



HELLENIC SOCIETY OF NON DESTRUCTIVE TESTING
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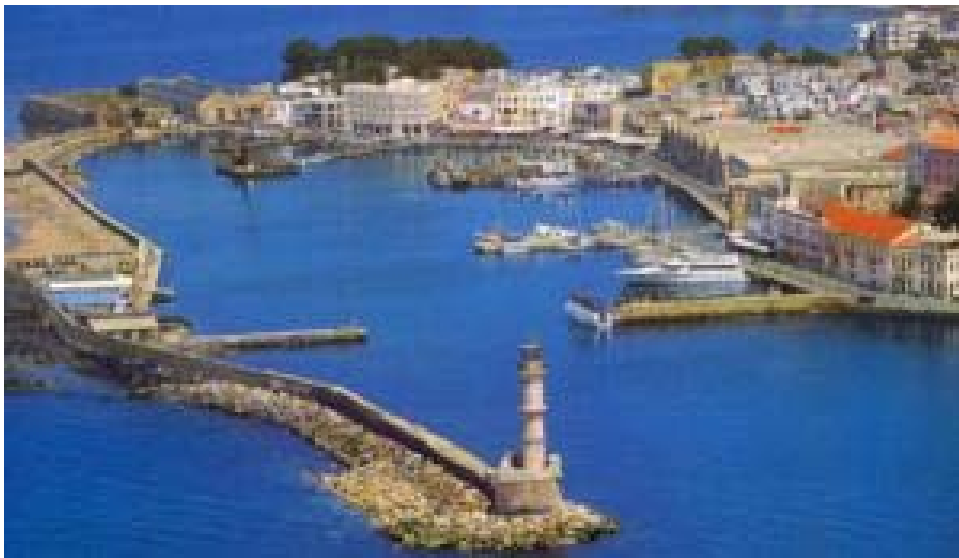


20 YEARS HSNT 1987-2007

4th INTERNATIONAL CONFERENCE ON NDT
of the Hellenic Society for NDT (HSNT)
11-14 October 2007, Chania, Crete-Greece

FINAL PROGRAMME

Non Destructive Testing
Skills-Applications Innovations Industrial Manufacturing-Aerospace-Marine



Chairman of the Conference: I.N. Prassianakis
President of HSNT, Professor, National Technical University of Athens

Secretary General of the Conference: G.C. Papanicolaou
Professor, University of Patras

Conference Secretariat: K.E. Giannadakis
PhD Student, University of Patras

Chania-Crete-Greece 2007

Thursday 11 OCTOBER 2007

Thursday 11 OCTOBER 2007

09:00-11:00 (HALL A)

OPENING CEREMONY

Chairmen: I.N. Prassianakis, G.C. Papanicolaou, M. Sfantzikopoulos

08:00-09:00	Registration
09:00-09:30	<i>Opening: I. N. Prassianakis</i> <i>NTUA, President of HSNT, Greece</i> WELCOME ADDRESS: NDT MEANS ECONOMY AND SAFETY IN A CONTEMPORARY SOCIETY.
09:30-09:50	Opening Addresses
09:50-10:20	<i>S. Vahaviolos,</i> <i>MISTRAS Group Inc., Chairman & CEO, Honorary Member of ICNDT, Past President of ASNT (USA) Hon. President of HSNT, USA</i> NONDESTRUCTIVE TESTING (NDT): THE SCIENCE, THE BUSINESS AND FUTURE FORECASTS
10:20-10:40	<i>Em. Spanoudakis,</i> <i>General Manager of OADYK, Chania-Greece</i> "THE ROLE OF NDT IN CONSTRUCTING SIZEABLE INFRASTRUCTURES: THE EXAMPLE OF OADYK"
10:40-11:00	<i>Angeliki Kottaridi,</i> <i>Curator of the Museum of Royal Tombs of Aiges</i> <i>Sc. Techn.</i> <i>ETH Horst A. Beyer, President, Imetric GmbH</i> <i>Christos Gr. Drettas</i> <i>M.Sc., AKMON Laboratories-Greece</i> NON DESTRUCTIVE MEASUREMENT AND RAPID PROTOTYPING IN THE SERVICE OF CULTURAL HERITAGE.

11:00-11:30

Coffee-Break

Thursday 11 OCTOBER 2007

11:30-13:15 (HALL A)

SESSION 1

ULTRASOUNDS-COMPOSITE MATERIALS

Chairmen: S. Vahaviolos, Wol. Hillger, Art.Vamvakousis

11:30-11:45	<i>Hillger Wolfgang</i> <i>Ingenieurboro Dr. Hillger, Germany</i> VISUALISATION OF GUIDED WAVE PROPAGATION BY ULTRASONIC IMAGING METHODS
11:45-12:00	<i>Santos J.B., M.J. Santos</i> <i>University of Coimbra, Portugal</i> ULTRASOUND INTERFEROMETRY FOR THE EVALUATION OF THICKNESS AND ADHESION OF THIN LAYERS
12:00-12:15	<i>Santos M.J., J. Perdigão, Faia P.</i> <i>University of Coimbra, Portugal</i> PROPAGATION OF ULTRASONIC LAMB WAVES IN ADHESIVELY BONDED LAP JOINTS
12:15-12:30	<i>Sarpun İsmail Hakkı¹, Vildan Özkan¹, Sabri Tuncel², Rıdvan Unal¹,</i> <i>¹Afyonkarahisar Kocatepe University, ²TÜBİTAK Marmara Research Center Gebze, Kocaeli, Turkey</i> DETERMINATION OF MEAN GRAIN SIZE BY ULTRASONIC METHODS OF TUNGSTEN CARBIDE METAL MATRIX COMPOSITES SINTERED AT VARIOUS TEMPERATURES
12:30-12:45	<i>Berketis K., P. J. Hogg</i> <i>Queen Mary, University of London, London, UK</i> NON-CONTACT ULTRASONICS USED FOR IMPACT DAMAGE DETECTION ON LONG-TERM WATER IMMERSED GFRP COMPOSITES
12:45-13:00	<i>Kazys R., L.Mazeika, E.Zukauskas</i> <i>Kaunas University of Technology, Lithuania</i> INVESTIGATION OF ACCURATE IMAGING OF THE DEFECTS IN COMPOSITE MATERIALS USING ULTRASONIC AIR-COUPLED TECHNIQUE

