



The Japanese Society for Non-Destructive Inspection
The 21st International Acoustic Emission Symposium
(IAES21-OKINAWA)
November 27-30, 2012
Okinawa Pref. Municipal Center, Okinawa, Japan

Tentative
Program

Tuesday, November 27

Registration 17:30-19:30

Welcoming Reception 18:00-20:00

Wednesday, November 28

Registration 8:30-17:00

Opening Address 9:00-9:15

Prof. Shuichi WAKAYAMA,
Tokyo Metropolitan University, Japan

Concrete 9:15-10:30

Chairperson: Gerd MANTHEI

Damage Assessment of Materials with Transfer Functions of AE Waveforms

Tomoki SHIOTANI, Y. TANAKA, T. WATANABE, H. OHTSU, Kyoto University, Japan

Evaluation of Drying Shrinkage Process in Concrete by Acoustic Emission and RATE Process

Yuma KAWASAKI, T. MASTUO, Y. MATSUDA, K. IZUNO and M. OHTSU, Ritsumeikan University, Japan

Comparison of Failure Processes in Bond Strength Tests between Shear and Splitting Tensile in Concrete with Repairing Material by Acoustic Emission

Kenro OHNO, S. KUROHARA, K. UJI and A. UENO, Tokyo Metropolitan University, Japan

AE Indices for Characterization of Concrete Failure Process

Mielke Rievoulda Irienne Alfrits Josef MONDORINGIN and M. OHTSU, Kumamoto University, Japan

Contribution of Micro-cracks to Tensile Basic Creep of Mortar in Early-age Evaluated by Acoustic Emission

Ken WATANABE, N. SAKAKIBARA and J. NIWA, Railway Technical Research Institute, Japan

Coffee Break 10:30-11:00

Instrumentation 11:00-12:15

Chairperson: Masayasu OHTSU

Data Reduction Approach – A Study for Simplifying Acoustic Emission (AE) Data

K. NIENHAUS, F. D. BOOS, C. KÜCH and Ralph BALTES, RWTH Aachen University, Germany

Study of Termite Detection Technology by Acoustical Method

Hideyuki NAKAMURA, Y. NAGAOKA, H. TASHIRO and W. OHMURA, IHI Inspection & Instrumentation Co., LTD, Japan

Behavior of Screech Tone Detected during Leak from Gas Pipe in Sand Using AE Method

Kenichi YOSHIDA, K. TSURI and H. NISHINO, Tokushima Bunri University, Japan

Detection of Small Projection on Inside Surface of Narrow Tube by Laser of Oblique Incidence

Motoatsu MIWA and N. KANAI, Kanagawa Institute of Technology, Japan

Acoustic Emissions in Planetary Gearboxes: Mathematical Model and Analysis of Experimental Measurements

Cristián Molina VICUÑA, K. G. PEÑARANDA and K. NIENHAUS, Universidad de Concepción, Chile

Lunch 12:15-13:45

Coatings and Medical Fields 13:45-15:00

Chairperson: Mikio TAKEMOTO

Noise-Resistant Method of AE Events Detection with Multiple Thresholds and Its Application to Plasma Spraying Process

Kaita ITO, H. KURIKI, H. ARAKI, S. KURODA and M. ENOKI, The University of Tokyo, Japan

In-situ Evaluation of Plasma Spraying Process of Thermal Barrier Coatings

Hitoshi KURIKI, K. ITO, H. ARAKI, S. KURODA and M. ENOKI, The University of Tokyo, Japan

AE Studies on Effect of Viscoelasticity of Bovine Cortical Bone on Microdamage Accumulation Behavior

Takenobu SAKAI, T. MIYANAGA, E. YOSHIDA, K. YASUI and S. WAKAYAMA, Tokyo Metropolitan University, Japan

Investigation of Fatigue Micro-Crack Growth in Ceramic / Dentin Adhesive Interface Using the Acoustic Emission Technique

Chun-Li LIN, J. J. YU, S F. HUANG, W. J. CHANG and Y. H. CHANG, National Yang-Ming University, Taiwan

AE Monitoring of Damage Process of Rabbit Patellar Tendon under Various Strain Rate

Satomi SUZUKI, T. SAKAI, S. WAKAYAMA and E. YAMAMOTO, Tokyo Metropolitan University, Japan

Coffee Break 15:00-15:30

Structures and Manufacturing – 1 15:30-16:45

Chairperson: Shigenori YUYAMA

Classification of AE Sources during Welding Process

Feng LIU, T. KASUYA and M. ENOKI, The University of Tokyo, Japan

Evaluation of Effect of Water Layer on Impact Force during Laser Shock Peening Process by AE Method

