

第19回国際アコースティック・エミッション
シンポジウム (IAES-19)

期 日：2008年12月9日(火)～12(金)

会 場：京都大学

福井謙一記念研究センター

〒606-8103 京都府京都市左京区高野西開町34-4

TEL：075-711-7708

<http://www.fukui.kyoto-u.ac.jp/>

主 催：(社)日本非破壊検査協会

共 催：京都大学大学院工学研究科

後 援：(財)防災研究協会

協 賛：34 関連学協会

ホームページ：<http://www.19iaes-kyoto.com/>

問合せ先：075-383-3261 塩谷智基 (京都大学大学院)

Eメール：19iaes_kyoto@toshi.kuciv.kyoto-u.ac.jp

参加ご希望の方は、以下の URL から直接お申し込みください。

http://www.19iaes-kyoto.com/reg_general.html

予告プログラム

Tuesday, December 9

Registration 8 : 30 – 8 : 50

Opening Address 8 : 50 – 9 : 00

Sensor 1 9 : 00 – 10 : 30

Measurement of Plate Thickness by Using Optical Fiber Sensor
Y. Akematsu (Assistant Professor, Department of Mechanical Engineering, Niihama National College of Technology)

Wireless Acoustic Emission Sensors and Applications
M. F. Carlos, S. J. Vahaviolos, E. Lowenhar (Physical Acoustics Corporation), P. T. Cole (Physical Acoustics Ltd.)

Influences of Selected Sources of Uncertainty on AE Sensor Primary Calibration
J. Keprt, P. Benes (PhD student, Dept. Automation, Brno University of Technology)

Development of Non-resonant Optical Fiber AE Sensors for Measuring Low-Frequency signals
T. Kosaka, N. Koyanagi, K. Osaka, Y. Sawada (Lecturer, Graduate School of Engineering, Osaka City University)

Electromagnetic Method of Elastic Wave Generation for Acoustic Emission Sensor Calibration
S. Lazarev, A. Vinogradov, A. Mozgovoi, A. Shvedov (Director, Microsensors AE)

Corrosion Detection by Fiber Optical AE Sensor
Y. Machijima, M. Azemoto, T. Tada, H. Mori (Lazoc Inc.)

————— Break —————

Signal Processing 10 : 45 – 11 : 45

A Method for Locating Acoustic Emission Signal Sources by a Single Sensor
O. Bashkov, S. Panin, N. Semashko, D. Shpa (Komsomolsk-on-Amur State Technical University)

Study of AE Signal Processing Methods Based on Hilbert-Huang Transform
W. Li, G. Dai, F. Long, P. Jiang (Daqing petroleum institute)

Crack Localization Using Wavelet Transformation of Dispersive Waves in Steel Plates

P. Sedlak, S. Khan, Y. Hirose, M. Enoki (Postdoctoral researcher, Department of Materials Engineering, Graduate School of Engineering, The University of Tokyo)

New Dual AE Signal Processor with Digital Filter Capabilities

H. Vallen (Director, Vallen Systeme GmbH)

————— Lunch —————

Materials 1 13 : 00 – 14 : 00

Wavelet Transform Analysis of AE in Layer-Integrated Steels during Tensile Deformation

Y. Hirose, S. Nambu, M. Enoki (Graduate Student, Department of Materials Engineering, the University of Tokyo)

Development of Diagnostic Equipment Based on Acoustic Emission Measurements during Ion Beam Material Processing

M. Silkin, M. Styerovoyedov (Kharkov National University named after V.N. Karazin)

Evaluation of Fatigue Crack Growth Characteristics of Cermet Studied by Acoustic Emission Technique

T. Sunouchi, H. Cho, T. Ogawa, Y. Kobayashi (Department of Mechanical Engineering, Aoyama Gakuin University)

Study on Crack Repair of Al₂O₃ Ceramics by YAG Laser Irradiation — Evaluation for Recovery Condition of Bending Strength Based on Chaos Analysis results of AE signal —

M. Takuma, N. Shinke, Y. Matui, Y. Tomatsu (Faculty of Engineering Science, Mechanical Engineering, Kansai University)

————— Break —————

Manufacturing 14 : 15 – 15 : 00

In-situ Detection of Delamination during Plasma Spraying by Laser AE Method

K. Ito, S. Ohmata, M. Watanabe, S. Kuroda, M. Enoki (Graduate Student, Department of Materials Engineering, The University of Tokyo)

