2001 International Symposium on Electrical Insulating Materials (ISEIM 2001)

and

2001 Asian Conference on Electrical Insulation Diagnosis (ACEID 2001)

November 19 - 22, 2001

Hotel Sungarden Himeji, Himeji, Japan

Sponsored by:
IEEJ Technical Committee on Dielectrics and Electrical Insulation

IEEE Dielectrics and Electrical Insulation Society

In cooperation with:
Korean Institute of Electrical and Electronic Material Engineers

Chinese Electrotechnical Society

Kansai Section of IEEJ

IEEJ Investigation Committee on Insulation Lifetime of Dielectric Materials and Electrical Apparatus

Himeji Institute of Technology

CONFERENCE ORGANIZATION

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GENERAL INFORMATION ON ISEIM 2001

Date and Venue

The 2001 International Symposium on Electrical Insulating Materials (ISEIM 2001) will be held on November 19-22, 2001 jointly with the 2001 Asian Conference on Electrical Insulation Diagnosis and the 33rd Symposium on Electrical and Electronic Insulating Materials and Applications in Systems at the Hotel Sungarden Himeji, Himeji, Japan. The ISEIM 2001 will be sponsored by the IEEJ TCDEI and will be technically cosponsored by the IEEE DEIS. The Chinese Electrotechnical Society (CES), the Korean Institute of Electrical and Electronic Material Engineers (KIEEME), Kansai Section of IEEJ, IEEJ Investigation Committee on Insulation Lifetime of Dielectric Materials and Electrical Apparatus, and Himeji Institute of Technology will be cooperative organizers.

About Himeji

A city of 460,000 people, Himeji is located in the heart of the Himeji plain in the southwestern part of Hyogo Prefecture. Progressively amalgamating adjacent towns and villages since its municipal inauguration in 1889, Himeji now stretches 23.5 km to the east and west 21.3 km to the north and south and boasts a total area of 273 square kilometers. Himeji is said to have been populated by human beings for about 10,000 years, a notion supported by the discovery of ancient artifacts throughout the city. Himeji Castle and Horyu-ji Buddhist Temple in Nara were given the World Cultural Heritage status for the first time in Japan, by the World Heritage Committee of UNESCO in 1993. The huge plain including Himeji flourished over the years as an industry and transportation center in proximity to the cities of Kyoto, Osaka and Kobe.

Social Events

Banquet

The symposium banquet will be held on Wednesday, November 21. The banquet fee is included in the registration fee.

Technical Visits

The following technical visits will be scheduled during the symposium. Each course includes lunch.

Course A: Canceled		
Course B: Communications Research Laboratory, Kansai Advanced Research Center (KARC)	13:00－17:30	1,000 Yen
Course C: Mitsubishi Electric Corporation, Ako Works （Large Transformers）	13:00－17:30	1,000 Yen

The above visits are scheduled in the afternoon of November 21 (Wed).
Participants from power apparatus manufacturers are requested not to choose Course C.

Registration/Payment

All payment must be made in Japanese Yen.

The registration fees are:

IEEE, CES, KIEEME & IEEJ Member	¥35,000 (Japanese yen)
Non-Member	¥40,000
Life / Retired / Student Member	¥15,000

All attendants are requested to register by name on the Symposium Registration Form that can be downloaded from HP (**http://www.waseda.ac.jp/conference/ISEIM2001/index.html**).
Payment for registration can be made by check (bank draft) made payable to ISEIM (Naoshi Hirai) and crossed. Please take the utmost care that the name of Naoshi Hirai clearly appears as the recipient's name on your check. In the case that the payment is done under the name of a company, or, that the payment for more than one person is done on a single check, please indicate all the necessary information (e.g. names of all members etc.) on the back of the check. In the event of cancellation, provided that written notice is received by **October 31**, a refund of **70 %** will be made. If no notice of cancellation is received, no refund can be made. The on-site payment can be made. Payment by credit cards or personal checks is NOT accepted.

Address of the Symposium Secretariat:

Dr. Naoshi Hirai, Waseda University
E-mail: nhirai@mn.waseda.ac.jp
(Inquiry should be sent via e-mails.)

Registration Desk

The registration desk will open at the symposium site during the following hours.

Monday, November 19	16:00-18:00
Tuesday, November 20	8:30-20:00
Wednesday, November 21	8:30-13:00, 17:30-18:00
Thursday, November 22	8:30-15:00

Proceedings

The proceedings containing the symposium papers will be available at the registration desk of the symposium. The cost is included in the registration fee. An extra copy will be available at the registration desk at a charge of ¥5,000.

Hotel Accommodations

Japan Travel Bureau. Inc. (JTB) has reserved a sufficient number of rooms at the following hotel for the participants at special discount rates.
Please complete the application form for hotel reservation that can be downloaded from the conference HP, and return it to JTB before 27 Oct. 2001.
Hotel assignment will be made on a first-come-first-served basis.
Daily room charges are as follows: (per person per night including breakfast, service charge [10%], and consumption tax [5%]).

HOTEL	Room Rate (Per person)	
	Single	Twin
Hotel Sungarden Himeji	¥8,500	¥8,000

Note: 1) The deposit of ¥5,000 per room will be deducted when settling the bill with the hotel.
2) Personal checks are NOT accepted to JTB.
3) A handling fee of ¥700 including communication charge per person will be charged.

In case of hotel cancellation, written notification should be sent directly to JTB.
Deposit will be refunded after deducting the following cancellation charges, when the notification is received by JTB.
9 days before or earlier・・・・・・・・・・・・no charge
8－5 days before ・・・・・・・・・・・・・・・¥2,000
4－1 day before・・・・・・・・・・・・・・・・¥3,000
the day of reservation or no notice given 100% of the daily room charge

Travel Information

The Hotel Sungarden Himeji is located in front of the South Gate of JR Himeji station (about 1 min by walk).
Access to the JR Himeji Station**:**