13:00-13:15	<u>Fausten Thomas Ultasonics</u> PHASOR XS OPENS THE DOOR TO PHASED ARRAYS	<u>GE Inspection Technologies GmbH, Germany</u>
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Thursday 11 OCTOBER 2007
11:30-13:15 (HALL B)
SESSION 2
INDUSTRIAL RADIOGRAPHY
Chairmen: L. Pedroni, G. Apostolopoulos, Th. Christidis

11:30-12:00	<u>Mergia K., G. Apostolopoulos, A.G. Youtsos</u> NEUTRON SCATTERING TECHNIQUES AS A TOOL FOR NON-DESTRUCTIVE TESTING	<u>"Demokritos" Institute, Greece</u>
12:00-12:15	<u>Pedroni Lincar, Gregory Kennedy, Michel Aubertin</u> DUAL-ENERGY GAMMA-RAY TRANSMISSION TECHNIQUE FOR MEASUREMENT OF THE DENSITY OF MINE WATER TREATMENT SLUDGE DURING SEDIMENTATION AND CONSOLIDATION	<u>Ecole Polytechnique, Montreal, Canada</u>
12:15-12:30	<u>¹Franco L., F. ¹Gómez, ¹A. Iglesias, ²F. Vidal, ²R. Ameneiro</u> INDUSTRIAL RADIOGRAPHY AND TOMOGRAPHY BASED ON SCANNING LINEAR SCINTILLATOR ARRAY	<u>¹USC, Spain, ²AIMEN, Spain</u>
12:30-12:45	<u>¹Houlahan T., ²B. Allen</u> NON-DESTRUCTIVE COMPOSITIONAL ANALYSIS AND MATERIALS CHARACTERIZATION WITH PORTABLE X-RAY FLUORESCENCE ANALYZER'S (XRF)	<u>¹Niton Europe GmbH, Germany ²Niton LLC, Billerica, USA</u>
12:45-13:00	<u>Lovea Mihai¹, Gabriela Mateias¹, Marian Neagu¹, Vassilis Georgiou², Panagiota Tsagkari³, Antonios Antonakakis³</u> DEVELOPMENT OF NEW X-RAY RADIOSCOPY & TOMOGRAPHY EQUIPMENT FOR NDT ANALYSIS	<u>¹ACCENT PRO 2000 Ltd ²ENIA S ³Public Power Corporation, KDEP, Greece</u>
13:00-13:15	<u>Deschepper Peter</u> SUCCESSFUL CONVERSION FROM FILM TO COMPUTED RADIOGRAPHY	<u>GE Inspection Technologies, Belgium "De Veldekens" Belgium</u>

Thursday 11 OCTOBER 2007
11:00 (HALL D)
Poster Presentation -1
Chairmen: P. Mazal, P. Ranos, M. Koulouri

POST-1	<u>Mazal Pavel, Luboš Pazdera,</u> APPLICATION OF ACOUSTIC EMISSION METHOD FOR CONTACT DAMAGE IDENTIFICATION	<u>Brno University of Technology, Brno, Czech Republic</u>
POST-2	<u>Tzika F. and I. E. Stamatelatos,</u> MONTE CARLO SIMULATIONS FOR NON-DESTRUCTIVE ELEMENTAL ANALYSIS OF LARGE SAMPLES BY NEUTRON ACTIVATION ANALYSIS	<u>"Demokritos" Institute, Greece</u>
POST-3	<u>C. Ennaceur, T-H Gan, R. Sanderson and P Mudge</u> MODELLING OF TIME REVERSAL FOCUSSING TECHNIQUE IN PIPES	<u>NDT Technology Group, TWI Ltd, Cambridge U.K.</u>
POST-4	<u>Savidou A, F. Tzika and I. E. Stamatelatos,</u> CHARACTERIZATION OF RADIOACTIVE WASTE DRUMS BY NON DESTRUCTIVE GAMMA SPECTROMETRY	<u>"Demokritos" Institute, Greece</u>
POST-5	<u>Stamatelatos I.E., D.K. Nanopoulos, K. Kasviki, F. Tzika and A. G. Youtsos,</u> NON-DESTRUCTIVE ANALYSIS OF BULK CONCRETE SAMPLES USING PROMPT GAMMA NEUTRON ACTIVATION ANALYSIS	<u>"Demokritos" Institute, Greece</u>
POST-6	<u>Bardzokas D.I., Sfyris G.I.</u> THE STATE EQUATIONS FOR THE FIRST AND SECOND FUNDAMENTAL PROBLEMS OF ELASTODYNAMICS FOR A CRACKED MEDIUM	<u>NTUA, Greece</u>
POST-7	<u>Tat-Hean Gan, Robin Mallett and Peter Mudge</u> APPLICATION OF CROSS-CORRELATION AND WAVELET DE-NOISING TECHNIQUES FOR THE REDUCTION OF DISPERSION EFFECTS IN GUIDED ULTRASONIC SIGNALS	
POST-8	<u>¹Casula G., ²Fais S., ²Ligas P.</u> EXPERIMENTAL APPLICATION OF 3-D TERRESTRIAL LASER SCANNING AND ACOUSTIC TECHNIQUES IN ASSESSING THE QUALITY OF STONES USED IN MONUMENTAL STRUCTURES	<u>¹INGV, ² University of Cagliari, Italy</u>