Source Analysis of AE in Thermal Barrier Coating during Plasma Spraying

S. Ohmata, K. Ito, M. Watanabe, S. Kuroda, M. Enoki (The University of Tokyo)

Effects of Coated Layer during Die Cutting Process on the AE and Cutting Properties of Paperboard

I. Kohsaka, Y. Fukuzawa, S. Nagasawa, S. Suzuki (Master, Mechanical Engineering, Nagaoka University of Technology)

————— Break —————

Materials 2 15 : 15 – 16 : 15

Liquid Boiling and Liquid Drop Evaporation as Acoustic Emission Sources

P. Benes, J. Keprt (Assoc. Prof., Dept. Automation, Brno University of Technology)

Identification of Defects under Loading by Wavelet Analysis of Acoustic Emission Signals

S. Panin, O. Bashkov, N. Semashko, D. Shpak (Institute of Strength Physics and Materials Science of SB RAS)

Monitoring Delayed Hydrogen Cracking During Gap-Bead-on-Plate Test Using Acoustic Emission Technique

T. Jayakumar, S. Albert, G. Sharma, C. Mukhopadhyay, Y. Ramaseshu, A. Bhaduri (Head, NDE Division, Indira Gandhi Centre for Atomic Research, Kalpakkam)

Early Identification of Hydrogen Embrittlement by Indentation with Acoustic Emission Measurements

D. Merson, D. Mesheryakov, A. Vinogradov (Professor and Chair, Department of Physics and Mechanics of Materials, Togliatti State University)

———— Break ————

Concrete 1 **16 : 30 – 17 : 30**

Acoustic Emission Monitoring of Steel Fiber Reinforced Concrete Beams Under Bending Load

D. Aggelis, D. Soulioti, N. Barkoula, A. Paipetis, T. Matikas, T. Shiotani (Assistant Professor, Dept. of Materials Science and Technology, University of Ioannina)

Study of Kaiser Effect in Concrete Material under Cyclic Loading

W. Ko (Research Engineer, Geotechnical Engineering Research Center, Sinotech Engineering Consultants, Inc)

Weibull Distribution Analysis of Acoustic Emission in Compression Test of Concrete

M. Shigeishi, M. Tsukioka (Associate Professor, Graduate School of Science & Technology, Kumamoto University)

Acoustic Emission for Characterizing Behavior of Composite Concrete Elements under Flexure

S. Momoki, H. Chai, D. Aggelis, A. Hirama, T. Shiotani (Research Engineer, Advanced Sensing and Evaluation Project, Research Institute of Technology, Tobishima Corporation)

Wednesday December 10

Registration **8 : 30 – 8 : 45**

Rock/Geo. 1 **8 : 45 – 9 : 45**

Identification of AE Multiplets in the Time and Frequency Domains

H. Asanuma, Y. Kumano, H. Niitsuma, D. Wyborn, U. Schanz (Associate Professor, Graduate School of Environmental Studies, Tohoku University)

Acoustic Emission as Displacement Discontinuities

J. Labuz, C. Kao, F. Carvaiho (Professor, Department of Civil Engineering, University of Minnesota)

Acoustic Emission Monitoring during In-Situ Direct Shear Test of Rock

T. Ishida, T. Kanagawa (Professor, Dept. of Civil and Earth Resource Engineering, Kyoto University)

Distinct Element Analysis for Rock Failure Considering AE Events Generated by the Slip at Crack Surfaces

H. Shimizu, S. Murata, T. Ishida (Ph.D. student, Dept. of Civil and Earth Resources Engineering, Kyoto University)

———— Break ————

Concrete 2 **10 : 00 – 11 : 00**

Acoustic Technique Based Investigation of Old Bridge Girders

T. Brevec, A. Sajna (Slovenian National Building and Civil Engineering Institute)

Flexural Failure Behavior of RC Beams with Rebar Corrosion and Damage Evaluation by Acoustic Emission

M. Kunieda, N. Okude, T. Shiotani, H. Hagiwara, K. Kawamura (Associate Professor, Department of Civil Engineering, Nagoya University)