>from the New Kansai Airport

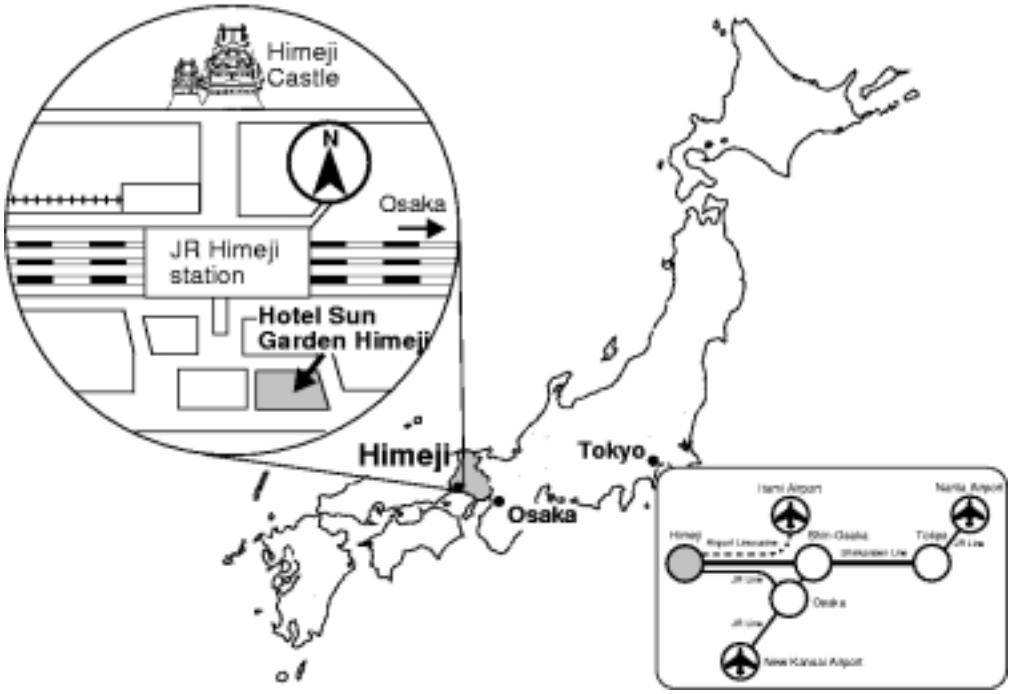
Take the JR “Kanku-Kaisoku” to Osaka station (about 1h), and change the train for the JR “Shin-Kaisoku” Super Rapid (about 1h) or the JR “Kaisoku” Rapid (about 1.5h) to Himeji station. Take the trains bound for Himeji or Aboshi stations.

>from the Itami Airport

The Itami Airport is domestic air service. Take the Airport Limousine Bus Service directly bound for the JR Himeji station (about 1.5h). The Airport Limousine is available almost every one hour from 9:20a.m to 9:00p.m.

>from the Narita Airport

Take the JR “Narita Express” to Tokyo station (about 1h), and then take the Shinkansen “HIKARI Super Express” to Himeji station (about 4h). A limited number of HIKARI stops at Himeji station. If you take HIKARI which does not stop at Himeji or "NOZOMI Super Express," you must change the train for “KODAMA Super Express” at Shin-Osaka station (HIKARI: about 3h, NOZOMI: about 2.5h). The Himeji station is the third stop from Shin-Osaka (about 3/4h).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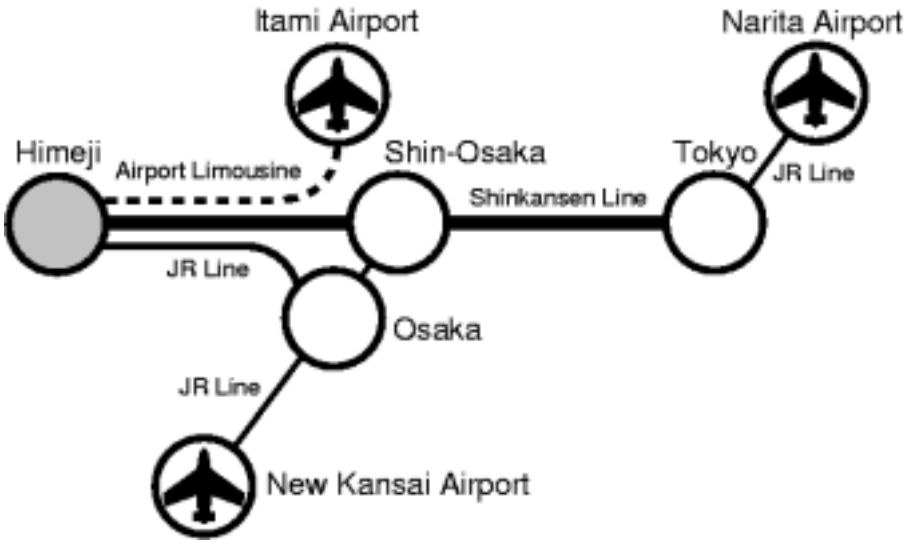
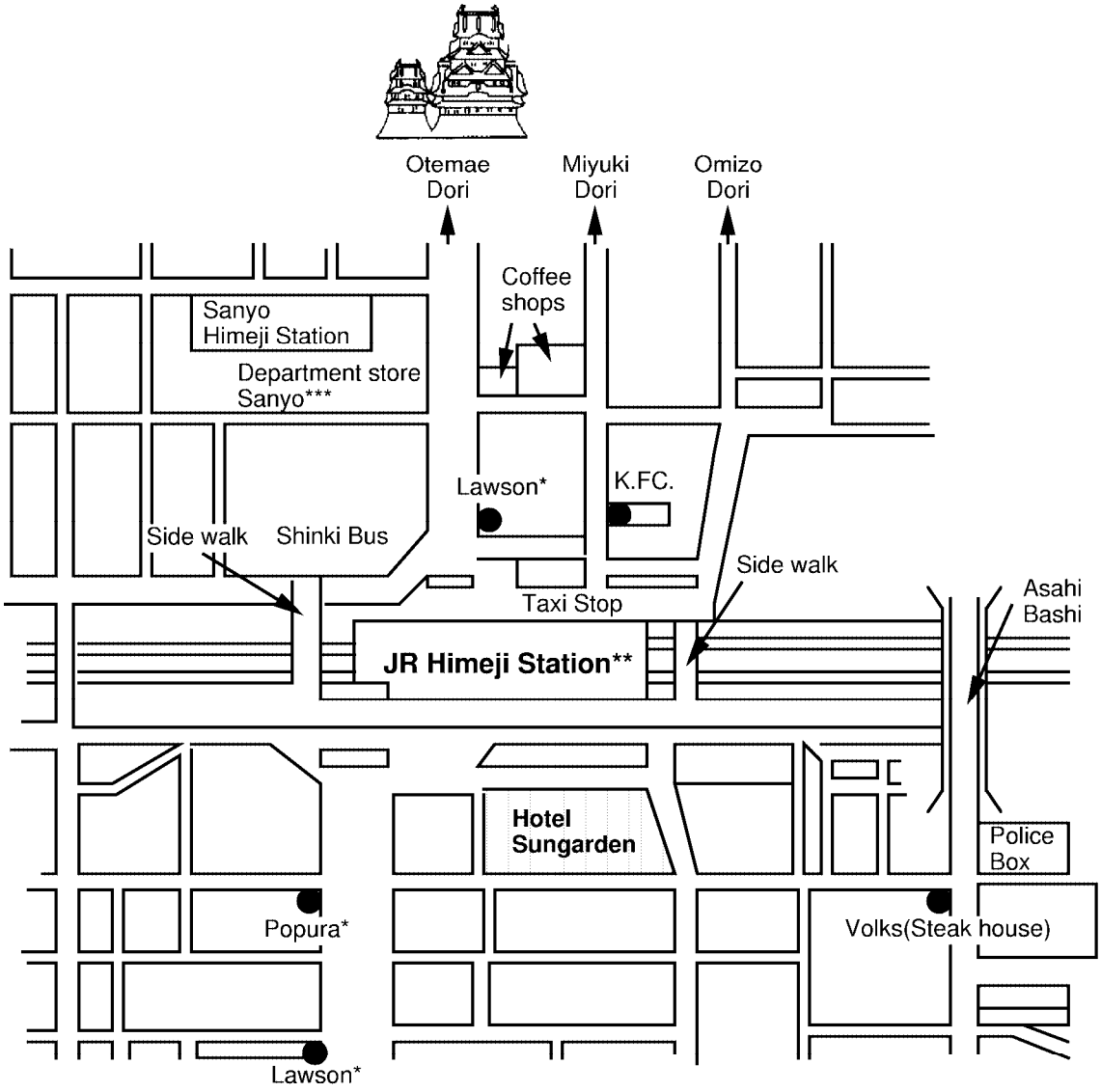
Osaka
JR Himeji station
Hotel Sun Garden Himeji
Himeji
Tokyo
Osaka


