</i>  |

### 30. NDT in Power Generation II

Friday 10. Oct 09:00 - 10:40  
Club E

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| 09:00 | <b>Nondestructive evaluation tightening effort steel bolts and studs in casing power plant equipment using the metal strain indicator IN-01m</b><br><i>R. Zagidulin, T. Zagidulin*; *"Spector" Sci-Tech Center Ltd., Ufa, Russia</i> |
| 09:20 | <b>Numerical Simulation of Ultrasonic Geometry Echoes for Inspection of VVER 440 SG Flange Thread Holes</b><br><i>M. Benák*, P. Hudcovic, B. Martancik; *VUJE, Inc., Trnava, Slovak Republic</i>                                     |
| 09:40 | <b>Overview of nondestructive methods for nuclear fuel inspections</b><br><i>M. Mala*, P. Mareš; *Czech Technical University in Prague Faculty of Nuclear Sciences and Physical Engineering, Prague, Czech Republic</i>              |
| 10:00 | <b>Resistivity Measurement of Graphite Fuel Channel Bricks in Advanced Gas-Cooled Reactors</b><br><i>T. Bloodworth; Bloodworth Consulting Limited, Wigan, United Kingdom</i>   |

## 31. NDT in Civil Engineering and Concrete Structures

Tuesday 7. Oct 09:00 - 18:00

Club D

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| 09:00 | <b>Nondestructive assessment of the adhesion of concrete screeds in the ventilating ducts of mine shafts</b><br><i>J. Hola, L. Sadowski*, K. Schabowicz; *Wrocław University of Technology, Wrocław, Poland</i>   |
| 09:20 | <b>Non Contact Acoustic Inspection Method using Air-borne sound for Concrete Structures</b><br><i>T. Sugimoto*, R. Akamatsu, N. Utagawa, K. Katakura; *Toin Univ. of Yokohama, Yokohama, Japan</i>  |
| 09:40 | <b>Characterization of Cement Concrete Specimens during Hydration Process with Piezoelectric-Based Smart Aggregates</b><br><i>S. Taghavi pour*, S. Kharkovsky, K. Chung, Q. Kong, G. Song; *Institute for Infrastructure Engineering, Penrith, Australia</i>                                |
| 10:00 | <b>An Experimental Study on Relationship between Nonlinear Resonance Vibration and Tensile Strength of Fire-damaged Concrete</b><br><i>S. Park*, K. Park, H. Yim, H. Kwak; *KAIST(Korea Advanced Institute of Science and Technology), Daejeon, South Korea</i>                             |
| 10:20 | <b>Comparation Of Nondestructive And Destructive Testing Of Concrete Resistance With Cem Iv To Frost Action</b><br><i>D. Bojovic*, K. Jankovic; *IMS Institute, Belgrade, Serbia</i>  |
| 11:00 | <b>Quick assessment of the bond condition of reinforced concrete structure repaired by epoxy-bonded steel plate using the dispersive characteristics of lamb waves</b><br><i>C. Cheng*, C. Chiang, C. Yu, K. Hsu, C. Huang; *Chaoyang University of Technology, Taichung, Taiwan, China</i> |
| 11:20 | <b>Electrical Impedance Tomography -based Sensing Skin for Detection of Damage in Concrete</b><br><i>A. Seppänen*, M. Hallaji, M. Pour-Ghaz; *University of Eastern Finland, Kuopio, Finland</i>  |
| 11:40 | <b>Non-destructive Testing of Materials to Be Used for Protective Structures Built from High Performance Fiber Reinforced Concrete after Loading of the Contact Explosion Plnp10</b><br><i>E. Zezulova*, J. Stoller; *University of Defence, Brno, Czech Republic</i>                       |
| 12:00 | <b>Detecting the depth of concrete deterioration using Rayleigh wave dispersion based on time-frequency analysis</b><br><i>Y. Lin*, W. Tsai, Y. Liu, Y. Lin; *National Chung Hsing University, Taichung, Taiwan, China</i>  |
| 12:20 | <b>Integrated Multidisciplinary Assessment Strategy Using NDT</b><br><i>G. Kilic; Izmir University of Economics, Izmir, Turkey</i>  |
| 12:40 | <b>Feasibility Study of Measuring the Stress in Prestressing Tendons Using Induced Magnetic Field</b><br><i>C. Joh*, J. Lee, I. Kwahk; *Korea Institute of Civil Eng. and Building Technology, Goyang, South Korea</i>  |

<b>31. NDT in Civil Engineering and Concrete Structures</b>	
Tuesday 7. Oct 09:00 - 18:00 Club D	
14:00	<b>Application of the Infrared Thermography in Detection of Pipes in Concrete Structures</b> <i>S. Belattar*, M. Elafi; *Cadi Ayyad University, Faculty of Sciences, Marrakech, Morocco</i>
14:20	<b>Using the Synthetic Aperture Focusing Technique with Elastic Wave Method to Detect the Defects inside Concrete Structures</b> <i>J. Tong*, S. Liao; *Hungkuang University, Taichung, Taiwan, China</i>
14:40	<b>Comparison between SonReb method and ANN ( Artificial Neural Network) approach in predicting concrete compressive strength</b> <i>L. Nobile*, M. Bonagura, M. Nobile; *University of Bologna, Bologna, Italy</i>
15:00	<b>Voids and Karst Conduit Investigation in a Bored Tunnels Using GPR</b> <i>G. Kilic; Izmir University of Economics, Izmir, Turkey</i>
15:20	<b>Investigation of relation between mechanical properties with the microstructure type for steels used in pipelines</b> <i>M. Karpash; Ivano-Frankivsk National Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine</i>
16:00	<b>Conditioning Inspection on Unknown Bridge Foundations</b> <i>H. Wang*, C. Hu, C. Wang; *CECI, Taipei, Taiwan, China</i>
16:20	<b>A nondestructive method of investigating the morphology of concrete surfaces by means of newly designed 3D scanner</b> <i>S. Czarnecki*, L. Sadowski, J. Hoła; *Wrocław University of Technology, Wrocław, Poland</i>
16:40	<b>Damage Assessment of Bridges with Continuous Spans by Curvature Data Derived from Displacement Responses under Moving Truck Loading</b> <i>C. Yu*, C. Cheng, Y. Ke, C. Chiang, C. Pan; *Chaoyang University of Technology, Taichung, Taiwan, China</i>
17:00	<b>Quality of Reinforced Concrete used on Selected Buildings in Nairobi, Kenya</b> <i>W. Kairu*, M. Gatari, D. Maina, M. Muia, J. Birir; *University of Nairobi, Nairobi, Kenya</i>
17:20	<b>Active Thermography for Nondestructive Testing of Concrete Structures</b> <i>B. Milovanovic; University of Zagreb, Faculty of Civil Engineering, Zagreb, Croatia</i>