AE Properties of Spalling Crack Induced by Reinforcement Corrosion

S. Takaya, T. Yamamoto, T. Miyagawa (ph.D student, Department of Civil and Earth Resources Engineering, Kyoto University)

Corrosion Process of Steel Bar in Reinforced Concrete by Acoustic Emission

Y. Tomoda, M. Ohtsu (Research Technician, Faculty of Engineering, Kumamoto University)

———— Break ————

Materials 3 **11 : 15 – 12 : 00**

Effect of Sensitization Treatment on Hydrogen Embrittlement Cracking of Duplex Stainless Steel

T. Ogawa, K. Kurose, H. Cho, M. Takemoto (Department of Mechanical Engineering, Aoyama Gakuin University)

Continuous and Burst AE Signal Analyses during Chloride Droplet SCC on Thin SUS304 Plate Specimens

M. Shiwa, H. Yamawaki, H. Masuda, K. Ito, M. Enoki (Chief researcher, NDE Gr. Innovative Materials Engineering, National Institute for Materials Science)

Effect of Shot Peening on the Delayed Fracture using the Almen Strip and AE Technique

M. Takemoto, M. Nakamura, S. Masano, S. Ueno (Kanmeta Engineering Co.Ltd)

———— Lunch ————

Sensor 2 **13 : 15 – 14 : 15**

Blockage Monitoring of Pipes by Shellfishes Utilizing an Optical Fiber AE System

T. Matsuo, Y. Mizuno, H. Cho (Research Associate, Faculty of Science and Engineering, Aoyama Gakuin University)

Durability Improvement of Heat-resistant Optical fiber Sensor and Estimation of Its AE Detectability

S. Nishinoiri, H. Fukutomi, T. Ogata (Central Research Institute of Electric Power Industry)

Improvement of Sensing Ability of the Hybrid Optical Fiber Sensor for Acoustic Emission and Strain

H. Ohkoshi, H. Yuki (The University of Electro- Communications)

AE Behavior of Smart Stress Memory Patch Applied to Steel Bar

T. Shiraiwa, M. Enoki (Graduate student, Department of Material Engineering, the University of Tokyo)

———— Break ————

Rock/Geo. 2 **14 : 30 – 15 : 30**

Long-term Acoustic Emission Measurements Before, During and After Backfilling of a Mine Section in Rock Salt

D. Kaiser, H. Schmitz, T. Spies (Bundesanstalt für Geowissenschaften und Rohstoffe)

Estimation of Crustal Structure in Horonobe Area, Hokkaido, Japan, by using Multiplet-Clustering Analysis

H. Moriya, K. Asamori, I. Kitamura, H. Hotta, H. Ohara, T. Niizato (Senior Assistant Professor, Graduate School of Engineering, Tohoku University)

Acoustic and Electromagnetic Emission From Crack Created In Rock Sample Under Deformation

K. Fukushima, Y. Mori, Y. Obata, J. Sikula (Department of Mechanical Engineering, Graduate School of Industrial Technology, Nihon University)

Mechanisms of Humidity Induced Deformation of Rock Salt

T. Spies, J. Hesser (Section Head, Section, Rock Physics, Federal Institute for Geosciences and Natural Resources, Germany)

Commercial Session 15 : 30 – 16 : 00

Physical Acoustics Corporation, Vallen Systems GmbH, Fuji Ceramics

Special Lecture 16 : 00 – 17 : 00

New Trends in Materials Research and Nondestructive Evaluation
Prof. T. Kishi (President, National Institute for Materials Science)

18 : 30 – 20 : 30 Banquet

Thursday, December 11

Registration 8 : 30 – 8 : 45

Keynote Lecture 8 : 45 – 9 : 30

Monitoring The Civil Infrastructure with Acoustic Emission: A Bridge Case Study
Dr. R. Hay (President, Tisec Inc., Canada)

Continuous Monitoring 9 : 30 – 11 : 00

On-Line Asset Monitoring
P. T. Cole (Physical Acoustics, Ltd.), J. C. Lenain (Euro Physical Acoustics), P. Feres (Physical Acoustics South America Ltda.), M. Carlos (Physical Acoustics Corporation), S. J. Vahaviolos (MISTRAS Holding Groups)