POST-9	<u>Franceschi E.¹, D. Nole¹, L. Glozheni²,</u> A NON DESTRUCTIVE STUDY ON ALBANIAN BYZANTINE AND POST-BYZANTINE ICONS	¹ <u>University of Genoa, Italy,</u> ² <u>National Museum of Medieval Art, Albania</u>
POST-10	<u>Prokhorenko P. P., Baev A. R., and M. V. Asadchaya,</u> REFLECTION OF ACOUSTIC BEAM FROM THE SOLID SURFACE WITH INHOMOGENEOUS BOUNDARY CONDITIONS	<u>Institute of Applied Physics, Minsk, Belarus</u>
POST-11	<u>Prokhorenko Peter,</u> <i>PHYSICAL ASPECTS OF THE CAPILLARY CONTROL THEORY (LIQUID PENETRANT TESTING)</i>	<u>Institute of Applied Physics, Minsk, Belarus</u>
POST-12	<u>Baev A.R., P. Prokhorenko, K. Filippov, O. Karabukhina ,</u> ELASTIC WAVES IN SOLIDS WITH PROTECTIVE LAYER	<u>Institute of Applied Physics, Minsk, Belarus</u>

13:15 – 15:00	Lunch Break
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Thursday 11 OCTOBER 2007 15:00-16:45 (HALL A) SESSION 3 ARTWORKS & MONUMENTS NDT Chairmen: A.Moropoulou, C. Anastasiadis, C. Charitidis
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15:00-15:30	<u>Moropoulou A., E. T. Delegou, N. P. Avdelidis</u> LASER PROFILOMETRY FOR SURFACE ROUGHNESS AND 3-D MICRO-TOPOGRAPHY ASSESSMENT ON PENTELIC MARBLE	<u>NTUA, Greece</u>
15:30-15:45	<u>Sandoz Jean-Luc, Yann Benoit</u> NDT OF WOOD, FOR A REAL SUSTAINABLE DEVELOPMENT	
15:45-16:00	<u>Roje-Bonacci Tania</u> MONITORING OF FISSURES ON CONSTRUCTION TROGIR'S CATHEDRAL OF ST LAWRENCE (SV LOVRO), CROATIA	<u>University of Split, Croatia</u>
16:00-16:15	<u>Kartsonaki M*., M. Kouli, * P. Callet* E. Cheilakou**</u> NON DESTRUCTIVE IDENTIFICATION OF THE COLOURING SUBSTANCES ON THE MONUMENTS STUDIED BY COLORIMETRY	<u>* NTUA, Greece - **Ecole Centrale Paris, France</u>
16:15-16:30	<u>Anastasiadis C., D. Triantis, I. Stavrakas, A. Kyriazopoulos, P. Kyriazis,</u> ANALYSIS OF ELECTRIC SIGNALS OF ROCK BEAMS SUBJECTED TO BENDING	<u>TEI of Athens, Greece</u>
16:30-16:45	<u>Arvanitis M.</u> EVALUATION AND MAPPING OF CONCRETE AND REBAR CONDITION WITH THE GPR METHOD OF AN OLD BUILDING FACING DAILY EXTREME STRAIN	<u>Geomorph Instruments, Greece</u>

Thursday 11 OCTOBER 2007 15:00-16:45 (HALL B) SESSION 4 INDUSTRIAL APPLICATIONS -1 Chairmen: A. Anastasopoulos., R. Marini

15:00-15:30	<u>Nicholson P I, P Wallace</u> DEVELOPMENT OF A COMPREHENSIVE IN-LINE QUALITY CONTROL SYSTEM FOR PRINTED CIRCUIT BOARD ASSEMBLIES	<u>TWI Ltd, Cambridge, UK</u>
15:30-15:45	<u>Desimone Carlos, Pablo Katchadjian</u> INSPECTION OF TURBINE BLADE BOLTS	<u>CNEA, Argentina</u>
15:45-16:00	<u>¹Buckley Joseph M., ²Bruce Blakeley, ²Doug Breeze, ³David Parramore, ⁴Ioannis Seisakis, ⁴Dimitrios Korres</u> THE HULL INSPECTOR PROJECT: AN INVESTIGATION OF TECHNOLOGIES FOR NON-DESTRUCTIVE TESTING OF SHIP HULLS	<u>¹Sonatest Ltd, England, ²TWI, England, ³TSC Inspection, England, ⁴Zenon, Greece</u>
16:00-16:15	<u>Anastasopoulos A. & J. Redmon</u> INTEGRATING RISK BASED INSPECTION INTO PLANT CONDITION MONITORING SOFTWARE	<u>Envirocoustics, Greece</u>

16:15-16:30	<u>P. Chatzakos^{1,2}, Y. P. Markopoulos¹, D. Korres¹, V. Spais¹, G. Sisakis¹, N. Chatziniolaou¹, K. Hrissagis¹</u> , ¹ ZENON S.A., ² NTUA, Greece
	TOWARDS ROBOTIC NON-DESTRUCTIVE INSPECTION OF INDUSTRIAL PIPELINES
16:30-16:45	<u>Marini Roubini, Paraskevas Ranos, Athanassios Dimopoulos</u> Hellenic Aerospace Industry S.A., Greece
	PERFORMANCE ASSESSMENT OF PENETRANT AND MAGNETIC PARTICLE SYSTEMS USED AT HELLENIC AEROSPACE INDUSTRY

Thursday 11 OCTOBER 2007

16:45 (HALL C)

Exhibition Opening

Chairmen: G. Petridis, P. Ranos

Friday 12 OCTOBER 2007

Friday 12 OCTOBER 2007

09:00-11:00 (HALL A)