Tomoki TAKATA, M. ENOKI, A. MATSUI and Y. KOBAYASHI, The University of Tokyo, Japan

Rotor Blade Crack Detection by Means of Acoustic Emission

Siripong CHEANKLIN, K. ANURAKPONGSATORN, W. CHABTHANOM, P. RATTANANGAM, S. WIJITTHONGREUNG and P. KUNTHONG, Rayong Engineering & Plant Service Co., Ltd., Thailand

Development and Application of Structural Health Monitoring System for Seamless Pressure Vessel Using Acoustic Emission Technique

Dong-Hyun KIM, S. B. LEE, K. H. KIM, D. J. YOON, B. S. YANG and D. M. BAE, RECTUSON, Korea

Use of Acoustic Emission for Damage Estimation of Concrete Irrigation Infrastructures in Disaster Areas due to the Great East Japan Earthquake

Tetsuya SUZUKI, T. NAKA and M. OHTSU, Niigata University, Japan

Thursday, November 29

Registration 9:00-12:30

Sensor Device 9:15-10:30

Chairperson: Peter TSCHELIESNIG

Intrinsically Safe Acoustic Emission Equipment Opens the Door to Permanent Monitoring Applications in Explosion Hazardous Areas

Hartmut VALLEN and T. THENIKL, Vallen Systeme GmbH, Germany

PMN-PT Single Crystal Acoustic Emission Sensor

Ki-Bok KIM, G. W. KIM, J. K. JEONG, M. Y. CHOI and K. H. KIM, Korea Research Institute of Standards and Science, Korea

Characteristics of Electrical Discharge Pulse Sound at High Temperature

Yoshiaki AKEMATSU, K. KAGEYAMA, H. MURAYAMA, Y. MACHIJIMA, T. TANI and H. GOTOH, Tsukuba University of Technology, Japan

Acoustic Emission Measurement Using an FBG Ultrasound-detection System Incorporating a Fiber Ring Laser

H. TSUDA, Atsushi TOYAMA, K. KUMAKURA, H. NAKATANI and S. OGIHARA, Tokyo University of Science, Japan

Frequency Characteristics and Directivity of Interferometer Type Optical Fiber AE Sensor in Underwater Measurement

Daiki KIMURA and H. YUKI, The University of Electro-Communications, Japan

Coffee Break 10:30-11:00

Materials Characterization – 1 11:00-12:30

Chairperson: Kenichi YOSHIDA

Unique AE from Ammonia Stress Corrosion Cracking of Brass

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

In-situ Observation of SCC in SUS304 Stainless Steel by AE and VMS

Mitsuharu SHIWA, B. MICHAL, H. YAMAWAKI, H. MASUDA, K. ITO and M. ENOKI, National Institute for Materials Science, Japan

Classification of AE Signals in Single Crystal Fe-Si Steels Using Principal Component Analysis and K-means Clustering

Pornthep CHIVAVIBUL and M. ENOKI, The University of Tokyo, Japan

AE Simulations for the Dynamic Behavior Analysis of Martensitic Transformation in Cu-Al-Ni Shape Memory Alloy

Takeshi YASUDA, B. PANG, H. NISHINO and K. YOSHIDA, Anan National College of Technology, Japan

Evaluation of Twinning-Detwinning and Dislocation Movement in AZ31 Magnesium Alloy by AE Method

Takashi YASUTOMI and M. ENOKI, The University of Tokyo, Japan

Evaluation of Grain Size Effect on Anisotropic Properties of Hot Rolled AZ31 Mg Alloy by AE Analysis

Kosuke MATSUMOTO, T. YASUTOMI and M. ENOKI, The University of Tokyo, Japan

Lunch 12:30-14:00

Excursion 14:00-

Supported by Yamaguchi Fund

Buffet Party 18:30-20:30

Master of Ceremony: Kaita ITO
The University of Tokyo, Japan

Friday, November 30

Registration 9:00-12:30

Geotechnical / Rock Engineering 9:15-10:30

Chairperson: Tomoki SHIOTANI

Application of the Collapsing Method on Acoustic Emission Events during Microcracking around a Gas-Pressure Loaded Borehole in Rock Salt Formation

Gerd MANTHEI, H. MORIYA and T. POPP, Technische Hochschule Mittelhessen, Germany

Detection of Mining-Induced Fractures around a Stope in Ezulwini Gold Mine, South Africa, by Using AE Events with Similar Waveforms

Hirokazu MORIYA, M. NAOI, M. NAKATANI, O. MURAKAMI, T. KGARUME, A. K. WARD, R. DURRHEIM, P. JOACHIM, Y. YABE, H. KAWAKATA and H. OGASAWARA, Tohoku University, Japan