Itami Airport
Narita Airport
Himeji
Airport Limousine
Shin-Osaka
Tokyo
JR Line
Shinkansen Line
JR Line
Osaka
JR Line
New Kansai Airport

Local Shops and Restaurants



*Convenience stores (Popura, Lawson) open for 24 hours and sell foods.

**Japanese foods are available at the underground shopping archade of JR Himeji Station.

*** Restaurants are available af the department store Sanyo.

Please note that most shops and restaurants in Himeji can accept only Japanese Yen (Cash).

Information about Oral and Poster Presentations

(1) **Oral**

The maximum allocated time for each paper will be **20 minutes**, which includes 15 minutes for presentation and 5 minutes for discussion. An OHP projector can be used. A liquid-crystal projector and a personal computer can be used upon request. However, your presentation software may not work on our PC system. If you do wish to use them, please contact the registration desk well in advance of your presentation.

(2) **Poster**

Each poster stand comprises a panel of **90 cm** (breadth) by **180 cm** (height) in size. Posters will be fixed to the panels by means of drawing pins that will be provided. The 2.5 hour poster session will be further divided into 2 sub-sessions. During the first sub-session from 14:30 to 15:45, the authors whose paper numbers (according to the numbering in the final program) are odd must attend on their own papers while the authors of the papers with even numbers can freely look around. During the second sub-session from 15:45 to 17:00, the roles should be reversed.

2001 ISEIM Schedule

Date	Room Name	Room Kohrin			Room Shinju
	Room Num.	1	2	3	1+2
	Room Capa.	170	90	170	70+70
11/19(Mon.)	16:00－18:00	Registration			
	18:00		Welcome Party		
11/20(Tues.)	9:00－9:10	Opening Ceremony			
	9:10－11:10	**Session S** [Y. Ohki] Inuishi Mem. Lect. Invited Lect.			
	11:10－11:30	Coffee Break			
	11:30－13:10	**Session A** [E. Gockenbach] Partial Discharge 5 Papers		**Session B** [T. R. Blackburn] Outdoor Insulation (1) 5 Papers	**Session C** [M. Onoda] Thin Film (1) 5 Papers
	13:10－14:30	Lunch			
	14:30－17:00		**Poster Session** (1)Fundamental Issues [T. Takahashi] [42 Papers] (2)GIS, Cables, Outdoor Insul. [Y. Miyashita] [30 Papers]		
	17:00－17:10	Break			
	17:10－19:10	**Session D** [A. Yamanouchi] GIS and Related Issues 6 Papers		**Session E** [M. Nagao] Outdoor Insulation (2) 5 Papers	**Session F** [N. Hozumi] New Meas. Tech. 6 Papers
11/21(Wed.)	9:00－10:40	**Session G** [C. Laurant] Space Charge (1) 4 Papers		**Session H** [Hwang S. C.] Cable Insulation (1) 5 Papers	**Session I** [F. Kaneko] Thin Film (2) 4 Papers
	10:40－11:00	Coffee Break			
	11:00－13:00	**Session J** [Y. Suzuoki] Space Charge (2) 6 Papers		**Session K** [R. Patsch] Cable Insulation (2) 5 Papers	**Session L** [M. Iwamoto] New Materials (1) 5 Papers
	13:00－17:30	Technical Visits (including Lunch)			
	18:00－20:00	Banquet			
11/22(Thur.)	9:00－10:40	**Session M** [D. K. Das-Gupta] Dielectric Breakdown 5 Papers		**Session N** [T. Umemura] Transformer 4 Papers	**Session O** [M. Taylor] New Materials (2) 4 Papers
	10:40－11:00	Coffee Break			
	11:00－13:00	**Session Q** [N. Shimizu] Treeing 6 Papers		**Session R** [H. Sedding] Rotating Machines 6 Papers	**Session T** [K. Miyairi] New Materials (3) 4 Papers
	13:00－14:30	Lunch			
	14:30－17:00		**Poster Session** (3)Rotating Machines, Substations [R. Takeuchi] [27 Papers] (4) Transformers [T. Maeda] [25 Papers]		
	17:00－17:10	Closing Ceremony			

Oral Session Papers ＝ 90 papers ＝ 88(20min/1paper)＋2(1hr/1paper)
Poster Session Papers ＝ 124 papers ＝ 42+30+27+25 papers (150min/session)
Total=214 papers

2001 ISEIM PROGRAM (FINAL)

MONDAY, NOVEMBER 19

16:00 – 18:00 **Registration**

18:00 **Welcome Party**

TUESDAY, NOVEMBER 20

9:00 – 9:10 **Opening Ceremony**

9:10 – 11:10 **S - Inuishi Memorial Lecture and Invited Lecture – (Chairman: Y. Ohki)**

S1 Insight into Technologies in Electrical Insulation toward the Middle of the 21st Century (Inuishi Memorial Award Lecture)
Toshikatsu Tanaka

S2 Advanced PD Noise Suppression and its Relevance for Computer Aided PD Defect Identification (Invited)
H. -G. Kranz

11:10 – 11:30 **Coffee Break**

11:30 – 13:10 **A - Partial Discharge - (Chairman: E. Gockenbach)**

A-1 The Role of Space Charges in PD-Processes (Invited)
Rainer Patsch and Farhad Berton

A-2 Voltage-time Characteristics of PD Patterns in Void Discharges
S. H. Kang, Y. G. Park, C. Lee, J. N. Park, and K. J. Lim

A-3 Time-lag Measurement of Void Discharges and Numerical Simulation for Clarification of the Factor for Partial Discharge Pattern
Naohiro Hozumi, Hiroshi Nagae, Yuji Muramoto, Masayuki Nagao, and HengKyun Xie

A-4 Real-time Suppression of Stochastic Pulse Shaped Noise for On-site PD Measurements
S. Happe, H. -G. Kranz, and W. Krause