SESSION 5

COMPOSITE MATERIALS & NDT

Chairmen: R. Grimber, D. Mouzakis

08:00-09:00	<i>Registration continues.....</i>
09:00-09:30	<u>Grimberg Raimond¹, Adriana Savin¹, Sorin Leitou¹, Nicoleta Ifimie¹, Alina Bruma², Aurel Andreescu¹</u> ¹ National Institute of Research and Development for Technical Physic, Romania ² Al.I.Cuza University, Romania
	EXAMINATION AND MONITORING OF CARBON-EPOXY COMPOSITES STRUCTURES
09:30-09:45	<u>¹Preneloup A., ¹T. Gmür, J. Botsis, ²K. O. Papailiou, ²K. Obrist</u> ¹ EPFL, Switzerland ² Pfisterer-Sefag AG, Switzerland
	ACOUSTIC EMISSION INSPECTION AND ANALYSIS OF CRIMPED METAL COMPOSITE JOINTS SUBJECTED TO BENDING
09:45-10:00	<u>Hasiotis T., Badogiannis E., Tsouvalis N.,</u> NTUA, Greece
	APPLICATION OF ULTRASONIC C-SCAN TECHNIQUES FOR TRACING DEFECTS IN LAMINATED COMPOSITE MATERIALS
10:00-10:15	<u>Castaings M., B. Hosten,</u> Université Bordeaux, France
	ULTRASONIC GUIDED WAVES FOR HEALTH MONITORING OF HIGH PRESSURE COMPOSITE TANKS
10:15-10:30	<u>Papanicolaou G.C., A.G. Xepapadaki,</u> University of Patras, Greece
	PREDICTION OF POLYMERIC COMPOSITES MATERIALS' RESIDUAL STRENGTH AFTER DAMAGE DUE TO DIFFERENT DAMAGE SOURCES
10:30-10:45	<u>Mouzakis Dionysios E., D. Dimogianopoulos, Dimitrios Kouzoudis</u> University of Patras, Greece
	SEMI-STATIC CRACK DETECTION IN COMPOSITE MATERIALS BY MAGNETOELASTIC ALLOY STRIPS
10:45-11:00	<u>Faci Youcef, Mme Abida Satour, M. Badidi Bouda Ali, Benredjen Djamel</u> Centre scientifique et technique en soudage et contrôle, ALGERIE
	ELABORATION AND CHARACTERIZATION OF CARBON/EPOXY AND GLASS/EPOXY COMPOSITE STRUCTURE USED IN AERONAUTICS

Friday 12 OCTOBER 2007

09:00-11:00 (HALL B)

SESSION 6

ULTRASOUNDS – INDUSTRIAL APPLICATIONS -2

Chairmen: A. Antonatos, B. Yochev

09:00-09:30	<u>Staykov Krasimir, Damyan Ganchev, Svetoslav Kutzarov, Bogomil Yochev,</u> <i>Technical University of Sofia, Bulgaria</i> LONG RANGE ULTRASONIC TECHNIQUE FOR RAIL INSPECTION
09:30-09:45	<u>Buitrago B., Irausquin I., Mendoza J,</u> <i>Universidad Simón Bolívar, Venezuela</i> ULTRASONIC EVALUATION OF A BETA-C TITANIUM ALLOY
09:45-10:00	¹ <u>Panagiotidis P.P.,</u> ² <u>A.S. Antonatos,</u> ³ <u>G.M. Tsananas</u> ¹ <i>Testing Research & Standards Centre (TRSC), Greece</i> ² <i>TRSC,</i> <i>Manager of Metallurgical Laboratory, Greece,</i> ³ <i>TRSC, Greece</i> CASE DEPTH EXAMINATION BY USING VICKERS MICRO - HARDNESS TEST METHOD AT TRSC
10:00-10:15	<u>Mazeika L., R. Kazys, R. Raišutis, R. Šlieteris,</u> <i>Kaunas University of Technology, Lithuania</i> ULTRASONIC GUIDED WAVE TOMOGRAPHY FOR THE INSPECTION OF THE FUEL TANKS FLOOR
10:15-10:30	<u>Buckley Joseph M.</u> <i>Sonatest Ltd, Milton Keynes England</i> AN OVERVIEW OF THE PREDICTIVE MAINTENANCE APPLICATIONS OF AIRBORNE ULTRASOUND TESTING
10:30-10:45	T.H. Loutas, J. Kalaitzoglou, G. Sotiriades and V. Kostopoulos <i>University of Patras, Greece</i> ON THE APPLICATION OF NON-DESTRUCTIVE TESTING TECHNIQUES ON ROTATING MACHINERY
10:45-11:00	¹ <u>Antonatos A.S.,</u> ² <u>P.P. Panagiotidis,</u> ³ <u>G.M. Tsananas</u> ¹ <i>Testing Research & Standards Centre (TRSC), Greece</i> ² <i>TRSC, Manager of Metallurgical Laboratory, Greece,</i> ³ <i>TRSC, Greece</i> NDT CARRIED OUT IN POWER PLANTS BY TRSC

