



The Japanese Society for Non-Destructive Inspection
The 20th International Acoustic Emission Symposium
(IAES20-KUMAMOTO)
November 16-19, 2010
Ark Hotel Kumamoto, Japan

Final
Program

Tuesday, 16th of November

Registration 16:00-19:00

Welcoming Reception 17:00-19:00

Wednesday, 17th of November

Registration 8:30-17:00

Opening Address 9:00-9:15
Prof. Shuichi WAKAYAMA,
Tokyo Metropolitan University, Japan

Sensor Devices 9:15-10:30
Chairperson: Christian U. GROSSE

Characterization of AE Sensors for Moment Tensor Analysis
Gerd MANTHEL, University of Applied Sciences,
Giessen-Friedberg, Germany

GPU Acceleration of AE Signal Processing Algorithms
Lubomir RIHA, R. SMID, H. EL-SAYED, and A. DOCEKAL,
Bowie State University, U.S.A.

Time and Continuous Waveform Calibration to uniform the Sensitivity Frequency Characteristics of AE Sensors and Amplifiers
Kaita ITO and M. ENOKI, University of Tokyo, Japan

Fundamental Study on Interferometer Type Optical Fiber AE Sensor for Underwater Measurement
Daisuke KAI and H. YUKI, University of
Electro-Communications, Japan

Dependence of AE parameters on the propagation distance
Demosthenes POLYZOS, A. PAPACHARA-
LAMPOPOULOS, T. SHIOTANI and D. G. Aggelis,
University of Patras, Greece

Coffee Break 10:30-11:00

Materials Characterization-1 11:00-12:00
Chairperson: Kanji ONO

AE Technique for Detecting the Delayed Cracks Under Thermal Sprayed Coating
Mikio TAKEMOTO, G. UENO, S. UENO, S. MASANO and
M. NAKAMURA, Kanmeta Engineering Co., Japan

Evaluation of AE Behavior during the Tensile Deformation of Al-Mg-Si Alloys with Different Heat Treatment
Yusuke KUNIYASU, Y. TOKUYAMA, H. NISHINO and K. YOSHIDA, University of Tokushima, Japan

Growth Behavior Monitoring of Martensitic Transformation in Cu-Al-Ni Shape Memory Alloy based on AE Waveform Simulation utilizing FEM
Takeshi YASUDA, B. PANG, H. NISHINO and K. YOSHIDA,
University of Tokushima, Japan

Study on Evaluation of Deterioration Conditions for FRP Laminates with AE Method - Influence of Ultraviolet Rays and Water Absorption -
Masanori TAKUMA, N. SHINKE and K. KAMIMURA,
Kansai University, Japan

Lunch 12:00-13:30

Structure and Manufacturing-1 13:30-15:00
Chairperson: Shuichi WAKAYAMA

AE Applications of Infrastructure Monitoring
Kanji ONO, Prof. Emeritus, UCLA, U.S.A.

Detection of Gas-Liquid Flow in Service Open Type Pipeline using AE
Tetsuya SUZUKI, T. NAKA, H. TARUYA, M. AOKI and M. OHTSU, Nihon University, Japan

Study of Application Method of AE Measurement in Full-Scale Bending Test for Blades of Wind Turbine
A. DEGUCHI, H. KAWAI, M. ZAKO, Hideyuki NAKAMURA and H. KAWASAKI, Kinden Co., Japan

Problem of Test of Double-Wall Storage Tank for Liquid Ethylene with AE Method
Marek NOWAK, I. BARAN, Z. Nicewicz, J. SCHMIDT and A. ZAGORSKI, Cracow University of Technology, Poland

New AE Measurement System AMSY-6
Hartmut VALLEN, J. VALLEN and T. THENIKL, Vallen Systeme GmbH, Germany

AE Testing (AT) of Surface Transport Products
Peter TSCHELIESNIG, TUV Austria Services GmbH, Austria

Coffee Break 15:00-15:30

Structure and Manufacturing-2 15:30-17:30
Chairperson: Kenichi YOSHIDA

Degradation Process in Flexible Thin Film Solar Cells under Tensile Loading Characterized by AE
Shuichi WAKAYAMA and A. MIZUTANI, Tokyo Metropolitan University, Japan

A Study on Failure Behavior of CFRP Bolted Joints with Cone Washers by AE Analyses
Tsukasa KATSUMATA, Y. MIZUTANI, A. TODOROKI and R. MATSUZAKI, Tokyo Institute of Technology, Japan

Investigation of AE Signal Characteristics of Main Spindle on Giant Wheel
Zhanwen WU, G. SHEN and J. YUAN, China Special Equipment Inspection and Research Institute, China

Application of AE Measurement in Damage Evaluation for CFRP Fluted Plate

Hikaru KAWASAKI, H. NAKAMURA and T. INADA, IHI Inspection & Instrumentation Co. Ltd., Japan

Remote Structural Health Monitoring of a Fracture Critical Bridge

Richard S. GOSTAUTAS, T. VALATKA, P. BANAKIEWICZ and E. ZHOU, Mistras Group Inc., U.S.A.