## 32. NDT in Conservation, Restoration, Heritage, Art and Architecture

Monday 6. Oct 16:00 - 18:00  
Club D

- |       |   |
|-------|---|
| 16:00 | <b>A combined use of NDT techniques and proximal remote sensing tools for monumental heritage monitoring</b><br><i>G. Porco*, A. Montuori, G. Casula, G. Luzi, S. Stramondo, A. Costanzo, M. Minasi, C. Bignami, M. Bianchi; *AIPnD, Brescia, Italy</i>     |
| 16:20 | <b>Non-destructive testing of damp vault brickwork in a gothic –renaissance city hall</b><br><i>A. Hoła, Z. Matkowski*; *Wrocław University of Technology, Wrocław, Poland</i>  |
| 16:40 | <b>Dourouti Residence- A Part of Athenian Metaxourgeio Complex: In-situ Investigations</b><br><i>V. Nikolopoulou, V. Palieraki*, E. Vintzileou; *National Technical University of Athens, Athens, Greece</i>  |
| 17:00 | <b>Application of computed radiography (CR) for characterization of historical documents</b><br><i>M. Rakvin*, A. Dragojevic, D. Markucic; *Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Zagreb, Croatia</i>             |
| 17:20 | <b>X-ray and neutron radiological methods to support the conservation of wooden artworks soaked with a polluting impregnant "Carbolineum"</b><br><i>K. Osterloh*, A. Nusser; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i> |
| 17:40 | <b>X-Ray CT Analyses for Paleontological Subjects in the ICP System</b><br><i>S. Llacer, L. Franco*; *AIMEN Technological Center, O Porriño, Spain</i>  |
| 18:00 | <b>Study on the damage type and it's suitable non-destructive testing method for timber components in chinese ancient building</b><br><i>X. Li*, J. Dai; *Beijing university of technology, Beijing, China</i>  |

### 33. Public Security and Safety and Noninvasive Methods in Medicine and Biology

Monday 6. Oct 14:00 - 15:40

Club D

- |       |   |
|-------|---|
| 14:00 | <b>Ways to Understand and Approach Rare Events</b><br><i>K. Osterloh*, G. Jaenisch; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 14:20 | <b>Radiation Protection and On-Site Inspection of the Elevated Subway Construction with an Ir-192 Gamma-source</b><br><i>B. Redmer*, S. Hohendorf, F. Hille; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>                                 |
| 14:40 | <b>RUS applied to evaluation of Zirconia medical prosthesis</b><br><i>A. Savin*, M. Craus, A. Bruma, V. Turchenko, T. Konstantinova; *National Institute of Research and Development for Technical Physics, Iasi, Romania</i>   |
| 15:00 | <b>Ultrasonic Evaluation of Local Biological Tissue Anisotropy</b><br><i>D. Tokar*, Z. Prevorovsky, J. Hradilova; *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic</i>  |
| 15:20 | <b>Development and Investigation of Superficial Human Tissue Phantoms for Testing of Ultrasonic Imaging Techniques</b><br><i>R. Raisutis*, S. Valiukeviciene, K. Andrekute, G. Genutis, V. Samaitis, T. Mikolaitis; *Kaunas University of Technology, Kaunas, Lithuania</i> |

### 34. NDT in Railways

Tuesday 7. Oct 09:00 - 18:00

Club E

- |       |  |
|-------|--|
| 09:00 | <b>The EFNDT Railway Forum – an opportunity to work in the field of non-destructive testing in Europe</b><br><i>R. Krull; DGZfP Education And Training LTD, Wittenberge, Germany</i>                 |
| 09:40 | <b>New Generation of Test Benches for Ultrasonic Testing of Solid Axles</b><br><i>U. Voelz*, P. Heilmann, H. Scholz; *arxes-tolina GmbH, Dresden, Germany</i>  |
| 10:00 | <b>Further development of the ultrasonic testing of hollow axles</b><br><i>A. Rohrschneider*, H. Hintze, T. Oelschlägel; *DB Systemtechnik GmbH, Brandenburg, Germany</i>                            |
| 10:20 | <b>Evolution of Ultrasonic inspection techniques on Railway Axles</b><br><i>C. Gilardoni; Gilardoni S.p.A., Mandello del Lario, Italy</i>  |
| 11:00 | <b>An overview of optimized inspection plans for high speed axles</b><br><i>S. Cantini, M. Carboni*, S. Beretta, C. Gilardoni; *Politecnico di Milano, Milano, Italy</i>                             |
| 11:20 | <b>Monitoring of the structural integrity of wheelset axles using guided waves</b><br><i>M. Grzeszkowski, J. Prager*; *BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i> |
| 11:40 | <b>Estimation of Corrosion Fatigue Status on Rail Axles</b><br><i>J. Rudlin*, S. Beretta, A. Loconte, D. Panggabean; *TWI Ltd, Cambridge, United Kingdom</i>   |