11:00 – 11:30	Coffee-Break
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Friday 12 OCTOBER 2007 11:00 (HALL D) Poster Presentation -2 Chairmen: Ath. Vahaviolos, G. Petridis, J.Sakellaris
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POST-1	<u>Soorgee M. H. and A. Yousefi-Koma,</u> <i>University of Tehran, Iran</i> CRACK DIAGNOSIS IN PLATES USING PROPAGATED WAVES AND HHT TRANSFORM
POST-2	<u>J.Sakellaris¹, I.N. Prassianakis¹, G. Tsamasphyros¹, Y. Hoon Shin², H. Young Seo²</u> ¹ <i>NTUA, Greece</i> ² <i>Korea Eddy Current & Ultrasonic Co. Ltd., Korea</i> VERIFICATION OF COMPUTATIONAL ELECTROMAGNETIC PROGRAMS – THE SPECIAL CASE OF TEAM WORKSHOP PROBLEM 15 (RECTANGULAR SLOT IN A THICK PLATE): PRESENTATION OF A PROBLEM IN NON DESTRUCTIVE EVALUATION
POST-3	<u>Providakis C. P. and M. E. Voutetaki,</u> <i>Technical University of Crete, Greece</i> DAMAGE PREDICTION USING RESPONSE SURFACE METAMODELS AND ELECTROMECHANICAL ADMITTANCE SIGNATURES
POST-4	<u>Elke Van de Castele^(a), Simone Bugani^(b), Mara Camaiti^(c), Luciano Morselli^(b), Koen Janssens^(d)</u> <i>(a) SkyScan, Belgium</i> <i>(b) Department of Industrial Chemistry and Materials, University of Bologna, Italy</i> <i>(c) CNR - Institute for Conservation and Enhancement of Cultural Heritage, Italy</i> <i>(d) Department of Chemistry, University of Antwerp, Belgium</i> <u>X-RAY MICROTOMOGRAPHY AS A NON-DESTRUCTIVE TOOL FOR STONE CHARACTERIZATION IN A CONSERVATION STUDY</u>
POST-5	<u>Botsaris Pantelis</u> <i>Democritus Univ. of Thrace., Polytechnic School, Dep. Of Production Eng. And Management, Greece</i> <u>A PRELIMINARY ESTIMATION OF ANALYSIS METHODS OF VIBRATION SIGNALS AT FAULT DIAGNOSIS IN BALL BEARINGS</u>
POST-6	<u>Sideridis E., G. D. Bourkas, V. N. Kytopoulos and I. N. Prassianakis</u> <i>NTUA, Greece</i> <u>THEORETICAL EVALUATION OF THE ELASTIC MODULUS OF PARTICULATE COMPOSITES BY THE CONCEPT OF INTERPHASE AND COMPARISON WITH DESTRUCTIVE AND NON-DESTRUCTIVE</u>

<u>EXPERIMENTAL RESULTS</u>	
POST-7	<u>Bourkas G.</u> <u>NTUA, Greece</u> AN INTERMEDIATE ADHESION QUALITY MODEL FOR THE EVALUATION OF STRENGTH AND INHERENT FLOW OF RESIN / FILLER SYSTEMS
POST.-8	<u>Bourkas G., E. Sideridis, C. Younis, J. Prassianakis, V. Kitopoulos,</u> <u>NTUA, Greece</u> STRENGTH OF RESIN / FILLER SYSTEMS USING TWO MODELS i) OF PERFECT and ii) OF LOW ADHESION QUALITY
POST.-9	<u>Papadopoulos G.A., E. Sideridis and H. G. Papadopoulou,</u> <u>NTUA, Greece</u> SHEAR PROPERTIES OF LAMINATES MADE OF ISOTROPIC PCBA AND PMMA LAYERS AS DETERMINED THROUGH SHORT BEAM BENDING TESTS
POST.-10	<u>Bourkas G., E. Sideridis, V. Kytopoulos, J.N. Prassianakis ,</u> <u>NTUA, Greece</u> EVALUATION OF THE ELASTIC MODULUS OF PARTICULATE COMPOSITES BY MEANS OF A SPHERE-WITHIN-CUBE AND A CIRCLE-INTO-SQUARE MODELS AND THE EFFECT OF FILLER SHAPE
POST.-11	<u>Diamond, G. G. and D. A. Hutchins,</u> <u>Univ of Warwick, School of Engin, Coventry,U.K.</u> <u>W. Mids,</u> <u>T. H. Gan,</u> <u>TWI Ltd, U.K.</u> DEFECT DETECTION USING CAPACITIVE IMAGING
POST.-12	<u>Bourkas G., V. Kytopoulos, E. Sideridis, C. Younis,</u> <u>NTUA, Greece</u> DETERMINATION OF THE DYNAMIC MODULI OF PARTICULATE COMPOSITES BY MEANS OF THE BASIC THREE COMPONENTS MODELS IN CUBE-WITHIN-CUBE FORMATION
POST.-13	<u>Bourkas G., C. Younis, B. Kytopoulos, E. Sideridis</u> <u>NTUA, Greece</u> PREDICTION OF THE ELASTIC MODULUS OF PARTICULATE COMPOSITES BY MEANS OF A GENERAL EVALUATION METHOD USING A FOUR COMPONENTS MODEL
POST.-14	<u>Sideridis E., G. Bourkas, V. Kitopoulos, J. Prassianakis, C. Younis</u> <u>NTUA, Greece</u> THE EFFECT OF INTERPHASE ON THE ELASTIC MODULUS OF PARTICULATE COMPOSITES USING TWO MODELS i) OF SIX and ii) OF SEVEN COMPONENTS
POST.-15	<u>Michael S. Arvanitis</u> <u>Geomorph Instruments</u> NDT INSPECTION IN A PETROL CHEMICAL INDUSTRY USING X-RAY

Friday 12 OCTOBER 2007
11:30-13:15 (HALL A)
SESSION 7
CERTIFICATION & ACOUSTIC EMISSION
Chairmen: M.J. Firley,N. G. Orfanoudakis

