



The Institute of Electrical Engineers of Japan (IEEJ)
Technical Committee on Dielectrics and Electrical Insulation

Workshop on Advanced Nanodielectrics - Fundamentals and Applications -

Investigating R&D Committee on Advanced Polymer Nanocomposite Dielectrics

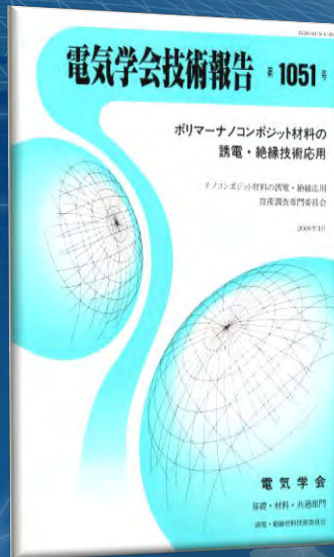
Initiative for Nanodielectrics in Japan

The Investigating R&D Committee of Advanced Polymer Nanocomposite Dielectrics in the Institute of Electrical Engineers of Japan (IEEJ) was established in 2003.

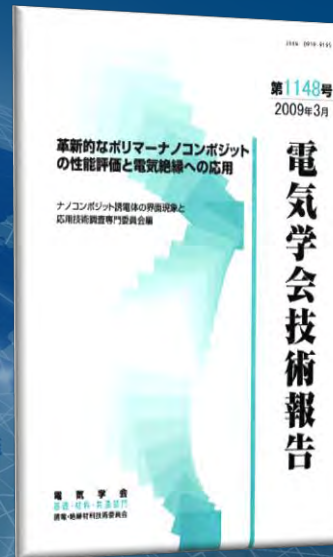
Chair person is Prof. Toshikatsu Tanaka (Waseda University).

Investigations of the fundamental properties of nanodielectrics and their industrial applications have been conducted in the past decade.

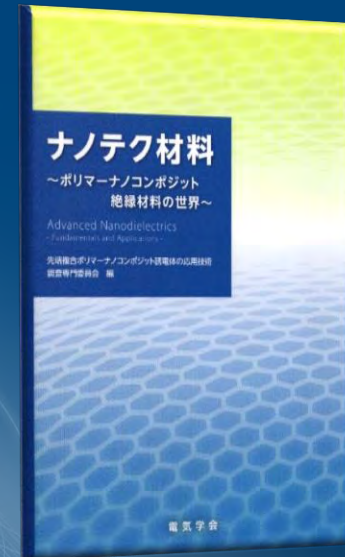
Cutting-edge of nanodielectrics were summarized in IEEJ technical reports and book in each term.



Technical report No. 1051
(Published in March 2006)

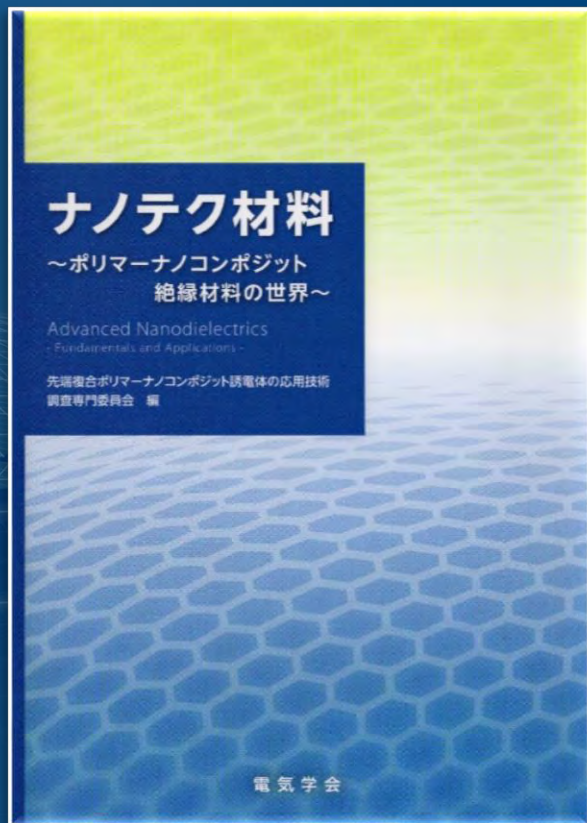


Technical report No. 1148
(Published in March 2009)