A-5 Effects of Oxygen on the Formation of Rabbit-like PD Pattern in a Void between Metal Surfaces
Kai Wu, Fumitaka Komori, and Yasuo Suzuoki

11:30 – 13:10 **B - Outdoor Insulation (1) - (Chairman: T. R. Blackburn)**

B-1 Swedish Research Program on High Performance Outdoor Electrical Insulation (Invited)

Stanislaw M. Gubanski, Ulf W. Gedde, Vernon Cooray, and Stefan Kroll

B-2 Research into the Corona Current Characteristics of Polluted Insulators
Yixiong Nie, Xianggen Yin, Chun Liu, Yuanfang Wen, Munong Mao, and Zhigang Tian

B-3 Aging and Recovery of HTV Silicone and EPDM Rubbers due to Continuous Wetting
T. Tokoro, Y. Katayama, M. Kosaki, and R. Hackam

B-4 Leakage Current Analysis for Monitoring the Conditions of Polymer Insulators
S. Kumagai and N. Yoshimura

B-5 Behavior of Water Droplets and Their Charged Distribution on Polymer Surface
Seiji Yamashita, Takuhei Hashiguchi, Naoya Anami, Masahisa Otsubo, Chikahisa Honda, Osamu Takenouchi, Yousuke Hashimoto, and Michiaki Nakamura

11:30 – 13:10 C - Thin Film (1) - (Chairman: M. Onoda)

C-1 Reduction of Micro-defects in the Inter-metal Dielectrics (IMD) Chemical Mechanical Polishing (CMP) for ULSI Applications
Sung-Woo Park, Sang-Yong Kim, and Yong-Jin Seo

C-2 On the Mechanism of Recovery Voltage in a Dielectric Solid -Proposal of a Simple Equation-
A. Yamaguchi, N. Hirai, and Y. Ohki

C-3 Frequency Dependent AC Breakdown and Pre-breakdown Current of Thin Polyimide Films Prepared by Vapor Deposition Polymerization
Eiji Itoh and Keiichi Miyairi

C-4 Electrostatic Interfacial Phenomena and *I-V* Characteristics of Au/Polyimide Langmuir-Blodgett Film/Al Element
C. Q. Li, Y. Noguchi, T. Manaka, H. C. Wu, and M. Iwamoto

C-5 Photoluminescence Properties of Hydrogenated Amorphous Silicon Nitride
Norihide Kashio, Hiromitsu Kato, Yoshimichi Ohki, Kwang Soo Seol, and Takashi Noma

13:10 – 14:30 Lunch

14:30 – 17:00 Poster (1) - Fundamental Issues - (Chairman: T. Takahashi)

P1-1 Percolation Phenomena of Field Grading Materials Made of Two Kinds of Filler
Tetsushi Okamoto, Mitsuhiko Koyama, Yoshiyuki Inoue, Nobuyuki Takahashi, and Shuhei Nakamura

P1-2 Effects of Liquid Chemicals on Space Charge Evolution in Low-density Polyethylene

R. Minami, N. Hirai, Y. Ohki, M. Okashita, and T. Maeno

P1-3 Reduction of Micro-scratch Using Slurry Filter in Oxide CMP (Chemical Mechanical Polishing) for Multi-level Interconnections
Chul-Bok Kim, Sang-Yong Kim, and Yong-Jin Seo

P1-4 Effect of Facility for Hot Spot Reduction of Inter-level Dielectric (ILD) CMP Process
So-Young Jeong, Yong-Jin Seo, and Sang-Yong Kim

P1-5 Microwave Dielectric Properties of $MgTiO_3$-$BaTiO_3$ Ceramics
Eui Sun Choi, Young Hie Lee, and Seon Gi Bae

P1-6 The Structural Properties of $BaTiO_3$+xNb_2O_5 Ceramics
Sang Chul Lee, Young Hie Lee, and Moon Kee Lee

P1-7 A Fingerprint Analyzing Method of Ultra-wideband Partial Discharge Time-domain Waveform
Cheng Yonghong, Chen Xiaolin, Jiang Yan, Lu Liro, and Xie Hengkun

P1-8 Interference Analysis and Rejection of Partial Discharge (PD) Monitoring Signal On-site
Xiaoning Wang, Deheng Zhu, and Fuqi Li

P1-9 Optimal Feature Extraction for Partial Discharge Recognition
Weile Wang, Kexiong Tan, Kai Gao, and Wensheng Gao

P1-10 Feature Extraction and Pattern Recognition of Multi-source PD Signals
Kai Gao, Kexiong Tan, Fuqi Li, and Wensheng Gao

P1-11 Investigation of Aging Process with New PD Pulse Parameters
Choong-Sik Kim, Yoichi Tani, and Teruyoshi Mizutani

P1-12 Applying Study on Principle and Method on PD Pattern Recognition with Fractal to Profile of PD Distribution
Xin Li, Caixin Sun, Jian Li, Ruijin Liao, and Quan Zhou

P1-13 Evaluation of Residual Lifetime of LDPE Degraded Radiation by Time-temperature Superposition Method
Ki-Yup Kim, Chung Lee, Boo-Hyung Ryu, and Kee-Joe Lim

P1-14 Light Spectra on AC Corona
Chen Shixiu, Yang Qinghua, Xiong Shisheng, Cai Wei, and Shen Yuanmao

P1-15 Partial Discharge Pattern Recognition Using Fractal Dimension
Li Jian, Sun Caixin, Li Xin, Du Lin, and Zhou Quan

P1-16 Model of Integrative Denoise in On-line PD Monitoring
Wang Xiaorong, Hu Longlong, Zhou Haiyang, and Yan Zhang

P1-17 The Characteristics of Holographic Grating in Chalcogenide Thin Films
Jeong-II Park, Jong-Hwa Park, Kyung Shin, Jin-Woo Kim, Young-Jong Lee, and Hong-Bay Chung

P1-18 Electrical Properties in Silicon Oxynitride and Silicon Nitride Prepared by Plasma-enhanced Chemical Vapor Deposition
Hidefumi Sato, Hiromitsu Kato, Yoshimichi Ohki, Kwang Soo Seol, and Takashi Noma

P1-19 Three-dimensional PEA Charge Measurement System
Takashi Maeno and Kaori Fukunaga

P1-20 Numerical Analysis of Space Charge Distribution in Polypropylene Film under AD High Field
M. Fujii, M. Fukuma, T. Tokoro, Y. Muramoto, N. Hozumi, and M. Nagao

P1-21 Anomalous Currents in PMMA/PS Double Layered Films
J. M. Keller, R. K. Dubey, K. Das, and S.C. Datt

P1-22 The Effect of Degree of Cross-linking to Accumulation of Space Charge in Cross-linked Polyethylene (XLPE)
Jixiao Li, Yewen Zhang, Feihu Zheng, Zongren Peng, Changshun Wu, and Zhongfu Xia