11:30-12:00	<u>Farley J.M.,</u> <u>President of EFNDT, U.K</u> PROGRESS REPORT ON THE DEVELOPMENT OF EFNDT GUIDELINES FOR AN OVERALL NDT QUALITY MANAGEMENT SYSTEM
12:00-12:15	¹ <u>Aufricht Gerhard,</u> ² <u>Roman Wottle</u> ¹<u>Austrian Society for NDT, Wien, Österreich</u> ²<u>National Aerospace NDT Board, Wien, Österreich</u> HOW TO MERGE EN 473 CERTIFICATION AND EN 4179/NAS410 QUALIFICATION IN AUSTRIA
12:15-12:30	<u>Grum Janez, Tomaz Kek</u> <u>Faculty of Mechanical, Engineering, Ljubljana, Slovenia</u> QUALITY ASSESSMENT OF A LASER CUT BASED ON CAPTURED ACOUSTIC EMISSION SIGNALS
12:30-12:45	¹ <u>Kalogiannakis Georgios,</u> ² <u>Danny Van Hemelrijck,</u> ¹<u>Katholieke Universiteit Leuven, Belgium</u> ²<u>Vrije Universiteit Brussel, Belgium</u> CLASSIFICATION OF AE SIGNALS FROM COMPOSITE MATERIALS BASED ON PARAMETER-LESS SELF ORGANIZED MAPPING
12:45-13:00	¹ <u>Krallis Konstantinos,</u> ² <u>Nikolaos G. Orfanoudakis</u> ¹<u>Heron Consultants Engineers, Greece</u> ²<u>TEI-Chalkis, Greece</u> THE APPLICATION OF QUALITY ASSURANCE IN NDT MEASUREMENTS
13:00-13:15	<u>Kepřt, J. - Beneš, P.,</u> <u>Brno University of Technology, Czech Republic</u> DETERMINATION OF UNCERTAINTY IN CALIBRATION OF ACOUSTIC EMISSION SENSORS

Friday 12 OCTOBER 2007
11:30-13:15 (HALL B)
SESSION 8
ANALYTICAL METHODS & NDT -1
Chairmen: T. Pramila, K.E Giannadakis

11:30-12:00	<u>¹Pramila T., ¹Rashmi Shukla, ²V.Raghuram</u> A STUDY OF THE SPECTRAL BEHAVIOR OF LASER-GENERATED LAMB WAVES USING WAVELET TRANSFORMS	<u>¹Department of Physics, Christ Church College ²Indian Institute of Technology Kanpur, India</u>
12:00-12:15	<u>¹Pramila T., ¹Anita Shukul, ²V.Raghuram</u> FREQUENCY ANALYSIS OF LASER-GENERATED PRESSURE WAVES USING WAVELET TRANSFORMS	<u>¹Department of Physics, Christ Church College ²Indian Institute of Technology Kanpur, India</u>
12:15-12:30	<u>Elballouti A., S. Belattar</u> NONDESTRUCTIVE THERMAL CHARACTERISATION OF THE LAYERS DETACHMENT IN THE ROADWAYS	<u>Faculty of Sciences, El Jadida, Morocco</u>
12:30-12:45	<u>Soorgee M. H. and A. Yousefi-Koma</u> CRACK DIAGNOSIS IN BEAMS USING PROPAGATED WAVES AND HHT TRANSFORM	<u>University of Tehran, Iran</u>
12:45-13:00	<u>C'Shekar N. Shitole, O. Zahran and W. Al-Nuaimy</u> ADVANCED NEURAL-FUZZY AND IMAGE PROCESSING TECHNIQUES IN THE AUTOMATIC DETECTION AND INTERPRETATION OF WELD DEFECTS USING ULTRASONIC TIME-OF-FLIGHT-DIFFRACTION	<u>University of Liverpool, UK</u>
13:00-13:15	<u>Giannadakis K.E., P.G. Michailides, P.I. Rokas, S.D. Fasois, G.C. Papanicolaou</u> A STOCHASTIC NDT METHOD FOR DAMAGE IDENTIFICATION AND PREDICTIVE MODELING FOR MECHANICAL PROPERTIES DEGRADATION DUE TO NOTCH EXISTANCE IN COMPOSITE MATERIALS	<u>University of Patras, Greece</u>

13:30 – 15:00	Lunch
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Friday 12 OCTOBER 2007
15:00 – 16:45 (HALL A)
SESSION 9
ANALYTICAL METHODS & NDT -2
Chairmen: G. Tsamasphyros, C. Providakis, P. Prokhorenko

15:00-15:30	<u>Tsamasphyros G.J., G.Kanderakis, A.Christopoulos,</u> NUMERICAL SIMULATION ANALYSIS OF THE SENSING CAPABILITIES FOR EMBEDDED METALLIC GRID, APPLIED TO COMPOSITE PATCH REPAIR	<u>NTUA, Greece</u>
15:30-15:45	<u>Siores E., K. Meramveliotaki and A. Lamb</u> BACTERIAL MAGNETIC PARTICLES FOR POTENTIAL APPLICATIONS IN NANOSCALE NDT&E	<u>Bolton University, UK</u>
15:45-16:00	<u>Bardzokas D. I., P. N. Lalou</u> THE INFLUENCE OF COUPLED THERMAL FIELDS ON THE BEHAVIOR OF CRACKED BODIES	<u>NTUA, Greece</u>
16:00-16:15	<u>Dimogianopoulos Dimitrios G., Dionysios E. Mouzakis and Dimitrios Kouzoudis</u> STATISTICAL DAMAGE DIAGNOSIS IN SMART SYSTEMS USING NON-CONTACT MAGNETOELASTIC METGLASS SENSORS AND STOCHASTIC MODELING OF INPUT/OUTPUT DATA	<u>University of Patras, Greece</u>
16:15-16:30	<u>Tsamasphyros, G.J., N.K. Fournarakis, K. Kalkanis, A. Christopoulos, G.N.Kanderakis</u> STRUCTURAL HEALTH MONITORING OF COMPOSITE PATCH REPAIRS USING EMBEDDED FIBER BRAGG GRATING SENSORS AND NEURAL NETWORK TECHNIQUES	<u>NTUA, Greece</u>
16:30-16:45	<u>Rizou Joanna, Alexander F. Vakakis,</u> A METHODOLOGY FOR VIBRATION-BASED NON-DESTRUCTIVE TESTING USING WAVELET AND HILBERT-HUANG TRANSFORMS	<u>NTUA, Greece</u>