Crack Growth Inspection with Acoustic Emission Sensors and Hierarchical Clustering for Bridge Health Monitoring
J. Labuz, N. Ince, C. Kao, M. Kaveh, A. Tewfik (Professor, Department of Civil Engineering, University of Minnesota)

Acoustic Emission Technique as a Smart Element in Prestressed Concrete Bridges Health Condition Evaluation
M. Kalicka (Kielce University of Technology, Poland)

Acoustic Emission Use for Stress Corrosion Cracking Detection in Prestressing Strands of Bridge Structures
M. Perrin, L. Gaillet, C. Tessier, H. Idrissi (Laboratoire Central des Ponts et Chaussées)

AE Analysis on Blade Cutting Pressure Adjustment in Dynamic Cutting of Paperboard
S. Nagasawa, D. Hamid, H. Fukuda, Y. Fukuzawa, A. Hine (Associate Professor, Department of Mechanical Engineering, Nagaoka University of Technology)

Identification of the Health of Rotating Machinery with AE Neural Network Classifiers
E. Pomponi (PhD student, DEIT department, Università Politecnica delle Marche)

———— Break ————

Materials 4 11 : 15 – 12 : 45

Acoustic Emission during Fracture Toughness Testing of SA333 Grade 6 Steel
C. Mukhopadhyay, G. Sakikala, T. Jayakumar, S. Ray, B. Raj (Indira Gandhi Centre for Atomic Research)

Acoustic Emission in Characterizing A Cold-worked CrNiN-Alloy
J. Schmidt, M. Nowak, K. Ono (Cracow University of Technology, Institute of Production Engineering)

Acoustic Emission Behavior during Deformation of Al-Mg-Si Alloys
M. Nummaue, H. Nishino, K. Yoshida (Graduate Student, Graduate School of Advanced Technology and Science, The University of Tokushima)

Acoustic Emission during Tensile Deformation of Annealed and Thermally Aged M250 Maraging Steel
K. Rajkumar, C. Mukhopadhyay, T. Jayakumar, B. Raj (Indira Gandhi Centre for Atomic Research)

Acoustic Emission of Titanium and Zirconium during Plastic Deformation
P. Stoev, I. Papirova, V. Voitsenya (National Science Center “Kharkov Institute of Physics and Technology”)

Frequency Analysis of Acoustic Emission During Deformation Process in Electrical Steel
S. Khan, P. Sediak, M. Enoki (Post Doctorate, Dept. of Materials Eng'g., School of Eng'g., The University of Tokyo)

12 : 45 – Kyoto Excursion

Friday, December 12

Registration 8 : 30 – 8 : 45

Structure 8 : 45 – 10 : 00

Acoustic Emission Inspection of Operating Steam Piping for Detection and Assessment of Caustic Corrosion Cracking
G. Muravin, B. Muravin, L. Lezvinsky (Chief Scientist, Margan Physical Diagnostics Ltd.)

Damage Monitoring of Corrosions Under Insulations Using Acoustic Emission and Humidity Measurement
H. Cho, Y. Tamura, K. Yasui, T. Takuma (Associate professor, Faculty of Science and Engineering, Aoyama Gakuin University)

Examination of Removal Method for Noise at AE Measurement of Tanks
H. Nakamura, T. Arakawa, K. Sekine, N. Kasai, M. Maeda, H. Suzuki (Ishikawajima Inspection & Instrumentation Co., LTD.)

The Progress of Acoustic Emission Testing for Pressure Vessel in China
G. Shen, S. Liu, G. Li, Y. Wang (Vice Chief Engineer, China Special Equipment Inspection Institute)

A Systematic Approach to Preparation of Acoustic Emission Specialists
B. Muravin, G. Muravin, L. Lezvinsky (Senior Scientist, Margan Physical Diagnostics Ltd.)