P1-23 Influences of Barrier Height and Space Charge on DC Breakdown in $BaTiO_3$-Based Ceramic Capacitors
Yuanxiang Zhou, Zixia Cheng, Ping Yan, Xidong Liang, and Zhicheng Guan

P1-24 Influence of Oxidation on Morphology and Electrical Properties of LDPE
H. Ohama, D. -C. Cho, T. Mori, T. Mizutani, and M. Ishioka

P1-25 Partial Discharge and Breakdown Characteristics on Needle/Dielectrics Composite Electrode Systems under Pulse Voltage
N. Sakamoto, Y. Kuninaka, H. Ueno, and H. Nakayama

P1-26 AC Partial Discharges Propagating on an Unpenetrated Crack Wall
N. Watanabe and Y. Yamano

P1-27 Dielectric Properties of Polyetheretherketone Irradiated with Electron Beam in Helium Gas
K. Shinyama and S. Fujita

P1-28 Processing Methods of Particle-filled Liquid Resins and its Correlation to Electrical Insulation Properties of Apparatus
H. Steinzen and A. Kaindl

P1-29 Effect of the Electrical Pre-stress to Dielectric Property of Epoxy Polymer
Qiang Ding, Zhonghua Li, Shouguo Sheng, and Lijian Ding

P1-30 Influence of Morphology on Tree Growth in Polyethylene

Yuanxiang Zhou, Xiaoguang Luo, Ping Yan, Xidong Liang, Zhicheng Guan, and Noboru Yoshimura

P1-31 Experience of Condition Based Maintenance for Power Equipment Insulation
Yin Dejun and Liu Beiying

P1-32 The Application of Embedded Real-time Linux on Intelligent Insulation On-line Monitoring
Siyi Zou, Guangchun Zhang, and Guangning Wu

P1-33 A Novel Electrical Equipment On-line Monitoring System Based on Geographic Information System
Lifeng Liu, Caixin Sun, Quan Zhou, Leguan Gu, and Qun Deng

P1-34 Investigation of Fuzzy Criterion for Fault Feature Parameter Evaluation of Electric Power Equipment
Wen Yuanfang,Yan Xianglian, Liu Chun, Zhou Shi Zhu, Li Gui Ping, and Xie Yan Ying

P1-35 State Signal and Fuzzy Membership Function of Fault Diagnosis in Electrical Equipment
Wen Yuanfang, Liu Chun, Yan Xianglian, Zang Chunyan, Tang Chi, and Liang Yuelong

P1-36 The Study on Insulation On-line Monitoring of Power Equipment on Plateau
Guangchun Zhang, Siyi Zou, and Guangning Wu

P1-37 An Introduction of a Condition Monitoring System of Electrical Equipment
Zhan Wang, Ji Wei Guo, Jing Dong Xie, and Guoqing Tang

P1-38 Predictive Maintenance Strategy Based upon Management Information System
Tu Yanming, Yan Ping, and Guo Zongjun

P1-39 Electromagnetic Environment of the EHV Transmission Line and its Effect
Quan Zhou, Caixin Sun, Lifeng Liu, Wenxia Sima, and Wendou An

P1-40 Measurement of Transient Electric Fields and Analysis Based on Wavelet
Qingquan Li, Yanming Li, Dake Xu, and Junling Cao

P1-41 Transducers for Electrical Apparatus Insulation Online Monitoring
Du Lin, Sun Caixin, Liao Ruijin, Chen Weigen, and Li Jian

P1-42 Acoustic Monitoring of HV Equipment with Optical Fiber Sensor
T. Y. Kim, J. H. Nam, and K. S. Suh

14:30 – 17:00 Poster (2) - GIS, Cables, Outdoor Insulation - (Chairman: Y. Miyashita)

P2-1 Simulation Test of Suppressing VFT in GIS by Ferrite Rings

P2-29 Mechanism of Surface Flashover of Electrolyte Water Channels (Part I)
Hocine Hadi, Aissa Boudjella, Motoshige Yumoto, Takao Sakai, and Tatsuo Hosokawa

P2-30 Evaluation of Aging Polymer Insulator in EdF's Test
Masahito Miyata, Shinya Ohtsuka, Yousuke Hashimoto, Takeshi Hirowatari, and Masayuki Hikita

17:10 – 19:10 D - GIS and Related Issues - (Chairman: A. Yamanouchi)

D-1 A Non-invasive Optical Fibre Sensor for Detection of Partial Discharges in SF_6-GIS Systems (Invited)
Abbas Zargari and Trevor R. Blackburn

D-2 Direct Measurement Just under Surface Discharge on PMMA by Pockels Electric Field Sensors
Tsuguhiro Takahashi

D-3 The Analysis on Propagation Characteristics of Electromagnetic Waves Excited by PD in GIS
Xu Gaofeng, Sun Caixin, Tang Ju, Tang Zhide, and Li Jian

D-4 Life Cycle Assessment: Electricity Supply Using SF_6 Technology
E. Preisegger, R. Durschner, W. Klotz, C. -A. Konig, H. Krahling, C. Neumann, M. Pittroff, and B. Zahn

D-5 Performance of Cycloaliphatic Resin Spacers in SF_6-N_2 Gas Mixtures
J. Sundara Rajan, K. Dwarakanath, and N. Srinivasan

D-6 Anomalous Creeping Flashover Characteristics in N_2/SF_6 Mixtures and Effect of Barrier Surface
H. Ueno, F. Kamatani, Y. Egawa, and H. Nakayama

17:10 – 19:10 E - Outdoor Insulation (2) - (Chairman: M. Nagao)

E-1 Effect of Poly (trifluoropropylmethylvinylsiloxane) Additive on the Surface Properties of Polydimethylsiloxane Applied to Outdoor Insulator
Chang-Ryong Lee, Hiroya Homma, and Kunikazu Izumi

E-2 Study on the Wave Form of Leakage Current on the 20 kV Post-Pin Ceramic Insulators under Various Conditions
Suwarno

E-3 Frequency Characteristics of PD Waveforms on Polluted Composite Insulator Surfaces
I. A. D. Giriantari and T. R. Blackburn

E-4 Effects of Temperature on DC Tracking Resistance of Organic Insulating Materials

B. X. Du and S. Kobayashi

E-5 Surface Charge Accumulation in a Dielectric-covered Electrode System in Air
M. L. -A. Sjoberg, C. Rein, S. M. Gubanski, and M. A. S. Leijon

17:10 – 19:10 F - New Measurement Technique - (Chairman: N. Hozumi)

F-1 Numerical Analysis of Acoustic Wave Generation and Propagation on PEA Method
Miho Wadamori, Masumi Fukuma, Masayuki Nagao, Naohiro Hozumi, Masamitsu Kosaki, and Yutaka Fukui

F-2 Attenuation Recovery Technique for Acoustic Wave Propagation in PEA Method
Y. Tanaka, K. Hanawa, K. Suzuki, and T. Takada

F-3 Estimation of Temperature Increase in Polymer Film under DC Voltage with PEA
C. Zhang, T. Mizutani, K. Kaneko, and M. Ishioka