Friday 12 OCTOBER 2007

15:00 – 16:45 (HALL B)

SESSION 10**EDDY CURRENTS & INDUSTRIAL APPLICATIONS***Chairmen: P. Tsagkaraki, Th. Theodoulidis*

15:00-15:15	¹ <u>Poulakis Nikolaos</u> , ^{1,2} <u>Theodoros Theodoulidis</u> ¹ <i>Technological Educational Institute of West Macedonia, Greece</i> ² <i>University of West Macedonia, Greece</i>
	THE USE OF A SQUID FOR QUANTITATIVE MAGNETIC FIELD MEASUREMENTS IN THE NANOTESLA REGION FOR EDDY CURRENT NDE
15:15-15:30	<u>Godbole Uday</u> , <i>Technofour, udayg@technofour.com</i>
	A TRIO OF TECHNIQUES FOR EDDY CURRENT INSPECTION OF TUBES AND BARS
15:30-15:45	¹ <u>Tsompanidis Ioannis</u> , ² <u>Vasilios Tsiakas</u> , ¹ <i>ELESYL OE, Athens, Greece</i>
	ULTRASONIC AND EDDY CURRENT EXAMINATION OF RAILWAY ROLLING STOCK
15:45-16:00	¹ <u>Grimberg Raimond</u> , ¹ <u>Adriana Savin</u> , ¹ <u>Sorin Leitoiu</u> , ² <u>Alina Bruma</u> , ¹ <u>Rozina Steigmann</u> , ³ <u>Lalita Udpa</u> , ³ <u>Satish S.Udpa</u> ¹ <i>National Institute of Research and Development for Technical Physics, Romania</i> ² <i>Al.I.Cuza University, Romania</i> , ³ <i>Michigan State University, USA</i>
	AUTOMATIC EDDY CURRENT DATA ANALYSIS
16:00-16:15	<u>Min-Kyoung Kim and Chang-Jae Yim</u> <i>Korea Advanced Inspection Technology Inc., Korea</i>
	CHARACTERIZATION OF EDDY CURRENT SIGNAL FROM QUATREFOIL TUBE SUPPORT PLATE FLOW HOLE BLOCKAGE OF STEAM GENERATOR TUBES
16:15-16:30	¹ <u>Tsagkari Panagiota</u> , ¹ <u>Antonios Antonakakis</u> , ² <u>Theodoros Theodoulidis</u> ¹ <i>Public Power Corporation, KDEP</i> , ² <i>University of West Macedonia, Greece</i>
	APPLICATION OF EDDY CURRENT TESTING FOR INSPECTING CONDENSER TUBING IN PPC FOSSIL POWER PLANTS
16:30-16:45	¹ <u>Tsompanidis Ioannis</u> ¹ <i>ELESYL OE</i>
	LIGHT FORM OF COMBINED ULTRASONIC AND EDDY CURRENT EXAMINATION SYSTEM FOR RAILWAY INFRASTRUCTURE

Friday 12 OCTOBER 2007**DINNER PARTY**

20:00

Restaurant Nykterida – Akrotiri – Chania

Tel.: 28210-64215

Saturday 13 OCTOBER 2007**Saturday 13 OCTOBER 2007**

09:00 – 11:00 (HALL A)

SESSION 11**CIVIL ENGINEERING APPLICATIONS***Chairmen: D. Triantis, R. Pucinotti*

09:00-09:30	¹ <u>Pucinotti Raffaele</u> , ² <u>Luana Hinterholz</u> , ¹ <u>Alessandro De Lia</u> , ³ <u>Rita A. De Lorenzo</u> ¹ <i>Mediterranean University of Reggio Calabria, Italy</i> , ² <i>Heritage Architect in Reggio Calabria, Italy</i> ³ <i>Architect in Reggio Calabria, Italy</i>
	INFLUENCE OF STEEL REINFORCEMENT ON ULTRASONIC PULSES VELOCITY
09:30-09:45	<u>Pucinotti Raffaele, Mario Versaci</u> <i>Mediterranean University of Reggio Calabria, Italy</i>
	WINDSOR PROBE TESTS: ASSESSMENT OF EQUIVALENT AGGREGATE HARDNESS BY NEURO-FAZZY TECHNIQUES

09:45-10:00	<u>Pucinotti Raffaele</u> <i>Mediterranean University of Reggio Calabria, Italy</i> THE USE OF MULTIPLE COMBINED NON DESTRUCTIVE TESTING IN THE CONCRETE STRENGTH ASSESMENT: APPLICATIONS ON LABORATORY SPECIMENS
10:00-10:15	¹ <u>Wang Helsin</u> , ² <u>Richard J. Finno</u> <i>¹National Taiwan University of Science and Technology, TAIWAN</i> <i>²Northwestern University, U.S.A.</i> AN EXPERIMENTAL VERIFICATION OF GUIDED WAVES PROPAGATING IN A PROTOTYPE CONCRETE PANEL
10:15-10:30	<u>Gabrijel I., D. Mikulić, D. Biegović, I. Stipanović</u> <i>University of Zagreb, Croatia</i> IN-SITU TESTING OF THE PERMEABILITY OF CONCRETE
10:30-10:45	<u>Kyriazopoulos A., I. Stavrakas, K. Ninos, C Anastasiadis, D. Triantis</u> <i>TEI of Athens, Greece</i> PRESSURE STIMULATED CURRENT EMISSIONS ON CEMENT PASTE SAMPLES UNDER REPETITIVE STEPWISE COMPRESSIONAL LOADING
10:45-11:00	¹ <u>Pucinotti Raffaele</u> , ² <u>Gino Mirocle Crisci</u> , ² <u>Milena Tripodo</u> , ¹ <u>Alessandro De Lia</u> , ³ <u>Rita A. De Lorenzo</u> <i>¹Mediterranean University of Reggio Calabria, Italy, ²Department of Hearth Science, University of Calabria, Italy</i> <i>³Architect in Reggio Calabria, Italy</i> THE FIUMARELLA BRIDGE: CONCRETE CHARACTERIZATION AND DETERIORATION ASSESSMENT BY NON DESTRUCTIVE TESTINGS