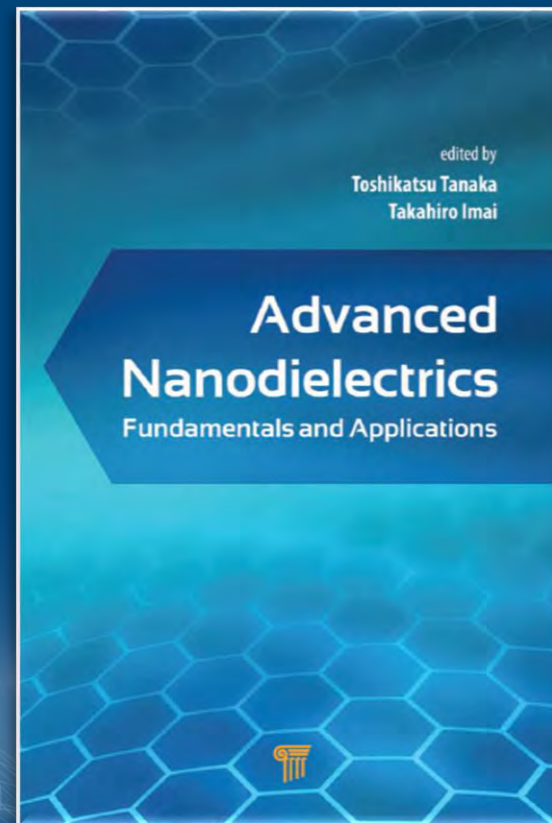


Technical book
(Published in August 2014)

Published in May 2017



English translation



Japanese version was a winner of the IEEJ Outstanding Technical Report Award in 2016.

Detailed information can be obtained from the following site.

<http://www.panstanford.com/books/9789814745024.html>

Initiative for Nanodielectrics in Japan

Workshop is based on “Advanced Nanodielectrics - Fundamentals and Applications -



Chapter 1
Foreword - Attractiveness of Polymer Nanocomposites

Chapter 2
Potential Applications in Electric Power and Electronics Sectors

Chapter 3
Compatibility of Dielectric Properties with Other Engineering Performances

Applications

Chapter 4
Preparation of Polymer Nanocomposites: Key for Homogeneous Dispersion

Chapter 5
Drastic Improvement of Dielectric Performances by Nanocomposite Technology

Chapter 6
Thermal and Mechanical Performances of Nanocomposite Insulating Materials

Fundamentals

Chapter 7
Structures of Polymer/Nano-filler Interfaces

Chapter 8
Computer Simulation Methods to Visualize Nano-fillers in Polymers

Theoretical Aspects

Chapter 9
Epilogue - Environmental Concerns and Future Prospects

Speakers in Workshop

14:00-17:10 (About 3 hours), on 11th Sep. 2017




Each presentation contains the latest topics.

Time		Speaker	Title
14:00-14:10	10 min	Y. Tanaka (General Chair of ISEIM 2017)	Opening
14:10-14:25	15 min	T. Imai (Toshiba Corporation)	Applications Part I (Switchgear and Motor Winding)
14:25-14:40	15 min	T. Kondo (NGK INSULATORS, LTD.)	Applications Part II (Outdoor Insulation)
14:40-14:55	15 min	T. Ohta (Panasonic Corporation)	Applications Part III (Insulating Substrate and Electronic Device)
14:55-15:10	15 min	K. Okamoto (Fuji Electric Co., LTD.)	Applications Part IV (LSI and Power Electronics)
15:10-15:25	15 min	Y. Inoue (Sumitomo Electric Industries, Ltd.)	Applications Part V (dc Power Cable)
15:25-15:40	15 min	Break	-
15:40-16:00	20 min	Y. Tanaka (Tokyo City University)	Fundamental Part I (Space Charge)
16:00-16:20	20 min	M. Kurimoto (Nagoya University)	Fundamental Part II (Permittivity and Water Tree)
16:20-16:40	20 min	T. Tanaka (Waseda University)	Fundamental Part III (Electrical Tree and Partial Discharge)
16:40-17:00	20 min	M. Kozako (Kyushu Institute of Technology)	Theoretical Aspects (Characterization and Computer simulation)
17:00-17:10	10 min	T. Tanaka (Chair of Workshop)	Closing




Workshop is based on "Advanced Nanodielectrics - Fundamentals and Applications -.