F-4 Optical Measurement of Change of Nonuniform Electric Field Vector Distribution in Liquid Insulator
H. Ihori, M. Ujike, K. Hiromoto, M. Fujii, and K. Arii

F-5 Geometrical effects in the current measurement by Rogowski sensor
Kang-Won Lee, Jeong-Nam Park, Seong-Hwa Kang, Yong-Shin Lee, Gil-Ho Ham, Yong-Mu Jang, and Kee-Joe Lim

F-6 Improvements of High Accuracy AC Dissipation Current Waveform Observation System
A. Tanaka, K. Tohyama, M. Nagao, T. Tokoro, and M. Kosaki

WEDNESDAY, NOVEMBER 21

9:00 – 10:40 G - Space Charge (1) - (Chairman: C. Laurant)

G-1 Space Charge and Electrical Ageing of Polymers in Humid Conditions (Invited)
D. K. Das-Gupta

G-2 Electroluminescence and Space Charge in Insulating Materials under DC Stress (Invited)
C. Laurent

G-3 Space Charge Behaviors of Various Low Density Polyethylene
Y. Taniguchi, K. Kaneko, T. Mizutani, and M. Ishioka

G-4 Transient Current and Space Charge Behavior due to Double Injection
K. Kaneko, Y. Suzuoki, and T. Mizutani

9:00 – 10:40 H - Cable Insulation (1) - (Chairman: Hwang S. C.)

H-1 A General Model for Life Estimation of Cables under DC Stress with Voltage-polarity Inversions Accounting for Space-charge Effects (Invited)
A. Cavallini, D. Fabiani, G. Mazzanti, and G. C. Montanari

H-2 Luminescence in Polymeric Insulation and its Implication on Insulation Aging (Invited)
S. S. Bamji and A. T. Bulinski

H-3 Changes of Capacitance and Dielectric Dissipation Factor of Water-treed XLPE with Voltage
Tamon Ozaki, Noriyuki Ito, Issei Sengoku, Jiro Kawai, and Shuhei Nakamura

H-4 Electrical and Physical Evaluation on Heterogeneous Interfaces between Two Kinds of XLPE
Young-Ho Kim, Seung-Yop Lee, Sang-Jin Lee, Do-Woon Kim, and Dong-Wook Kim

H-5 Water Tree Retardant Characteristics of Silane Crosslinked Polyethylene
Vu Hai Thanh, Naohiro Hozumi, Masayuki Nagao, Toshihiro Goto, and Yoshio Kato

9:00 – 10:40 I - Thin Film (2) - (Chairman: F. Kaneko)

I-1 Multiple Surface Plasmon Excitations and a Light Emitting Device of Organic Dye LB Film
T. Nakano, M. Terakado, K. Shinbo, K. Kato, F. Kaneko, and T. Wakamatsu

I-2 Electronic Energy States at Conducting Polymer/Electrode Interfaces Studied by Atmospheric Photoemission Spectroscopy and Kelvin Probe Method
K. Hori, K. Tada, and M. Onoda

I-3 One-step Polymerization of Aniline and its Conducting Blends in Organic System
Bo Hyun Lee, Tae Young Kim, Jong Eun Kim, and Kwang S. Suh

I-4 Fabrication of Hafnium Silicate Films by Plasma-enhanced Chemical Vapor Deposition
Hiromitsu Kato, Tomohiro Nango, Takeshi Miyagawa, Takahiro Katagiri, Yoshimichi Ohki, Kwang Soo Seol, and Makoto Takiyama

10:40 – 11:00 Coffee Break

11:00 – 13:00 J - Space Charge (2) - (Chairman: Y. Suzuoki)

J-1 Effects of Additives and Morphology on Space Charge in LDPE (Invited)
Teruyoshi Mizutani

J-2 Correlation between Space Charge Distribution under DC Voltage and Dielectric Breakdown Properties in XLPE under Impulse Voltage Superposed onto DC Voltage
Toshinao Takeda, Hiroshi Suzuki, and Tatsuki Okamoto

J-3 Short Interval Space Charge and External Circuit Current Measurements in LDPE Film in High Temperature Region
Masumi Fukuma, Miho Wadamori, Masayuki Nagao, Masamitsu Kosaki, Kaori Fukunaga, and Takashi Maeno

J-4 Three Dimensional Space Charge Observation of Printed Circuit Boards
K. Fukunaga, T. Maeno, and K. Okamoto

J-5 Effect of Interface on Space Charge in Polyethylene
Y. Tanaka, G. Chen, T. Y. G. Tay, and T. Takada

J-6 Interfacial Charge Behavior in SXLPE/XLPE Laminate
Jung Woo Ko, Jin Ho Nam, and Kwang S. Suh

11:00 – 13:00 K - Cable Insulation (2) - (Chairman: R. Patsch)

K-1 Insulation Condition Estimation of Distribution Power Cables by On-line and Off-line Diagnostics (Invited)
Johan J. Smit

K-2 Development of Insulation Diagnosis in P. R. China (Invited)
Z. Yan, Y. Shang, and M. Dong

K-3 Relation between the AC Loss Current Method and the PEA Method for Water-treed Length
Noriyuki Ito, Tamon Ozaki, Issei Sengoku, Jiro Kawai, and Shuhei Nakamura

K-4 A Cable Terminator for Partial Discharge and Dielectric Loss Measurements
K. Nakaviwat, S. Kumpiranont, C. Boonseng, P. Apiratikul, and A. Kunakorn

K-5 Partial Discharge Characteristics in Polymeric Cable Accessories
T. R. Blackburn, R. E. James, B. T. Phung, and Z. Liu

11:00 – 13:00 L - New Materials (1) - (Chairman: M. Iwamoto)

L-1 Engineering Challenges for Polymer Electronics (Invited)
D. M. Taylor and D. J. Morris

L-2 Electrical Properties of Organic Single Electron Tunneling Device
Tohru Kubota, Shiyoshi Yokoyama, Tatsuo Nakahama, Shinro Mashiko, Yutaka Noguchi, Kazuhito Hashizume, Takaaki Manaka, and Mitsumasa Iwamoto

L-3 Photoirradiation Effects on Light-emitting Devices Using Conjugated Polymers as Emission Material

Kazuya Tada and Mitsuyoshi Onoda

L-4 Spectroscopic Studies of Metal/Organic Interface by Nonlinear Optical Methods
T. Manaka, X. M. Chen, C. Q. Li, and M. Iwamoto

L-5 Photoelectric Properties of Organic Dye LB Film Cells Utilizing Surface Plasmon Excitation
Keizo Kato, Hironori Tsuruta, Takaaki Ebe, Kazunari Shinbo, Futao Kaneko, and Takashi Wakamatsu

13:00 – 17:30 Technical Visits (included Lunch)

18:00 – 20:00 Banquet

THURSDAY, NOVEMBER 22

9:00 – 10:40 M - Dielectric Breakdown - (Chairman: D. K. Das-Gupta)