<b>34. NDT in Railways</b> Tuesday 7. Oct 09:00 - 18:00	
12:00	<b>Magnetic Particle Inspection on train components</b> <i>M. Maass*, W. Deutsch, F. Bartholomai; *KARL DEUTSCH Pruef- und Messgeraetebau GmbH + Co. KG, Wuppertal, Germany</i>
12:20	<b>A Study of Internal Stress Concentration Zone in Locomotive Power Parts</b> <i>B. Tserensangi*, T. Bultger; *Mongolian University of Science and Technology(MUST), Ulaanbaatar, Mongolia</i>
12:40	<b>An Ultrasonic technology Study for the Subsurface Defect in Railway Wheel Tread</b> <i>J. Peng*, X. Gao, Y. Zhang, Z. Wang, C. Peng, Y. Tan, K. Yang, B. Zhao; *School of Physical Science and Technology, Southwest Jiaotong University, Chengdu, China</i>
14:00	<b>Operation of railway maintenance machines with integrated eddy current technique - an overview of the new requirements in germany</b> <i>A. Dey*, H. Hintze, J. Reinhardt; *DB Systemtechnik GmbH, Brandenburg, Germany</i>
14:20	<b>Regulations and requirements for nondestructive testing at Russian Railroads</b> <i>G. Dymkin; Research Institute of Bridges and NDT, Saint-Petersburg, Russia</i>
14:40	<b>Rapid volumetric examination of aluminothermic rail welds with an advanced ultrasonic inspection tool</b> <i>L. Zhao, J. Rudlin*; *TWI Ltd, Cambridge, United Kingdom</i>
15:00	<b>Mobile inspections of railway wheels with UFPE and its LIGHT version</b> <i>S. Bethke*, H. Hintze, R. Ettlich; *DB Systemtechnik GmbH, Brandenburg, Germany</i>
15:20	<b>Advanced wayside condition monitoring of rolling stock wheelsets</b> <i>M. Papaelias, Z. Huang, A. Amini*, P. Vallley, N. Day, R. Sharma, I. Kerkyras, S. Kerkyras; *The University of Birmingham, Birmingham, United Kingdom</i>
16:00	<b>Researches on High-Power Locomotive Wheel Online Inspection with Phased Array Ultrasonic Technology</b> <i>Y. Zhang*, X. Gao, J. Peng, C. Peng, K. Yang; *NDT Research Center, College of Physical Science and Technology, Southwest Jiaotong University, Chengdu, China</i>
16:20	<b>High-performance methodology for residual stress measurement in railway wheels</b> <i>C. Gilardoni, M. Gherbin, M. Carboni*, A. Gianneo; *Politecnico di Milano, Milano, Italy</i>
16:40	<b>CRH train wheel-set dynamic ultrasonic testing technology and application in China</b> <i>C. Peng*, X. Gao, Y. Zhang, K. Yang, J. Peng, B. Zhao, Y. Tan, C. Gao, X. Li; *southwest jiaotong university, Chengdu, China</i>
17:00	<b>Research on axle press-fit phased array ultrasonic</b> <i>C. Peng*, X. Gao, J. Peng, B. Zhao, C. Gao, Y. Tan, Y. Zhang, K. Yang; *southwest jiaotong university, Chengdu, China</i>
17:20	<b>The development of sustainable business within the transportation industry in Romania</b> <i>I. Surugiu*, F. Surugiu; *Bucharest University of Economic Studies, Bucharest</i>

### 35. Wave Modelling in Solids (mini-symposium)

Wednesday 8. Oct 14:00 - 18:00

Club B

- |       |   |
|-------|---|
| 14:00 | <b>Novel approaches for the simulation of ultrasonic guided waves</b><br><i>H. Gravenkamp; BAM Federal Institute for Materials Research and Testing, Berlin, Germany</i>  |
| 14:40 | <b>Elastic Wave Modeling in Complex Geometries using Elastodynamic Finite Integration Technique</b><br><i>P. Chinta*, W. Kleinert; *GE Measurement &amp; Control, Hürth, Germany</i>  |
| 15:00 | <b>On the diminishing of spurious oscillations in explicit finite element analysis of linear and non-linear wave propagation and contact problems</b><br><i>R. Kolman*, S. Cho, K. Park; *Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic</i>                               |
| 15:20 | <b>Numerical methods for scattering by inhomogeneities in 3D elastic waveguides</b><br><i>V. Baronian; CEA LIST, Gif-sur-Yvette, France</i>   |
| 16:00 | <b>On detection of hidden solitons in solitonic systems</b><br><i>A. Salupere*, M. Lints, M. Ratas; *Institute of Cybernetics at Tallinn University of Technology, Tallinn, Estonia</i>   |
| 16:40 | <b>Riemann wave evolution and soliton formation in nonlinear thermo-elastic Cosserat continuum</b><br><i>V. Erofeev*, A. Malkhanov; *Mechanical Engineering Research Institute of Russian Academy of Sciences, Nizhniy Novgorod, Russia</i>   |
| 17:00 | <b>Multiscale simulation of acoustic wave propagation in dual porosity media with high permeability contrast</b><br><i>V. Nguyen*, E. Rohan, S. Naili; *University of Paris-Est, Créteil, France</i>  |
| 17:20 | <b>Finite element model for Lamb wave-based SHM of a composite beam</b><br><i>Z. Lašová*, R. Zemcik; *University of West Bohemia, Pilsen, Czech Republic</i>  |
| 17:40 | <b>Comparative study of finite element method, isogeometric analysis, and finite volume method in elastic wave propagation of stress discontinuities</b><br><i>A. Berezovski*, R. Kolman, J. Blazek, J. Kopacka, D. Gabriel, J. Plesek; *Institute of Cybernetics at Tallinn University of Technology, Tallinn, Estonia</i> |

## 36. SIMPOSIUM (FP7 project - simulations in NDT)

Thursday 9. Oct 09:00 - 13:00

Club B

09:00	<b>SIMPOSIUM - Simulation Platform for Non Destructive Evaluation of Structures and Materials – Objectives and Key Achievements of the Project</b> <i>S. Mahaut; CEA LIST, Gif-sur-Yvette, France</i>
09:40	<b>A Finite Element Integral Formulation for the SIMPOSIUM Project</b> <i>A. Tamburrino*, G. Rubinacci, L. Barbato, M. D'Aquino, A. Maffucci, G. Miano, S. Minucci, C. Petrarca, A. Vento, S. Ventre; *University of Cassino and Lazio Meridionale, Cassino, Italy</i>
10:00	<b>Theoretical Description of Ultrasonic Propagation and Scattering Phenomena in Polycrystalline Structures Aiming for Simulations on Nondestructive Materials Characterization and Defect Detection</b> <i>S. Hirsekorn; Fraunhofer IZFP, Saarbruecken, Germany</i>
10:20	<b>Development of efficient hybrid finite element modelling for simulation of ultrasonic Non-Destructive Evaluation</b> <i>W. Choi*, E. Skelton, M. Lowe, R. Craster; *Imperial College London, London, United Kingdom</i>
11:00	<b>SIMPOSIUM – Assessment of Model Performance in Prediction of Inspection Capability for a range of industrial cases.</b> <i>W. Daniels*, G. Kanyike; *AMEC CE, Risley, United Kingdom</i>
11:20	<b>Simulated Inspection of Wavy Planar Pieces with an Eddy Current Technique: Application Cases of the Simposium Project</b> <i>S. Mahaut*, P. Meilland, G. Rubinacci, A. Tamburrino, D. Elbaz; *CEA LIST, Gif-sur-Yvette, France</i>
11:40	<b>Development of Nondestructive Determination of Mechanical Properties of Open-Die Forgings and Potentials for Full Implementation in Production Process Chain</b> <i>M. Ewen*, P. Braun, D. Bokelmann, N. Blaes, G. Yasmine, R. Kern, C. Conrad, B. Wolter, H. Kopp; *Saarschmiede GmbH Freiformschmiede, Voelklingen, Germany</i>
12:00	<b>Simulation of Ultrasonic Testing of Composite Structures</b> <i>N. Dominguez*, F. Reverdy; *AIRBUS Group, Toulouse, France</i>
12:20	<b>Electromagnetic Examination of Hardened Depth of Steel Using 2D Nonlinear Hysteresis FEM Analysis</b> <i>Y. Gabi*, B. Wolter, O. Martins, A. Gerbershagen; *Fraunhofer IZFP, Saarbruecken, Germany</i>