Monitoring of Acoustic Emission Activity around a Large-Diameter Borehole in Rock Salt

Daniel DÖRNER, J. PHILIPP, G. MANTHEI, T. POPP, GMuG Gesellschaft für Materialprüfung und Geophysik, Germany

Application of AE Tomography for Fracture Visualization of Rock Material

Kunya IWAMOTO, T. SHIOTANI, Y. KOBAYASHI and S. MOMOKI, Kyoto University, Japan

Acoustic Emissions as a Tool for Material Identification in Rock Cutting

K. NIENHAUS, K. Garate PEÑARANDA, C. KLEIN, F. D. BOOS and R. BALTES, RWTH Aachen University, Germany

Coffee Break 10:30-11:00

Materials Characterization – 2 11:00-12:30

Chairperson: Dong-Jin YOON

Characteristics of Acoustic Emission from Lithium Ion Batteries with Different Type Carbonaceous Materials

Takuma MATSUO, H. CHO, Meiji University, Japan

Acoustic Emission Analysis of SEI Layer Formation in Lithium-Ion Batteries

Teruhisa BABA, Y. KASHIWA, M. GONDA, K. KAMIGUCHI, S. ARAKI and K. YONEDA, NISSAN ARC, LTD., Japan

Quantitative Evaluation of Micro/Nano-Adhesion by AE Technique

Alan HASE, H. MISHINA and M. WADA, Saitama Institute of Technology, Japan

AE Evaluation of Thermal Shock Fracture Processes in Silicon Nitride with Controlled Grain Size

Go KAMETANI, T. SAKAI, S. WAKAYAMA and K. YOSHIDA, Tokyo Metropolitan University, Japan

Study on Evaluation of Interlaminar Shear Strength for Deteriorated CFRP Laminate Plate by Environmental Factor with AE Method

Masanori TAKUMA, S. TAKADONO, K. SAITOH, Y. TAKAHASHI and T. SASAKI, Kansai University, Japan

Acoustic Emission Characterization of Fracture Modes in Structural Materials

Dimitrios G. AGGELIS, A. MPALASKAS, T. E. MATIKAS and D. van HEMELRJICK, University of Ioannina, Greece

Lunch 12:30-13:30

Structures and Manufacturing – 2 13:30-14:45

Chairperson: Hartmut VALLEN

Detection and Evaluation of Damages in the Wind Turbine Blade Using Acoustic Emission Monitoring

Dong-Jin YOON, B. H. HAN and Y. H. HUH, Korea Research Institute of Standards and Science, Korea

Acoustic Emission from Composite Over Pressure Vessels

Yoshihiro MIZUTANI, M. KOBAYASHI, A. TODOROKI, Y. SUZUKI, T. SUDOH and K. AOKI, Tokyo Institute of Technology, Japan

Application of AE in the Assessment of Reinforcement Mechanism in Composite Reinforced Steel Cylinders

Jerzy Czeslaw SCHMIDT, M. NOWAK, I. BARAN and T. NOWAK, Cracow University of Technology, Poland

Corrosion and Crack Monitoring by Means of Acoustic Emission (AE) on Surface Transport Products

Peter TSCHELIESNIG, TÜV Austria Services GmbH, Austria

Acoustic Emission as a Tool for Detection of Defects in Dynamically Loaded Slide Bearings

Marek NOWAK, J. SCHMIDT and I. BARAN, Cracow University of Technology, Poland

Closing Address 14:45-15:00

Prof. Manabu ENOKI,
The University of Tokyo, Japan

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(IAES21-OKINAWA)

Timetable

Tue., Nov. 27		Wed., Nov. 28		Thu., Nov. 29		Fri., Nov. 30	
		8:30					
		9:00	Registration	9:00		9:00	
		9:15	Opening Address	9:15	Registration	9:15	Registration
			Concrete		Sensor Device		Geotechnical / Rock Engineering
		10:30	Coffee Break	10:30	Coffee Break	10:30	Coffee Break
		11:00	Instrumentation	11:00	Materials Characterization - 1	11:00	Materials Characterization - 2
		12:15	Lunch	12:30		12:30	Lunch
		13:45	Coatings and Medical Fields	14:00	Lunch	13:30	Structures and Manufacturing - 2
		15:00	Coffee Break		Excursion	14:45	Closing Address
		15:30	Structures and Manufacturing - 1			15:00	
		16:45					
		17:00					
17:30	Registration						
18:00	Welcoming Reception			18:30			
19:30					Buffet Party		
20:00				20:30			