M-1 Conductivity and Breakdown of Solid Dielectrics under the Influence of Electric and Magnetic Field (Invited)
J. C. Paul

M-2 Statistical Investigation of Dielectric Breakdown of LDPE
Yasuo Sekii, Kiyotaka Asakawa, and Kazumasa Mouri

M-3 Electroluminescence Caused by Electron Impact
N. Shimizu, N. Nagura, S. Iemura, and T. Takahashi

M-4 Insulation and Passivation Properties of Vapor-deposited Fluorinated Polymer Thin Films
H. Usui, R. Kojima, S. Horie, K. Tanaka, and F. Ohishi

M-5 Effect of Blending on the Dielectric Breakdown of Polyethylene
Hironaga Ono, Naoshi Hirai, and Yoshimichi Ohki

9:00 – 10:40 N - Transformer - (Chairman: T. Umemura)

N-1 Partial Discharge Localisation on Power Transformers Using Neural Networks Combined with Sectional Winding Transfer Functions as Knowledge Base
P. Werle, A. Akbari, H. Borsi, and E. Gockenbach

N-2 A Study of Partial Discharge Acoustic Signal Propagation in a Model Transformer
Aloys O. Akumu, Noboru Kawaguchi, Ryotaro Ozaki, Haruo Ihori, Masaharu Fujii, and Kiyomitsu Arii

N-3 An Innovative Online Drying Procedure for Liquid Insulated High Voltage Apparatus

V. Wasserberg, H. Borsi, and E. Gockenbach

N-4 Study on Prediction Method of Thermal Deterioration of Pole Transformer with Overloaded Condition

Y. Mizutani, T. Ito, T. Takahashi, and M. Nagata

9:00 – 10:40 O - New Materials (2) - (Chairman: M. Taylor)

O-1 Heterojunction Photovoltaic Cell Using p- and n-type Conducting Polymers (Invited)

Mitsuyoshi Onoda and Kazuya Tada

O-2 Fabrication of Organic Ultrathin Multilayered Films Using Self-Assembly and Spin-Coating Method

H. Nishimura, M. Iizuka, S. Kuniyoshi, M. Nakamura, K. Kudo, and K. Tanaka

O-3 Study of Linear and Nonlinear Dielectric Properties of Monolayers by Maxwell-Displacement Current and Optical Second Harmonic Generation Measurements

Atusushi Tojima, Taka-aki Manaka, and Mitsumasa Iwamoto

O-4 Photo-induced In-Plane Alignments of Liquid Crystal Molecules on Layer-by-layer Films and Attenuated Total Reflection Properties

Futao Kaneko, Jun Ishikawa, Kenta Shitasue, Akira Baba, Kazunari Shinbo, Keizo Kato, and Rigoberto C. Advincula

10:40 – 11:00 Coffee Break

11:00 – 13:00 Q - Treeing - (Chairman: N. Shimizu)

Q-1 Effect of Filler on Treeing Phenomenon in Epoxy Resin under AC Voltage (Invited)

M. Nagao, K. Oda, K. Nishioka, Y. Muramoto, and N. Hozumi

Q-2 Analysis of Development of Electrical Trees in Insulators Using Local Fractal Dimension

M. Fujii, T. Iwase, H. Ihori, and K. Arii

Q-3 3-dimensional Tree Simulation Considering a Barrier Interface

H. Uehara, K. Nakamura, and K. Kudo

Q-4 Relationship between PD Characteristics and Channel Diameter of Artificially-simulated Tree Channel

H. Kawabata, A. Yoshimi, H. Kaneiwa, and T. Mizutani

Q-5 Influence of Swarming Pulsive Microdischarge on Tree Degradation

Yoshiyasu Ehara, Haruo Kishida, and Tairo Ito

Q-6 Morphology Change and Tree Initiation of Polyethylene
Ping Yan, Yuanxiang Zhou, Guangsheng Sun, and Noboru Yoshimura

11:00 – 13:00 R - Rotating Machines - (Chairman: H. Sedding)

R-1 Diagnostic Information Obtained from Examining a Large Stator Winding PD Result Database (Invited)
G. C. Stone, V. Warren, and M. Fenger

R-2 Numerical Analysis on Electric Field and Taping for Stator Coil with Global Insulation
Akinobu Nakayama, Seiichi Inoue, and Kohji Haga

R-3 The Influence of Several Environment Conditions on the Partial Discharge Characteristics and on the Lifetime of Magnet Wires under Inverter Pulse Operation
R. Busch, F. Pohlmann, and K. Muller

R-4 Diagnosis Method for High Voltage Coils Based on Electrical and Tap Tone Characteristics
T. Takeuchi, H. Asakawa, S. Hagiwara, and H. Kamiya

R-5 Ageing Extent Assessment of Large Generator Insulation Using Advanced Characterization Technique
Hengkun Xie

R-6 Partial Discharge Monitoring System with Use of Resistance Temperature Detector Laid in Stator Coil Slot of Hydro Power Generator
Masaki Kanegami, Tatsuki Okamoto, Takamasa Noda, Kuniharu Hashimoto, Kazuhiko Takimoto, and Shunsuke Kondoh

11:00 – 13:00 T - New Materials (3) - (Chairman: K. Miyairi)

T-1 Effect of Photon Irradiation on SBT Films
Takatoshi Ito, Hiroki Nonaka, Yoshimichi Ohki, K. S. Seol, In-Hoon Choi, and Yong-Tea Kim

T-2 Ultraviolet-photon-induced Paramagnetic Centers in Ge and Sn Co-doped Silica Glass
Makoto Fujimaki, Shin-ichiro Tokuhiro, Tetsuya Nakanishi, Ken-ichi Nomura, Yoshimichi Ohki, and Kazuo Imamura

T-3 Mechanochemical Actuators Fabricated from Polypyrrole Films with Anisotropy
Y. Kato, T. Okamoto, K. Tada, and M. Onoda

T-4 Study of Some Ferroelectric Materials in View of Passive Components Integration in Power Electronic

S. Guillemet, J. Sarrias, Th. Lebey, E. Laboure, and F. Costa

13:00 – 14:30 Lunch

14:30 – 17:00 Poster (3) - Rotating Machines & Substations - (Chairman: R. Takeuchi)

P3-1 Ultrasonic Nondestructive Detection for Defects in Epoxy/Mica Insulation
Yanpeng Hao, Guoli Wang, and Hengkun Xie

P3-2 Test Facility of Multi-Factors Aging for Stator Bars Insulation of Generator and Designing of Specimens
Xiaohong Zhang, Weisheng Lu, Liang Zhang, Bo Yue, and Hengkun Xie

P3-3 Detecting Loose Stator Wedges in Large Motors
Xiaoqin Ma, Weisheng Lu, and Hengkun Xie