———— Break ————

Materials 5 10 : 15 – 11 : 45

Evaluation of Deformation and Recovery Mechanism of Mg Alloys by AE Frequency Analysis
N. Tsurui, M. Enoki (Graduate student, Department of Materials Engineering, The University of Tokyo)

Growth Development of Martensitic Transformation Behavior in Cu-Al-Ni Shape Memory Alloy Based on Experimental AE Simulation
T. Yasuda, H. Nishino, K. Yoshida (Graduate Student, Graduate School of Advanced Technology and Science, The University of Tokushima)

Relation between Plastic Instabilities in Iron and Power Spectrum of Acoustic Emission
A. Vinogradov, A. Lazarev, S. Hashimoto (Associate Professor, Department of Intelligent Materials Engineering, Osaka City University)

Threshold Parameters and Damage Accumulation Profile in C/C Composite Monitored by Acoustic Emission Response
A. Bussiba, R. Piat, M. Kupiec, R. Carmi, I. Alon, S. Ifergane (NRCN)

Fundamental Study on Integrity Evaluation Method for COPVs by Means of Acoustic Emission Testing

Y. Mizutani, R. Matsuzaki, A. Todoroki (Associate Professor, Dept. of Mechanical Sciences and Engineering, Tokyo Institute of Technology)

Acoustic Emission Behavior of Metal-Fiber Laminates

K. Ono (Dept. of Materials Sci. & Engr.)

———— Lunch ————

Leak

12 : 55 – 13 : 40

Frequency Variations and Surface Loss Analysis of Generated AE Signals during Gas Leakage on Artificially Damage Pipe

R. Laodeno, H. Nishino, K. Yoshida (Graduate Student, Graduate School of Advanced Technology and Science, The University of Tokushima)

Acoustic Emission Leak Detection of buried Pipeline

A. Anastasopoulos, D. Kourousis, K. Bollas, A. Tsimogiannis (Envirocoustics SA)

Identification of Hydraulic Conditions in a Damaged Pipeline System by Acoustic Emission

T. Suzuki, T. Naka, H. Taruya, M. Aoki, M. Ohtsu (Assistant Professor, Collage of Bioresource Science, Nihon Univ.)

———— Break ————

Concrete 3

13 : 55 – 15 : 25

Classification of Micro-cracks Generated in Concrete by Acoustic Emission

K. Ohno, Y. Sawada, K. Utsunomiya, M. Ohtsu (Graduate School of Science and Technology, Kumamoto University)

Evaluation of Compressive Failure Behavior of Concrete with Coarse Aggregate Soaked in Mineral Oil by Acoustic Emission

S. Uchida, T. Kamada (JSPS Research Fellow, Division of Global Architecture, Osaka University)

Degradation Evaluation of Recycled-Aggregate Concrete by AE Rate Process Analysis

M. Ohtsu, T. Isoda, M. Shigeishi (Professor, Kumamoto University)

Evaluation of Cracking in Recycled Concrete Using Recycled Aggregate by Acoustic Emission

T. Watanabe, M. Hosomi, S. Date, C. Hashimoto, M. Ohtsu (The University of Tokushima)

Behaviors of AE Parameters due to Increase in Damage Variable of Mortar Degraded by Mixing with Expanded Polystyrene Beads

K. Yamamoto, A. Kobayashi, S. Aoyama (Assistant Professor, Agricultural Science, Kyoto University)

Towards a Better Understanding of Steel Cables Corrosion in Simulated Concrete Pores Solution by Acoustic Emission

S. Ramadan (Laboratoire MATEIS-CNRS)

———— Break ————

Materials 6

15 : 40 – 16 : 55

Acoustic Emission During Tensile and Fatigue Test of Balloon-expanding Cardiovascular Stents

L. Shen, M. Enoki (Department of Materials Engineering, The University of Tokyo)

Fracture Behavior in Bone Characterized by AE Wavelet Analysis

S. Wakayama, K. Mogi, T. Suemune (Department of Mechanical Engineering, Tokyo Metropolitan University)

Influence of Drought Stress Induced by Cutting Stem on AE Behavior in Miniature Tomato

K. Kageyama, Y. Inoue, H. Kato (School of Science and Engineering, Saitama University)

Non-Destructive Evaluation of Termite Attack in Wood Using Acoustic Emission Monitoring and Ceramic Gas Sensor

Y. Yanase, Y. Fujii, S. Okumura (Div. of Forest and Biomaterials Science, Graduate School of Agriculture, Kyoto University), T. Yoshimura, Y. Imamura (Research Institute for Sustainable Humanosphere, Kyoto University)

Acoustic Emission Techniques for Wood Drying - A Review

S. Kawamoto (Forestry and Forest Products Research Institute), S. Okumura (Kyoto University)

Closing Address 16 : 55 – 17 : 00