11:00-11:30	Coffee-Break
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Saturday 13 OCTOBER 2007 11:30 – 13:15 (HALL A) SESSION 12 INDUSTRIAL APPLICATIONS – 3 Chairmen: A. Rabtchevich, D. Tsakatikas	
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11:30-12:00	<u>Rabtchevich A., P. Prokhorenko, O. Matsulevich, V. Rudnitsky, S. Starshinov</u> <i>Institute of Applied Physics, Belarus</i> USE OF SEVERAL IMPACT PARAMETERS AT TESTING OF COMPLIANT AND ROUGH METALLIC ARTICLES BY THE DYNAMIC INDENTATION METHOD
12:00-12:15	<u>Tsakatikas D. and G. Kaisarlis</u> <i>NTUA, Greece</i> REVERSE ENGINEERING IN INDUSTRIAL MAINTENANCE COMPONENT CRITICALITY ANALYSIS
12:15-12:30	¹ <u>Hall JP</u> , ¹ <u>AJ Moses</u> , ² <u>D Snell</u> <i>¹Cardiff University, UK</i> <i>²Cogent Power Ltd., Orb Works, UK</i> DETECTION OF RESIDUAL CURVATURE IN ELECTRICAL STEEL STRIP USING A MAGNETIC FLUX INJECTION TECHNIQUE
12:30-12:45	<u>N. Avdelidis, K. Argyriadi, and I.N. Prassianakis</u> <i>NTUA, Greece</i> PRESENTING THE FILMFREE PROJECT AND THE ROLE OF HSNT IN THE CONSORTIUM
12:45-13:00	<u>Tsopelas N., N. J. Siakavellas</u> <i>University of Patras, Greece</i> THE EFFECT OF THE ANGLE OF INCLINATION OF THE EXCITING COIL IN ELECTROMAGNETIC-THERMAL NON-DESTRUCTIVE INSPECTION
13:00-13:15	¹ <u>Papadopoulos Myron</u> , ² <u>Giorzatos Nicola</u> , ³ <u>Prassianakis I.N.</u> <i>¹ElectMech.eng.P.P.C, Greece</i> <i>²Naval eng.P.P.C, Greece ³NTUA, Greece</i> THE FAULTS IN THERMOELECTRIC POWER STATION AND THE ROLE OF NON DESTRUCTIVE TESTS IN THE DIAGNOSTING PROCESSING

Saturday 13 OCTOBER 2007 11:00 – 15:00 (HALL B) EFNDT BoD Meeting Chairman: Dr. M. J. Farley, President of EFNDT	
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13:15 – 15:00	Lunch Break
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Saturday 13 OCTOBER 2007

15:00 – 16:45 (HALL A)

SESSION 13

THERMOGRAPHY & DYE PENETRANTS – NDT METHODS

Chairmen: M. Kazakevich, N. Avdelidis

15:00-15:30	<u>¹Ibarra-Castaneda C.,²N.P. Avdelidis,³E.G. Grinzato,³P.G. Bison,³S. Marinetti,¹A. Bendada,⁴Z.P. Marioli-Riga,¹X.P. Maldague</u> ¹ Laval University, Canada, ² EBETAM, Greece ³ CNR, Italy, ⁴ Hellenic Aerospace Industry, Greece
	IMPACT DAMAGE CHARACTERIZATION OF GLARE® SPECIMENS BY ACTIVE THERMOGRAPHY
15:30-15:45	<u>Kouridakis Stelios J.</u> <i>TEI of Crete, Chania, Greece</i>
	MAKING INFRARED SPECTRUM VISIBLE WITH INFRARED CAMERAS: ADVANTAGES AND APPLICATIONS
15:45-16:00	<u>^{1,2}Kalogiannakis G.,¹H.Zhang,³J.Ravi,⁴S.Longuemart,²D.Van Hemelrijck,¹C.Glorieux</u> ¹ Katholieke Universiteit Leuven, Belgium, ² Vrije Universiteit Brussel, Belgium ³ Cochin University of Science and Technology, India, ⁴ University of Littoral Cote d'Opale, France
	THE USE OF GRATING LOCK-IN IR THERMOGRAPHY FOR THE DETERMINATION OF THERMAL PROPERTIES
16:00-16:15	<u>Moropoulou A., J. Palyvos, V. Panagopoulous, M. Karoglou,</u> <i>NTUA, Greece</i>
	USE OF IR THERMOGRAPHY FOR PHOTOVOLTAIC PANELS PERFORMANCE ASSESSMENT
16:15-16:30	<u>Kazakevich M.L.</u> <i>Institute of Physical Chemistry (SE "KOLORAN") NAS of Ukraine</i>
	THE SCIENCE PRINCIPLES OF "DYE" PENETRANT'S "BUILDING"
16:30-16:45	<u>Diamond, -G. G., D. A. Hutchins, and P. Palay,</u> <i>University of Warwick, School of Engineering, Coventry, W. Mids, CV4 7AL United Kingdom</i>
	NEAR INFRARED (NIR) IMAGING FOR NDE

Saturday, 13 OCTOBER 2007

16:45 – 17:00 (HALL A)

CLOSING REMARKS

Chairmen: I.N. Prassianakis, G.C. Papanicolaou, M. Sfantzikoloulos

Sunday, 14 OCTOBER 2007 09:00 – 18:00

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