## Poster Sessions

### P01: General

Monday 6. Oct 14:00 - Friday 10. Oct 12:00

Poster Area

**EFNDT Working Group 5 „NDT Technology for Public Security and Safety”, two areas with the same aim**

*K. Osterloh; BAM Federal Institute for Materials Research and Testing, Berlin, Germany*

**New Devices for Diagnostics of Historical Structures**

*H. Hasníková\*, M. Kloiber, P. Zíma; \*The Institute of Theoretical and Applied Mechanics AS CR, v. v. i, Prague, Czech Republic*

**Internet Communication Services for the NDT Sector**

*R. Diederichs\*, M. Diederichs; \*NDT.net, Bad Breisig, Germany*

**New peculiarities of penetrant testing with non-continuous developer layer**

*N. Migoun\*, N. Delenkovsky, A. Gnusin; \*Institute of Applied Physics, Minsk, Belarus*

**Non-invasive Subpixel Method for Frequency Measurements Based on Image**

*J. Espinosa\*, B. Ferrer, A. Roig, J. Perez, P. Acevedo, D. Mas; \*Universidad de Alicante, San Vicente del Raspeig, Spain*

**Development of Optoelectronic Sensory Leak Detector**

*Y. Posypaiko\*, P. Manorik, O. Shulzhenko, V. Troitskiy, O. Kukla; \*E.O.Paton Electric Welding Institute, Kiev, Ukraine*

## **P02: Modeling and Simulations**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **Ultrasonic lens based on a subwavelength slit surrounded with grooves in curved depths distribution**

*P. Candelas\**, *C. Rubio*, *V. Gomez-Lozano*, *F. Belmar*, *A. Uris*; \*Universitat Politècnica de València, Valencia, Spain

### **Non Destructive Determination of Mechanical Properties**

*A. Petercakova\**, *J. Semeňák*, *I. Kohútek*; \*U. S. Steel Kosice, Košice, Slovakia

### **Non-destructive estimation of Young's modulus for lumbers in air dry condition from the stress wave measurement at green condition**

*M. Yamasaki\**, *C. Tsuzuki*, *Y. Sasaki*; \*Nagoya University, Nagoya, Japan

### **Analytical solutions of Bleustein–Gulyaev modes in high anisotropic piezoelectrics**

*S. Tleukenov\**, *N. Zhakiyev*, *A. Manasyan*; \*Gumilyev Eurasian national university, Astana, Kazakhstan

### **Use SolidWorks in the Non Destructive Testing of Pressure Vessels**

*V. Aleksić\**, *B. Aleksić*, *L. Milović*; \*IMS Institutte, Belgrade, Serbia

### **New damage detection and localization strategy from numerical library**

*R. Serra*, *J. Piatti*, *G. Gauthier*, *S. Dos Santos\**; \*INSA Centre Val de Loire, Blois Campus, Blois, France

### **Spring Boundary Conditions for Nonperfect Contact Simulation in Multilayered Composites in Three-Dimensional Case**

*M. Golub\**, *O. Doroshenko*; \*Institute for Mathematics, Mechanics and Informatics, Kuban State University, Krasnodar, Russia

### **Ultrasound transmission bands through perforated plates with two periodic arrays of subwavelength apertures**

*P. Candelas\**, *C. Rubio*, *V. Gomez-Lozano*, *F. Belmar*, *A. Uris*; \*Universitat Politècnica de València, Valencia, Spain

### **Simultaneous evaluation of material parameters using analytical transient eddy current models**

*D. Desjardins*; Queen's University, Kingston, Canada

### **Electron range evaluation and X-ray conversion optimization in tungsten transmission-type targets with the aid of wide electron beam Monte Carlo simulations**

*A. Sofiienko\**, *C. Jarvis*, *A. Voll*; \*University of Bergen, Bergen, Norway

### **Ultrasonic lens based on a subwavelength slit surrounded with grooves in curved depths distribution**

*P. Candelas\**, *C. Rubio*, *V. Gomez-Lozano*, *F. Belmar*, *A. Uris*; \*Universitat Politècnica de València, Valencia, Spain

## **P03: Ultrasonic Testing**

Friday 10. Oct 14:00 - 12:00

Poster Area

### **Development of Ultrasonic Equipment and Method of Definition of Concentration of a Solid Phase Hexahydrate of Nitrate Uranium in a Crystallizer**

*A. Kravchenko\*, M. Vasilev, Y. Panchenko, N. Averina, P. Ivanenko, Y. Sorokin, S. Karimov, O. Kalinin, V. Andronov; \*Bochvar High-technology Scientific Research Institute of Inorganic Materials (JSC VNIINM), Moscow, Russia*

### **Comparative Study of Different Methods to Assess Ultrasonic Velocities of Waves in a Liquid Medium**

*M. Rufo, A. Jiménez\*, J. Paniagua; \*University of Extremadura, Cáceres, Spain*

### **Influence of deleterious phases in super duplex steel SAF 2507 in the ultrasonic Lamb waves propagation**

*C. Farias\*, Y. Santos, D. Zanini, E. Simas, I. Silva, R. Coelho; \*Bahia Federal Institute, Salvador, Brazil*

### **Improvement of reliability of ultrasonic testing of welds**

*A. Dergachev\*, N. Konovalov; \*OJSC "STC "Industrial Safety", Moscow, Russia*

### **An Efficient Implementation of PAUT & TOFD for Weld Inspection**

*J. Poirier\*, L. Enenkel, P. Tremblay, J. Berlinger; \*ZETEC, Boulevard Charest Ouest, Canada*

