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# TECHNICAL EXCHANGES AND ACTIVITIES IN ASIAN COUNTRIES

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## Conference Records

### 1999 Asian Conference on Electrical Insulation Diagnosis( ACEID '99)

1999 Asian Conference on Electrical Insulation Diagnosis was held on 18 - 23 November 1999 at the Research Park of Chungbuk National University, Cheongju, Korea. It was organized by the Korean Institute of Electrical and Electronic Material Engineers(KIEEME) and Chungbuk National University and co-sponsored by the Electrical Materials Society of the Korean Institute of Electrical Engineers(KIEE) and KOSEF.

The 1999 ACEID was planned to provide opportunities for the scientists, researchers, and engineers to present and to discuss on the latest research results in the field of electrical insulation diagnosis in power apparatus on 18-19 November 1999. More than 15 persons visited the Korea Electric Power Research Institute(KEPRI), 765kV Test Yard, Kwangyang Steel Co., and the Korea Electrotechnology Research Institute(KERI) during 20-23 November as technical tour. The conference are originated from China-Japan Joint Conference on Electrical Insulation Diagnosis held at Xi'an, China on April 1990.

The three papers were invited and 96 papers from four countries (Japan, China, German, and Korea) were accepted among 115 abstracts submitted to the

program committee, and presented in seven oral sessions and two poster sessions covering the topics of High Field Effects in Solid and Liquid Dielectrics, Aging, Pre-breakdown and Breakdown Phenomena, Advanced Diagnostic Techniques, Prediction Methods of Residual Lifetime, and New Technology for Electrical Insulation. At the conference, panel discussion on the topic of Problems on PD Measurements and Interpretation in Power Apparatus was specially programmed.

During the conference, International Advisory Committee of ACEID '99 discussed on the next ACEID and was entered into an agreement to fulfill the following clauses by three representatives ( Prof. Z. Yan, Prof. K. Matsuura, and Prof. Joon-Ung Lee);

- *The Conference will be held periodically in every 2 years: 2001 in Japan, 2003 in China, and 2005 in Korea.*
- *The host nation has authority to set up all the conference schedule including the exact location and the term for the Conference.*

By Prof. Kee-Joe Lim  
(Chungbuk National University, Korea,  
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# **Announcement of International Conference to be Held in Asia**

## **Second Asia-Pacific International Symposium on the Basic and Application of Plasma Technologies (APSPT)**

APSPT devoted to basic and application of plasma technologies will be held April 18-20, 2001 in Kaohsiung, Taiwan, Republic of China. The symposium will be focused on the applications in the field of material processing and environmental treatments. Presentation emphasizing either the basic research or applied topics will be welcomed. Topics of interest will include, but not be limited to the following: Material dry processing, Pollution control technologies, Waste destruction and treatments, Miscellaneous (Plasma general)

Important Date:	Abstract (up to 200 words) due:	Oct. 30, 2000
	Acceptance Letter	Nov.15, 2000
	Pre Registration Due:	Dec.15, 2000
	Camera Ready Full Text (4-6 pages) due:	Dec.15, 2000
	Symposium:	April 18-20, 2001

Secretary: Professor S. Ono  
Department of Electrical and Electronics, Engineering  
Musashi Institute of Technology, Tokyo, Japan  
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e-mail:ono@ee.musashi-tech.ac.jp

## **International Conference on Electrical Engineering 2001 (ICEE 2001)**

ICEE 2001 will be held in Xian, China on July 22-26, 2001(to be expected). Topics cover wide areas of Electrical Engineering field.

Important Date:	Submission of abstract :	Jan. 31, 2001
	Notification of Acceptance:	March 15, 2001
	Submission of full papers:	May 1, 2001
	ICEE 2001	July 22-26, 2001 (to be expected)

Organized by: The Chinese Society for Electrical Engineering (CSEE)

Co-organized by: The Hongkong Institute of Engineers (HKIE)  
The Institute of Electrical Engineers of Japan (IEEJ)  
The Korean Institute of Electrical Engineers (KIEE)

## **The 1st International Discussion Conference on Nano Interface Controlled Electronic Devices ( IDC-NICE2001 )**

The IDC-NICE Devices conference will be held at Kyongju Hilton Hotel in Kyongju(慶州), Korea, July 16-20, 2001.

Scope and Topics are Molecular Electronics & Devices, Nano Electronics & Devices, Nano Fabrication & Materials, Spectroscopy, Ultra-thin Films and Novel Systems, Nanotechnology.

The scientific program will consist of invited lectures, and oral presentations. The official language : English.