Characteristics of AE from Impact-Damaged CFRP Laminates during Tensile Tests

Sota SUGIMOTO, Y. MIZUTANI, A. TODOROKI and R. MATSUZAKI, Tokyo Institute of Technology, Japan

AE Testing of a Containership During Voyage

Richard S. GOSTAUTAS, T. VALATKA, S. TERNOWCHEK, G. WANG and M. LEE, Mistras Group Inc., U.S.A.

Improvement of Localization of AE Clusters based on Similarity of AE Events

Lumbomir RIHA and R. SMID, Bowie State University, U.S.A.

Thursday, 18th of November

Registration 8:30-17:00

Keynote: Onoe-Lecture 9:00-9:30

Chairperson: Shigenori YUYAMA

Condition monitoring of material processing by AE

Prof. Manabu ENOKI, University of Tokyo, Japan

Materials Characterization-2 9:30-10:30

Chairperson: Shigenori YUYAMA

Monitoring of AE during Fatigue of Metal Plates

Dimitrios G. AGGELIS, E. Z. KORDATOS and T. E. MATIKAS, University of Ioannina, Greece

Damage Kinetics and Kaiser Effect under the Framework of Interactive Damage and Stress Fields in evaluating Material's Mechanical Behavior

Gary QI and Ming FAN, University of Memphis, U.S.A.

AE Measurements on Piezoelectric/Ferroelectric Materials

Hideaki ABURATANI, Kitakyushu National College of Technology, Japan

Detection of Fatigue Crack Initiation and Monitoring Crack Growth in Ti-6Al-4V Alloy using AE Technique

Shivanand BHAVIKATTI, M. R. BHAT and C. R. L. MURTHY, Indian Institute of Science, India

Coffee Break 10:30-11:00

Concrete and Composite-1 11:00-12:00

Chairperson: Gerd MANTHEI

Damage Identification of RC Bridge Decks with AE Monitoring

Tomoki SHIOTANI, K. KAWAI, S. MOMOKI, H. K. CHAI, H. OHNISHI and T. KAMADA, Kyoto University, Japan

Verification of Promising AE Parameters for Damage Assessment of Bridge Deck using In-Situ-Sampled Specimens

Keisuke KAWAI, T. SHIOTANI, S. MOMOKI and H. K. CHAI, Kyoto University, Japan

Evaluation of Mechanical Behavior of Activated Carbon Composites by 4-Point Flexural Test using AE Technique

Takenobu SAKAI, C. R. R. SOBERANIS, T. MASUKO, S. KOBAYASHI and S. WAKAYAMA, Tokyo Metropolitan University, Japan

Failure Process in Bending of Thin Concrete Members estimated by AE

Kentarō OHNO, K. UJI and A. UENO, Tokyo Metropolitan University, Japan

Lunch 12:00-13:30

Geotechnical Engineering and System 13:30-15:00

Chairperson: Tomoki SHIOTANI

Discriminatory Wavelet Packet Method for locating Damage in Stressed Rock

Chu-Shu KAO, N. F. INCE, Q. LIN, M. KAVEH and J. F. LABUZ, University of Minnesota, U.S.A.

A Study on Application of Fiber Optical AE Sensor for Monitoring Rock Mass Failure around a Deep Underground Chamber

Hirokazu FUJII, Y. SAITO, M. TANAKA, K. HATA and H. MIYAZAKI, Lazoc, Inc., Japan

The Athena Temple of Syracuse: Structural Stability Investigation by AE

A. CARPINTERI, S. INVERNIZZI, Giuseppe LACIDOGNA, A. MANUELLO and G. NICCOLINI, Politecnico di Torino, Italy

Numerical Simulation to examine AE Sensor Arrangement on Accuracy for Source Location and Its Application

Tsuyoshi ISHIDA, Kyoto University, Japan

On-Site Health Assessment of RC Bridge with AE Technique

Nobuhiro OKUDE, T. IWAHARA, K. KAWA and T. SHIOTANI, Tokai Technology Center, Japan