### **The Ultrasonic Testing of Rail Wheel Residual Stress by Acoustic Elasticity Technique**

*V. Muraviev\*, L. Volkova, E. Balobanov; \*Kalashnikov Izhevsk State Technical University, Izhevsk, Russia*

### **Piezoelectric properties of CVD deposited AlN layers as active material for ultrasonic transducers**

*F. Schubert\*, B. Koehler, M. Kopycinska-Mueller, P. Krueger, T. Herzog, H. Heuer, I. Ender, A. Schoenecker; \*Fraunhofer IKTS (MD), Dresden, Germany*

### **Identification and Utilisation of Ultrasonic Guided Waves for Inspection of ACSR Cables**

*M. Yucel\*, M. Legg, M. Livadas, V. Kappatos, C. Selcuk, T. Gan; \*Brunel University, London, United Kingdom*

### **Computer simulation of acoustic fields of normal and angle probes with phased array.**

*L. Voronkova\*, I. Voronkov, V. Danilov; \*JSC SPC «CNIITMASH», Moscow, Russia*

### **Laser ultrasonic investigation of laminate disbonding**

*A. Karabutov\*, A. Karabutov, O. Sapozhnikov; \*Institute on Laser and Information Technologies of the Russian Academy of Sciences (ILIT RAS), Shatura, Russia*

### **A New Rail Ultrasonic Inspection Method**

*A. Suchkov; ZAO "Firma TVEMA", Moscow, Russia*

### **Triple Non destructive imaging of mechanically impact-damaged composite plates**

*H. Walaszek\*, P. Bouteille; \*CETIM, Senlis, France*

### **Application of laser ultrasound method for control of residual stresses in products and from special materials**

*V. Bychenok\*, A. Fyodorov; \*St.Petersburg national research university of information technologies, mechanics and optics, Saint-Petersburg, Russia*

## P03: Ultrasonic Testing

Friday 10. Oct 14:00 - 12:00

Poster Area

### **A Nonlinear Acoustic Method to Image the Quantitative Adhesion at the Bonded Solid-Solid Interface**

*J. Chen; Institute of Acoustics, Nanjing University, Nanjing, China*

### **Image enhancement of phased array based on cross-spectral beamforming by using spatial frequency filter**

*C. Park\*, J. Kim, S. Cho, D. Seo; \*Korea Research Institute of Standards and Science, Daejeon, South Korea*

### **Non-destructive determination of the primary silicon particle size in hypereutectic aluminium-silicon cast alloys by ultrasound**

*T. Pabel\*, T. Petkov, M. Berbic, P. Schumacher; \*Österreichisches Gießerei-Institut, Leoben, Austria*

### **Thermophysical properties of ionic liquid systems by ultrasound speed**

*M. Santos\*, J. Santos, L. Yang, A. Ferreira; \*University of Coimbra, Coimbra, Portugal*

### **Application of laser ultrasonic measurement to verification of ply-by-ply damage modelling of composite laminates subjected to low velocity impact**

*I. Sergeichev\*, D. Ksenofontov, A. Karabutov, A. Fedor; \*Skolkovo Institute of Science and Technology, Skolkovo, Russia*

### **Ultrasonic testing of ITER in-vessel components**

*D. Lyanzberg\*, T. Gurieva, A. Belyaev; \*Joint Stock Company "D.V. Efremov Institute of Electrophysical Apparatus", Saint-Petersburg, Russia*

### **Ultrasonic Nondestructive Evaluation of Isothermal Aging in HP Steels**

*Y. Santos\*, G. Pereira, I. Silva, T. Silveira, C. Farias, M. Sobral; \*Bahia Federal Institute, Salvador, Brazil*

### **Advanced signal analysis for the examination of multilayered structures using ultrasound annular arrays**

*M. Wolf\*, S. Kümritz, E. Kühnicke; \*Tu Dresden, Dresden, Germany*

### **Scanning systems for Ultrasonic imaging Systems**

*W. Hillger\*, D. Ilse, L. Bühling; \*Ingenieurbüro Dr. Hillger, Ultrasonic Techniques, Braunschweig, Germany*

### **Development and validation of an automated ultrasonic system for the non-destructive evaluation of welded joints in thermoplastic storage tanks**

*F. Hagglund\*, M. Spicer, M. Troughton; \*TWI Ltd, Cambridge, United Kingdom*

### **Closed-crack imaging and the analysis of nonlinear scattering behavior using confocal subharmonic phased array and damped double node model**

*A. Sugawara\*, K. Jinno, K. Takahashi, Y. Ohara, K. Yamanaka; \*Tohoku University, Sendai, Japan*

### **Lamb type waves in piezomagnetics media**

*S. Tleukenov\*, T. Dosanov; \*Gumilyev Eurasian national university, Astana, Kazakhstan*

### **Peculiarities of Acoustic Testing Techniques on the Multiple Reflections for Extended Objects**

*O. Muravieva\*, D. Zlobin, S. Murashov, V. Strizhak; \*Kalashnikov Izhevsk State Technical University, Izhevsk, Russia*

## **P03: Ultrasonic Testing**

Friday 10. Oct 14:00 - 12:00

Poster Area

### **Application laser ultrasound defectoscopy for control of solder joints of thin-walled products**

*I. Kinzhagulov\*, N. Anikeichik; \*Saint - Petersburg National Research University of Information Technologies, Mechanics and Optics, Saint-Petersburg, Russia*

### **Ultrasonic phased array detection of cracking in pipe using signal processing**

*A. Benammar; Welding and NDT Research Center, Cheraga, Algeria*

### **Ultrasonic NDT of the material of working blades of high pressure turbo compressor**

*Y. Motova, N. Nikitina\*; \*Mechanical Engineering Research Institute of Russian Academy of Sciences, Nizhniy Novgorod, Russia*

### **Modification of Rayleigh reflection from a bottom uneven surface**

*Y. Mirchev; Bulgarian Society for NDT (BGSNDT), Sofia, Bulgaria*

### **Air-coupled ultrasonic C-scan effectiveness for impact damage evaluation in CFRP laminates**

*J. Santos\*, M. Santos, A. Amaro; \*University of Coimbra, Coimbra, Portugal*

### **Signal Processing for Ultrasonic Phased Array of Multi-layered Composites Based on Deconvolution technique**

*A. Benammar; Welding and NDT Research Center, Cheraga, Algeria*

### **Wheel Set Axle Inspection Using Advanced Phased Array Approach**

*T. Heckel\*, H. Fehlauer, R. Boehm, W. Spruch; \*BAM Federal Institute for Materials Research and Testing, Berlin, Germany*