Important Date:	Deadline for subscription:	June 1, 2001
	Deadline for abstracts:	June 1, 2001
	Submission of proceedings:	July 1, 2001
	IDC-NICE	July 16-20, 2001

Organizing Committee: Prof. Young-Soo Kwon (Chairman, Dong-A University, Korea)  
Prof. Mitsumasa Iwamoto (Co-Chairman, Tokyo Institute Technology, Japan)

Sponsored by Center for Integrated Intelligent Port Management Systems (CIIPMS), Dong-A University  
Foundation of Pusan Techno-Park, Korea  
The Society of Nice Devices of Japan

Supported by The 21st Century Frontier of Korea  
R & D for Nano Device of Korea

In cooperation with Technical Committee on Dielectric and Electrical Insulation Materials, IEEJ  
Technical Committee of Electrical Materials in KIEE, Korea  
Division of Molecular Electronics & Devices (ME&D), Korea  
Further information: The web site is [www.donga.ac.kr/~nano/nice2001](http://www.donga.ac.kr/~nano/nice2001)  
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## **2001 International Symposium on Electrical Insulating Materials (ISEIM 2001)** **and 2001 Asian Conference on Electrical Insulation Diagnosis (ACEID 2001)**

ISEIM 2001 and ACEID 2001 will be held at Hotel Sungarden in Himeji, Japan on November 19-22, 2001.  
Main topics are 1. Conduction and Breakdown in Dielectrics, 2. Space Charge, Surface and Interfacial Phenomena, 3. Electrical Insulation for Apparatus and Cables, 4. Aging and Degradation, their Detection and Monitoring, 5. Test and Measurement Techniques, 6. Insulation Design and Reliability, 7. Eco-friendly Dielectric Materials for Electronics, 9. New and Functional Dielectric Materials, 10. Dielectric Phenomena and Their Applications.

Important Date: Submission of abstract : March 20, 2001  
Submission of manuscript: July 31, 2001  
Conference: November 19-22, 2001

Sponsored by: IEEJ Technical Committee on Dielectrics and Electrical Insulation  
IEEE Dielectrics and Electrical Insulation Society

In Cooperation with: The 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

More information about ISEIM 2001 is available at the following web site:  
<http://www.waseda.ac.jp/conference/ISEIM2001/index.html>

## **7th IEEE International Conference on Properties and Applications of Dielectric Materials (ICPADM 2003)**

ICPADM-2003 will be held in Nagoya, Japan, in June 2-5, 2003. This conference is sponsored by the IEEE Dielectrics and Electrical Insulation Society (DEIS) and it will be cosponsored by the IEEE Japan.

The details will be in the Call for Papers which will be distributed later.

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# Smart Measurement and Diagnostic Technology (SMDT) Lab in Hanyang University

Prof. Ja-Yoon Koo  
Hanyang University, KOREA

## About SMDT Lab

The Smart Measurement and Diagnostic Technology Lab.(SMDT) is an leading laboratory in Korea for the study of not only the diagnosis of power apparatus but also the insulation techniques. Main research areas include diagnostic technology for the insulation system and life estimation techniques for the power apparatus including their accessories. The SMDT is also associated with the Research Center for Electronic Materials and Components(EM&C, designated by government), Hanyang University, Korea.

## Our main research activities are :

- After-laying test for underground power cable system
- Insulation degradation diagnosis and fault location of the underground power cable system
- Optical measuring system for the variation of the electric field
- Partial discharge measurement techniques and it's pattern analysis

## Summary of Recent Achievements

### 1. A suggestion on the PD pattern analysis (published at ICPADM 2000)

The correlation between the PD patterns and the electrical tree propagation has been investigated by use of the specimen removed from the insulation of the real 154 XLPE underground power cables. Considering the results of our investigation, if the PD magnitude is only considered for the diagnosis of the cable system, it is possible to draw a wrong decision. Therefore, it is possible to propose that the evolution of PD pattern as a function of time should be taken into account for the diagnosis of the power cable system in addition to the conventional  $\phi$ -q-n method.

### 2. Development of an EMI free optical prototype electric field measuring system applicable for the diagnosis of high power apparatus (to be presented at CEIDP 2000)

New PD detection technique using Pockels cell was proposed and considerable apparent chaotic characteristics were discussed. The presence of chaos of the PD signals has been investigated by examining their means of qualitative and quantitative information. The presence of strange

attractor, indicates the existence of fractal structures in it's phase space. Furthermore, several dimension values of strange attractor were verified sequentially.

### 3. Development of the Compact After Laying Test Set using oscillating wave voltage underground distribution for Power Cables (published at CEIDP97)

In order to suggest the optimum after laying test method, defect detection capabilities of various test methods were experimentally investigated. Based on our results, it is pointed out that with-cable-charging OW voltage test, of which test condition replacing the AC voltage test is 55kV/50shots, is the most optimum alternative method applicable to the underground distribution power cable system in Korea.

## SMDT Head : Prof. Ja-Yoon Koo



- Received BS form Seoul National University, Korea (1975), MS from ENSEIHT, and Ph. D.
- Joined Research Center of the Electricity of France at Renardiere in France and then worked for the Korea Advanced Institute of Science and Technology

- Professor at the Dept. of Electrical Engineering, Hanyang University, Korea since 1988
- Regular member of SC-21 of CIGRE representing KOREA and Technical Committee member for the JICABLE (1988-1999)
- Regular member of SC-15 of CIGRE since 2000
- Director of Research Center for Electronic Materials and Components (EM&C, designated by government), Hanyang University, Korea since 1996

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