Imaging of Deep Structure using Reflection Waves detected by Spectral Matrix Analysis and Confidence Levels

Hirokazu MORIYA, Tohoku University, Japan

Coffee Break 15:00-15:30

Special Lecture 15:30-16:30

Chairperson: Masayasu OHTSU

Dawn of AE Research

Dr. Morio ONOE, Professor Emeritus, University of Tokyo, Japan

Buffet Party 18:00-20:00

Master of Ceremony: Prof. Mitsuhiro SHIGEISHI
Kumamoto University, Japan

Friday, 19th of November

Registration 8:30-14:00

Keynote: GCOE-Lecture 9:00-9:30

Chairperson: Masayasu OHTSU

New Trends and Applications in the AE Testing of Construction Materials and the Monitoring of Structures
Prof. Christian U. GROSSE, Technical University Munich, Germany

Concrete and Composite-2 9:30-10:30

Chairperson: Masayasu OHTSU

Study of AE Data Analysis Tools for Structural Health Monitoring Applications
Manindra KAPHLE, A. C. C. TAN, D. P. THAMBIRATNAM and T. H. T. CHAN, Queensland University of Technology, Australia

Monitoring of Corrosion Process in Reinforced Concrete due to Salt Attack by AE

Yuma KAWASAKI, M. KITAURA, Y. TOMODA and M. OHTSU, Kumamoto University, Japan

Study on the damage evaluation of CFRP in AE measurement

Hikaru KAWASAKI and H. NAKAMURA, IHI Inspection & Instrumentation Co. Ltd., Japan

The Fundamentals of Structural Health Monitoring by the AE Method

Boris MURAVIN, G. MURAVIN and L. LEZVINSKY, Margan Physical Diagnostics Ltd., Israel

Coffee Break 10:30-11:00

Materials Characterization-3 11:00-12:15

Chairperson: Hideo CHO

The Estimation of Deformation Behavior of Coated Layer of the Paperboard during the Scratching Test with AE Method

Hiroyuki KISHI, T. KATO, S. KANAI, K. YAMASHITA, S. NAGASAWA and Y. FUKUZAWA, Nagaoka University of Technology, Japan

AE Behavior of Single Crystal Fe-Si Steels with Different Si Contents during Tensile Deformation

Pornthep CHIVAVIBUL, S. A. KHAN, P. SEDLAK and M. ENOKI, University of Tokyo, Japan

Necessary Condition for Delayed Fracture of Meta-S table Type-304 Stainless Steel with Strain-Induced Martensite

Mikio TAKEMOTO, S. UENO, M. NAKAMURA and G. UENO, Kanmeta Engineering Co., Japan

Acoustic Emission Monitoring of Compression-After-Impact Test of CFRP Laminates Damaged by Simulated Lightning Strikes

Jae-Ha Shin, Oh-Yang Kwon^{*} and Seong-Wook Seo, Inha University, Korea

Acoustic Emission Analysis of Fracture of Metallic Glasses
Alexey LAZAREV and A. Vinogradov Osaka City University, Japan

Lunch 12:15-13:45

Monitoring and Instrumentation 13:45-15:00

Chairperson: Manabu ENOKI

AE Monitoring for Intergranular-Type Stress Corrosion Cracking of Sensitized AISI 304 Steel induced by Polythionic Acid

Hideo CHO, H. HARIU, and T. MATSUO, Aoyama Gakuin University, Japan

Damage Detection of Graphite Electrode in Lithium Ion Battery by AE

Takuma MATSUO, M. UCHIDA and H. CHO, Aoyama Gakuin University, Japan

Experimental Study of Sub-Cooled Boiling Flow by AE Method

Rami CARMi, A. BUSSIBA, G. WEIDENFELD, Y. AHARON, I. ALON and I. HOCHBAUM, NRCN-Israel, Israel

Revealing, Identifying and Assessing “Non-Predictable Flaws” in High Chromium Steels by Quantitative AE

Nondestructive Inspection and Photo-Elastic Methods
G. MURAVIN, Itzik MIZRAHI and N. FRAGE, Margan Physical Diagnostics Ltd., Israel

Fatigue Process Evaluation during Ultrasonic Fatigue Testing analyzed by using Laser Doppler Vibrometer and Continuous AE Waveform Analysis System

Mitsuharu SHIWA, Y. FURUYA, H. YAMAWAKI, K. ITO and M. ENOKI, National Institute for Materials Science, Japan

Closing Address 15:00-15:15

Prof. Manabu ENOKI,
University of Tokyo, Japan

15:30-17:30 The 2nd Meeting of RILEM TC-MCM for RILEM TC members