## **P04: Acoustic Emission**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **Advanced Analysis of Acoustic Emission Parameters during the Concrete Hardening for Long Time**

*L. Pazdera\*, L. Topolar, M. Korenska, J. Smutny, V. Bilek; \*Brno University of technology, Brno, Czech Republic*

### **Measurement of Material Properties Using Deterministic White Noise**

*L. Carbol\*, J. Martinek, I. Kusák; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Experimental Study of the Potential Usage of Acoustic Emission to Railway Track Faults Detection**

*M. Korenska\*, M. Manychova, L. Pazdera, L. Topolar; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Definition of Magnetostrictive Sensitivity and Structural-phase State of Heat-treated Fe Alloys by Using MAE Measurements**

*V. Kostin\*, D. Filatenkov, O. Vasilenko, A. Stashkov; \*Institute of Metal Physics, Ural Branch, Russian Academy of Sciences, Yekaterinburg, Russia*

### **Acoustic Emission Crack Detection at Injection Molding Process**

*J. Grum\*, T. Kek, D. Kusic, R. Sveccko, A. Hancic; \*Faculty of Mechanical Engineering, Ljubljana, Slovenia*

### **High-temperature degradation confirmed by Impact-echo Method tested on Cementations Composite Materials Containing Rubber Aggregates and Acrylic or Ethylene Vinyl Acetate Polymer Binder**

*D. Stefkova\*, M. Tupy, K. Sotiriadis, K. Samarkova, Z. Chobola; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Thermal Excitation System with Heat-Transfer Agent Energy Flow Controlled Parameters for the Evaluation of Material Defects**

*S. Prokhorenko\*, E. Sheregii, A. Panas, K. Mas, M. Wozny, K. Kashpor, H. Pokhmurska; \*University of Rzeszow, Rzeszow, Poland*

### **Acoustic Emission Generated during Scratch Test of Various Thin Film – Substrate Systems**

*P. Bohac\*, J. Tomáščík, M. Dráb, V. Koula, L. Jastrabík, K. Cvrk, R. Ctvrtlik; \*Institute of Physics AS CR, v.v.i., Prague, Czech Republic*

### **Inspection Condition of Reinforced Concrete Structures Using Acoustic Method of Non-Destructive Testing**

*K. Timčaková-Šamárková\*, Z. Chobola; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Assessment of Early Fatigue of Power Plant Material Using Acoustic Emission Method**

*F. Vlašic\*, D. Bartkova, P. Mazal; \*Brno University of Technology, Faculty of Mechanical Engineering, Brno, Czech Republic*

## **P05: Infrared Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **System Concept for Patch Tests which Conforms to Requirements for Medical Thermography**

*B. Tomaka\**, *M. Szwedo*; \*AGH University of Science and Technology, Kraków, Poland

### **Infrared thermographic NDT for the Fault Diagnosis of Bearing with Foreign Substances inside under Loading Condition**

*W. Kim\**, *M. Choi*, *S. Ranjit*, *D. Hong*; \*Kongju National University, Cheonan, South Korea

### **Evaluating Building Envelope Thermal Resistance by Using Infrared Thermography**

*I. Larioshina\**, *V. Vavilov*, *D. Nesteruk*; \*National Research Tomsk Polytechnic University, Tomsk, Russia

## **P06: Eddy Current Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **Inspection of Laser Powder Deposited Layers**

*J. Rudlin\**, *D. Cerniglia*, *M. Scafidi*, *C. Schneider*; \*TWI Ltd, Cambridge, United Kingdom

### **Enhancement of the sensitivity to EC coil impedance variations based on phase measurements**

*V. Uchanin\**, *D. Afanassyev*, *A. Vasyliiev*; \*Promprylad LLC, Kiev, Ukraine

### **Microsystem Technology for Eddy Current Testing**

*J. Paul\**, *R. Holzförster*; \*Sensitec GmbH, Mainz, Germany

### **New portable eddy current flaw detector and application examples**

*A. Opanasenko\**, *V. Uchanin*, *V. Mishchenko*; \*Scientific and Production Company "Promprylad", Kiev, Ukraine

### **The Eddy current array applied to the defect detection on complex geometry**

*C. Patrick*; Olympus, Rungis, France

### **Two Parameter Repair Criteria for Eddy Current Testing of Steam Generator Tubes**

*V. Lunin\**, *A. Zhdanov*, *V. Chegodaev*; \*National Research University "Moscow Power Engineering Institute", Moscow, Russia

### **Evaluation of Conductive Deposits Volume Using Eddy Current Signal**

*V. Lunin\**, *V. Chegodaev*, *A. Zhdanov*, *A. Stoliarov*; \*National Research University "Moscow Power Engineering Institute", Moscow, Russia

### **Automated eddy-current flaw detector-scanner for main steel pipelines inspection**

*V. Konnov*, *A. Konnov*, *R. Zagidulin*, *T. Zagidulin\**; \*CJSC NPC "Molniya", Moscow, Russia

## **P06: Eddy Current Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **A FPGA Based Platform for Multi-Frequency Eddy Current Testing**

*S. Rodriguez Gutierrez, W. Yin\*, Y. Xie, A. Peyton; \*The University of Manchester, Manchester, United Kingdom*

### **Pulsed Eddy Current Nondestructive Testing of the Coating Thickness**

*I. Lysenko\*, A. Protasov, I. Kuts, O. Dugin; \*National Technical University of Ukraine, Kiev, Ukraine*

### **Corrosion Inspection Using Pulsed Eddy Current**

*I. Silva\*, Y. Santos, C. Farias, L. Batista; \*Federal Institute of Education Science and Technology of Bahia, Salvador, Brazil*

### **cementation and corrosion analysis by pulsed eddy current**

*M. Zergoug; Welding and NDT Research Centre Algeria, Algiers, Algeria*

## **P07: Magnetic Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **Estimation of the Internal Demagnetizing Factor of Cast Iron**

*S. Sandomirsky; United machine-building institute, Minsk, Belarus*

### **Examination of technical gear with the help of magnetic passive observer status**

*M. Roskosz, M. Witos\*, M. Zieja; \*Air Force Institute of Technology, Warsaw, Poland*

### **Identification of the stress-strain state of ferromagnetic steels based on the measurement of magnetic parameters**