P3-4 Estimating the Remaining BDV for Large Generator Stator Winding by Using Nondestructive Insulation Diagnostic Data Based on Statistical Method
Z. D. Jia, Y. Y. Liu, Y. P. Hao, and H. K. Xie

P3-5 The Change of Microstructure of Epoxy Mica Insulation in Multi-stress Aging
Z. D. Jia and H. K. Xie

P3-6 Degradation Diagnosis of Large Stator Winding Insulation Based on Ultra-wide Band Partial Discharge Detecting Technique
Z. D. Jia and H. K. Xie

P3-7 Study on Aging of Stator Bar Insulation of Generator Based on Moment Characteristics of Partial Discharge
Xiaohong Zhang, Liang Zhang, Bo Yue, and Hengkun Xie

P3-8 Epoxy/Mica Insulation Condition Assessment Using AC Current Method
Yanpeng Hao, Guoli Wang, and Hengkun Xie

P3-9 Aging Diagnosis of Large Generator Stator Winding Insulation Based on AC Dielectric Characteristic Parameters
Song Jiancheng, Cheng Yonghong, Xie Hengkun, Hao Junfang, and Li Haiying

P3-10 Dynamic Mechanical Analysis of Degradation of Rotating Machine Composite Insulation
Song Jiancheng, Xie Hengkun, Li Haiying, and Hao Junfang

P3-11 Research on Monitoring and Fault Diagnostic System of Turbine-generator
Li Yonggang, Li Heming, and Zhaohua

P3-12 Study on the Development of PD Parameters during the Process of Multi-stress Aging of Stator

Ruijin Liao, Caixin Sun, Jian Li, Yang Song, and Yi Ge

14:30 – 17:00 Poster (4) - Transformers - (Chairman: T. Maeda)

P4-1 A Practical PD Online Monitoring System Used for Transformers
Li Jian, Du Lin, Sun Caixin, Liao Ruijin, and Chen Weigen

P4-2 Synthetic Fault Diagnostic Model of Oil-immersed Transformers Utilizing Information Fusion
Shang Yong, Liu Shaoyu, Guo Zongjun, Yan Zhang, and Zhang Ye

P4-3 Study on the Ultra-high-frequency Sensors for PD Detection in Power Transformer
Guoli Wang, Yanpeng Hao, and Yanming Li

P4-4 Study on Pulse Current of Typical PD Models in Power Transformer
Guoli Wang, Yanpeng Hao, and Yanming Li

P4-5 On-line Transformer Winding's Fault Monitoring and Condition Assessment
Xiao Qun Ding and Hui Cai

P4-6 The Analysis of On-line Monitored Results for Capacitive Type of Equipment
Huiping Zhang, Kexiong Tan, Fengyu Dong, and Jinchang Wang

P4-7 Blackboard Expert System of Multi-expert Cooperating Diagnosis for Transformers' Insulation
Ruijin Liao, Chenguo Yao, Caixin Sun, and Juxiong He

P4-8 Study on the Application of an On-Line Synthetic Detecting System for Transformer Insulation
Ruijin Liao, Weigen Chen, Jian Li, Lin Du, Caixin Sun, and Yang Song

P4-9 Effect of Pulse Propagation Characteristics in Power Transformer on Partial Discharge Recognition
Wensheng Gao and Kexiong Tan

P4-10 A Principle and Method of the Protection of Transformer Longitudinal Insulation
Wen Yuanfang, Yan Xianglian, Liu Chun, Liang Yuelong, and Xie Yanying

P4-11 Research on the Influence of Microorganism on the tan δ of Power Transformer Oil
Ma Weiping, Cheng Fangxiao, Li Shaoying, Piao Zhensan, Liu Xianzhong, and Yao Lili

P4-12 Synthetic Evaluation for Aging of Solid Insulation in Power Transformer
Qian Zheng, Wang Xiaorong, Gao Wensheng, Luo Chengmu, and Yan Zhang

P4-13 Modern Transformer Main Insulation with Corrugated Board
A. Z. Lin, H. J. Kirch, and Ch. Krause

P4-14 Test Research on Power Transformer Winding Deformation by FRA Method
Liu Xiaowei and Sun Qiang

P4-15 Fault Location of Transformer Winding Deformation Using Frequency Response Analysis
Jin Zhijian, Zhu Minglin, and Zhu Zishu

P4-16 Application of Soft-threshold Wavelet De-noising Method in the Diagnosis of Transformer During Impulse Test
Fu Chenzhao, Liu Jian, Li Yanming, Liu Jie, and Wang Guogang

P4-17 The Vibration Measuring System for Monitoring Core and Winding Condition of Power Transformer
Ji Shengchang, Shan Ping, Li Yanming, Xu Dake, and Cao Junling

P4-18 On-line Monitoring of Winding Deformation of Power Transformer
D. K. Xu, J. H. Huang, and Y. M. Li

P4-19 Study on Relationship between the Current of Oil Flow Electrification and Characteristics of Solid Materials
Qinxue Yu, Wene Ren, and Hengkun Xie

P4-20 Evaluation of Streaming Electrification Considering Circulation of Charged Oil
T. Ogura, Y. Shibuya, and K. Tsuji

P4-21 Comparison of Measured PDs in Oil-impregnated Insulation Using Different Sensor Bandwidths
W. G. Ariastina and T. R. Blackburn

P4-22 Studies on Compatibility of Silicone Oil with Pressboard Insulation
C. Viswanatha, K. Dwarakanath, and V. Sathyanaga Kumar

P4-23 Surface Flashover Studies on Precompressed Pressboard Insulation under Superimposed AC/DC Voltages
C. Viswanatha, K. Dwarakanath, and V. Sathyanaga Kumar

P4-24 DC Prebreakdown Light in Silicone-oil / Polymer-film Composite with Sphere-sphere Electrodes
K. Kadowaki, K. Kuwabara, S. Nishimoto, and I. Kitani

P4-25 Simulation of Ultrasonic Wave Propagation of Partial Discharge in Tranformer Model
Ryotaro Ozaki, Aloys Oriedi Akumu, Haruo Ihori, Masaharu Fujii, and Kiyomitsu Arii

17:00 – 17:10 Closing Ceremony

Appendix: Digest Reports of the Investigation Committees

Digest Report of the Investigation Committee on Assessment and Improvement of the Interface in Composite Electrical Insulation

Digest Report of the Investigation Committee on Various Problems with High Reliability for Insulation of Electronic Equipment

Digest Report of Cooperative Research Committee on EINA Magazine

Digest Report of the Investigating Committee on Future Prospect of the Research and Development of Electrical and Electronics Insulation and its Systems

Digest Report of the Investigation Committee on Insulation Lifetime of Dielectric Materials and Electrical Apparatus

Digest Report on the Investigating Committee on Development of Dielectric and Electrical Insulation Technology to Organic Molecular Device Engineering

Digest Report of Investigation Committee on Advanced Measurement Methods on Partial Discharges in Electrical Apparatus

Digest Report on Functions of Organic Molecular Films and Organic/Inorganic Composites