*M. Roskosz\*, A. Rusin, M. Bieniek, K. Fryczowski; \*Silesian University of Technology, Gliwice, Poland*

### **Magnetic flux leakage measurement system to detect flaws in small diameter metallic wire ropes**

*M. Zambrano Otero\*, A. Martínez-de-Guerenu, F. Arizti; \*CEIT, Donostia - San Sebastián, Spain*

### **Analysis of metallic ropes magnetisation during magneto-inductive testing**

*A. Canova\*, E. Pedrotti, F. Degasperis; \*Politecnico di Torino, Turin, Italy*

### **On the Reasons for the Non-Unique Behavior of Structure-Sensitive Magnetic Characteristics of Alloyed Carbon Steels under Tempering**

*E. Gorkunov\*, A. Ulyanov, A. Chulkina; \*Institute of Engineering Science, RAS (UB), Ekaterinburg, Russia*

### **Magnetizing Device with a Predetermined Localization of Magnetic Flux**

*O. Vasilenko\*, V. Kostin, A. Stashkov; \*Institute of Metal Physics, Ural Branch, Russian Academy of Sciences, Yekaterinburg, Russia*

### **Excitation Waveform on the Research of the Effects of Barkhausen Noise Signal Detection**

*H. Wang; Nanjing University of Aeronautics and Astronautics, Nanjing, China*

### **Combined nondestructive structuroscopy of dispersion metallic materials**

*B. Skrbek\*, V. Nosek; \*Technical University of Liberec, Department of Material Science, Liberec, Czech Republic*

## **P07: Magnetic Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00

Poster Area

### **Diagnostics of Bridge Pavements by Ground Penetrating Radar**

*R. Matula\*, J. Stryk, K. Pospíšil; \*Centrum dopravního výzkumu, v.v.i. (Transport Research Centre), Brno, Czech Republic*

### **Application Experience of Non-Contact Magnetometric Diagnostics of Pipelines and Perspectives of its Development**

*A. Dubov\*, A. Dubov; \*Energodiagnostika Co. Ltd, Reutov, Moscow region, Russia*

### **Research on Metal Magnetic Memory Testing of Stress Concentration based on orthogonal lock-in-amplifier**

*E. Yao\*, S. Zhang, J. Wang; \*Nanjing University of Aeronautics and Astronautics, Nanjing, China*

### **Structural and phase sensitivity of the relaxation magnetics parameters of steels**

*S. Sandomirsky; United machine-building institute, Minsk, Belarus*

### **Movable Local Multidirectional Magnetization of Metal Structures at Magnetic Particle Testing**

*V. Troitskiy; The Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine*

### **An Investigation into the Effect of Elastic Deformation by Tension (Compression), Torsion and Hydrostatic Pressure on the Magnetic Characteristics of Pipe Steel**

*E. Gorkunov\*, S. Zadvorkin, A. Mushnikov, S. Smirnov, E. Yakushenko; \*Institute of Engineering Science, RAS (UB), Ekaterinburg, Russia*

### **The wavelet analysis: application to the magneto-inductive testing**

*A. Canova\*, B. Vusini, D. Rossi, A. Bucu, E. Furno, M. Ressa; \*Politecnico di Torino, Turin, Italy*

### **Estimation of Biaxial Strains by a Coercimetric Method**

*E. Gorkunov\*, A. Ulyanov, V. Zakharov; \*Institute of Engineering Science, RAS (UB), Ekaterinburg, Russia*

### **Barkhausen Noise Application in RPV Irradiation Embrittlement Detection**

*H. Wang\*, J. Wang; \*Nanjing University of Aeronautics and Astronautics, Nanjing, China*

### **Application of magnetic NDT methods to evaluate the stress-strain state of the individual zones of welded joints**

*E. Putilova\*, S. Zadvorkin, E. Gorkunov, A. Povolotskaya; \*Institute of Engineering Science, RAS (UB), Ekaterinburg, Russia*

### **Advances in Defect Detection and Characterization using Magnetic Particle Inspection**

*S. Štarman; STARMANS electronics, s.r.o., Prague, Czech Republic*

## **P08: Radiography and Computed Tomography**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00

Poster Area

### **Welding Quality in Kenya: Application of Radiography**

*M. Gichuru, J. Birir\*, D. Maina, S. Mutuli, W. Kairu; \*University of Nairobi, Nairobi, Kenya*

### **Energy spectrum modification of bremsstrahlung X-ray intensity**

*V. Udod\*, A. Shteyn, M. Shteyn, S. Chakhlov, A. Temnik, V. Klimenov; \*Tomsk State University, Tomsk, Russia*

### **Determination of ductile to brittle transition temperature on reconstructed specimens of reactor pressure steel**

*I. Yankova\*, B. Tabakova; \*Technical University of Sofia, Sofia, Bulgaria*

### **Application of pulse-frequency X-ray machine for implementation of dual energy mode**

*A. Shteyn; Institute of non-destructive testing of Tomsk polytechnic university, Tomsk, Russia*

### **Quality Analysis of Helically Welded Tube Joints**

*M. Gatial\*, J. Viňáš, J. Polák; \*U. S. Steel Košice, Košice, Slovakia*

### **Multi-Nuclide Sources for Improved Radiographic Performance**

*K. Schehr; Source Production & Equipment Co., Inc, Saint Rose, USA*

### **Innovative X-ray Backscatter Technique for Security Applications: Detection of Dangerous Materials**

*N. Wrobel\*, S. Kolkoori, U. Zscherpel, U. Ewert; \*BAM Federal Institute for Materials Research and Testing, Berlin, Germany*

### **An automated CT scanner system for quality control**

*F. Porsch\*, M. Maisl, M. Rehak; \*Fraunhofer IZFP, Saarbruecken, Germany*

### **Flash-Radiography Instead of Traditional Radiography with Intermediate Carriers of Information**

*V. Troitskiy; The Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine*

### **Quantitative evaluation of CT Images by means of Shannon Entropy**

*R. Schielein\*, S. Schröpfer, M. Kiunke, S. Zabler, S. Kasperl; \*Chair of X-ray Microscopy, University of Würzburg, Würzburg, Germany*

### **Non-destructive applications for cultural heritage**

*V. Nicoleta; Metropolitan Center of Research T.A.B.O.R. The Metropolitanate of Moldavia and Bukovina, Closca 9, 700066 Iasi, Romania; , Iasi, Romania*

## **P09: Industrial Applications and Material Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00  
Poster Area

### **A Research of Wind Turbine Blade Delamination Detection Technology Based on the Acoustic Impact**

*K. Zhou; Nanjing university of aeronautics and astronautics, Nanjing, China*

### **On site stress measurement in steel pipes**

*J. Pohl\*, A. Diemar, J. Hildebrand, A. Großmann; \*Hochschule Anhalt, Köthen, Germany*

### **The Role Of Nondestructive Microscopic Metallography (NDMM) In The Estimation Of The Residual Resource**

*M. Filinov\*, V. Bykov, A. Fursov; \*SAIC MICROKON LLC, Moscow, Russia*

### **Material degradation of pipelines**

*B. Tabakova\*, Y. Ivanova, T. Partalin; \*Technical University of Sofia, Sofia, Bulgaria*

### **Aircraft Piston Engine Fault Detection Based on Uniformity of Cylinder Head, Exhaust Gas and Turbochargers Temperatures**

*D. Miljković; Croatian Society of Non-Destructive Testing (CrSNDT), Zagreb, Croatia*

### **Ultrasonic Measurements of Kinematic Viscosity for Analize of Engine Oil Parameters**

*V. Chuprin; Scientific-Industrial Company "LUCH", Balashiha, Moscow region, Russia*

### **Modern Mobile Systems for Diagnostics of Power Supply Facilities**

*V. Koltsov\*, Y. Mironyuk; \*Joint Venture, Moscow, Russia*

### **Studies of influence of moisture content in cellulose fiber-cement boards on wave parameters using non-contact ultrasound**

*T. Gorzelańczyk\*, K. Schabowicz, R. Drelich, M. Pakula, P. Domanowski, L. Radzik; \*Wrocław University of Technology, Wrocław, Poland*

### **The Use of Embedded FBG Sensors for Monitoring of the Composite Wing Structure**

*M. Dvorak\*, M. Ruzicka, L. Horny, M. Kabrt; \*Czech Technical University in Prague, Faculty of Mechanical Engineering, Prague, Czech Republic*

### **Strain-Dependent Birefringence Of Elastic Polymers**

*M. Pflieger\*, S. Katletz, H. Pühringer; \*Recendt GmbH, Linz, Austria*

### **Determination of the residual stresses by the dynamic indentation method**

*A. Kren\*, V. Rudnitsky, A. Udot; \*Institute of applied physics, Minsk, Belarus*

### **Opto-acoustic and laser-ultrasonic tomography system for composites testing**

*V. Simonova\*, A. Karabutov, I. Kudinov, V. Panchenko; \*Institute on Laser and Information Technologies, Shatura, Russia*

### **Application of Ultrasonic Techniques Used for Axle Testing**

*S. Štarman; STARMANS electronics, s.r.o., Prague, Czech Republic*

### **Evaluation of monocrystalline ZnSe as a high-temperature radiation detector**

*A. Sofiienko\*, V. Degoda, D. Ponce-Marquez, G. Johansen; \*University of Bergen, Bergen, Norway*

### **Methods and devices for noncontact express measurement of the main electro-physical parameters of polysilicon and multisilicon used for solar cells production**

*A. Okhorzina\*, A. Yurchenko, I. Bortnikov; \*National Research Tomsk Polytechnic University, Tomsk, Russia*

## **P09: Industrial Applications and Material Testing**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00

Poster Area

### **Testing the impact of creep on the X12CrWMoVNbN10-1-1 steel magnetic properties**

*M. Roskosz\*, A. Rusin, K. Fryczowski, M. Bieniek; \*Silesian University of Technology, Gliwice, Poland*

### **Stress state evaluation of railway wheels**

*Y. Ivanova\*, T. Partalin; \*Sofia University, Sofia, Bulgaria*

### **Ultrasonic wave propagation in Erbium monopnictides**

*V. Bhalla\*, D. Singh; \*Amity University, NOIDA, India*

### **Assessment of Damage in Reinforced Concrete Girder by Using Nonlinear Ultrasonic Spectroscopy**

*M. Manychova\*, M. Korenska, L. Pazdera; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Non-destructive testing of moisture in cellulose fiber-cement boards**

*T. Gorzelańczyk\*, K. Schabowicz; \*Wrocław University of Technology, Wrocław, Poland*

### **Main Developments of the E.O. Paton Electric Welding Institute in the Field of Non-Destructive Testing**

*B. Paton, V. Troitskiy\*; \*The Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine*

### **Research on the Leak Testing Technique of Flexible Accumulation Chamber**

*Y. Wang\*, W. Dou, G. Ren, L. Sun; \*Beijing Institute of Spacecraft Environment Engineering, Beijing, China*



## **P10: NDT in Civil Engineering and Concrete Structures**

Monday 6. Oct 14:00 - Friday 10. Oct 12:00

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### **Acousto-ultrasonic assessment of concrete properties after exposure to high temperatures**

*I. Gabrijel; University of Zagreb, Faculty of Civil Engineering, Zagreb, Croatia*

### **Investigation On The Concrete's Segregation By Ultrasonic Pulse Velocity**

*B. Abdelhalim; Civil Engineering and Hydraulic Laboratory, Guelma, Algeria*

### **Thermal Testing of Cellular Towers Constructed from Tubular Rods.**

*G. Batov; SEC "Kachestvo", Moscow, Russia*

### **Non-destructive test methods applicability on structure analysis of ultra-high performance concrete after cyclic freeze damage deterioration**

*E. Serelis\*, V. Vaitkevicius; \*Kaunas University of Technology, Kaunas, Lithuania*

### **Thermal Stress of Building Materials Containing Rubber Granulate and Polymer Binder Characterised by Alternating Electric Field**

*I. Kusák\*, M. Lunak, J. Martinek, L. Carbol, D. Stefkova; \*Brno University of Technology, Faculty of Civil Engineering, Brno, Czech Republic*

### **Use of portable X-Ray fluorescence signal for characterization of soil physical parameters : A feasibility study**

*C. Franck-Neel\*, L. Jean-Soro, P. Branchu; \*CEREMA, Clermont-Ferrand, France*

### **Non-destructive stress evaluation of wood members in Japanese traditional building**

*Y. Sasaki\*, M. Yamasaki, M. Uchida, T. Torichigai; \*Nagoya University, Nagoya, Japan*

### **SCC flow induced fiber distribution and orientation. Non-destructive inductive method**

*P. Grigaliunas\*, Z. Rudzionis, T. Kringelis; \*Kaunas university of technology, Kaunas, Lithuania*

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