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Biography of Speakers (1)

Speaker	Section in Charge	Biography	
Yasuhiro TANAKA General Chair of ISEIM 2017 Tokyo City University	Opening & Fundamental Part I Space Charge	Yasuhiro TANAKA was born in Fukuoka, Japan in 1961. He received the B.E., M.E. and Ph.D. degrees in electrical engineering from Waseda University, Japan, in 1986, 1988 and 1991, respectively. He became a Lecturer, an Associate Professor and a Professor at Tokyo City University, in 1992, 1998 and 2004, respectively. He was a Visiting Scientist at University of Southampton from 1999 to 2000. Currently, he is developing a measurement system for space charge distribution in various solid dielectric materials at high temperatures, under ultra-high electric field or under irradiation of gamma-ray or electron-beam in vacuum.	
Takahiro IMAI Toshiba Corporation	Applications Part I Switchgear and Motor Winding	Takahiro IMAI received his B.Eng and M.Eng in applied chemical engineering and D.Eng in materials science from Waseda University in 1996, 1998, and 2006, respectively. He joined Toshiba Corporation in 1998. He is presently engaged in the development of electrical insulation materials and systems for switchgear at the Power and Industrial Systems R&D Center of Toshiba Corporation. He is a recipient of the IEEJ Distinguished Paper Award (2006); member of the IEEJ, IEEE, the Society of Polymer Science Japan.	
Takanori KONDO NGK INSULATORS, LTD.	Applications Part II Outdoor Insulation	Takanori KONDO was born in Mie Prefecture, Japan in 1963. He received B.Sc. degree in chemical engineering from Shinshu University, in 1987. In 1996 he joined NGK Insulators, Ltd. He has been engaged in material engineering of polymer insulators. He is a member of the Society of Rubber Industry, Japan.	

Biography of Speakers (2)

Speaker	Section in Charge	Biography	
Takashi OHTA Panasonic Corporation	Applications Part III Insulating Substrate and Electronic Device	Takashi OHTA received his B. Eng and M. Eng from Tokyo Institute of Technology in 2002 and 2004, respectively. He joined Panasonic Corporation in 2005. He is presently engaged in the engineering of LED light systems. He is a member of the IEEJ, the Society of Polymer Science Japan, the Illuminating Engineering Institute of Japan and the Institution of Professional Engineers Japan.	
Kenji OKAMOTO Fuji Electric Co., LTD.	Applications Part IV LSI and Power Electronics	Kenji OKAMOTO received the Ph.D. degree in electrical engineering from Tokai University, Kanagawa, Japan, in 2002. In 1982, he joined Fuji Electric Corporate Research and Development, Ltd., Tokyo, Japan, and since then he has been involved in solid insulation technology of epoxy mold, etc. and its application to products. Recently, he has been engaged in studying the application of metal-base printed circuit board to a power circuit for general purpose inverters, power modules and so on. He is a member of the IEE of Japan and the Japan Institute of Electronics Packaging.	
Yoshiyuki INOUE Sumitomo Electric Industries, Ltd.	Applications Part V dc Power Cable	Yoshiyuki INOUE received his B. Eng in Fuel Chemistry from Kyoto University in 1980. He joined Sumitomo Electric Industries, Ltd. in 1980. He is presently engaged in the development of insulation materials for dc power cables. He is a member of the IEEJ.	

Biography of Speakers (3)

Speaker	Section in Charge	Biography	
Muneaki KURIMOTO Nagoya University	Fundamental Part II Permittivity and Water Tree	Muneaki KURIMOTO was born in 1978. He received the B.Sc. degree in 2001, the M.S. degree in 2003 and the Doctor of Eng. Degree in 2010, all in electrical engineering, from Nagoya University, Japan. From 2003 to 2007, he joined Aisin Seiki Corporation, Japan. From 2010 to 2013, he was an Assistant Professor at Toyohashi University of Technology, Japan. Since 2013, he has been an Assistant Professor at Nagoya University. He is a member of IEEJ and IEEE.	
Toshikatsu TANAKA Waseda University Chair of Workshop	Fundamental Part III Electrical Tree and Partial Discharge & Closing	Toshikatsu TANAKA is a research fellow at the IPS Research Center of Waseda University, Japan, after he served Professor of Waseda University from 2002 to 2009. He is the chair of the IEEJ Committee on Nanocomposites, IEEJ life fellow and IEEE fellow. He is a recipient of the Japanese Ministry of Science and Technology Prize (2000), IEEJ Technology Progress Award (1988), Institute of Electrical and Electronics Engineers (IEEE) Whitehead Memorial Lecture Award (2001), IEEJ Inuishi Award (2001), and IEEE Dakin Award (2002). He received Ph.D Degree in Materials Science from Osaka University, Japan, 1968.	
Masahiro KOZAKO Kyushu Institute of Technology	Theoretical Aspects Characterization and Computer Simulation	Masahiro KOZAKO is an Associate Professor at Department of Electrical and Electronic Engineering, Kyusyu Institute of Technology. He received the B.Eng., M.Eng., and Dr. Eng. degrees in electrical engineering from Kyushu Institute of Technology in 1997, 1999, and 2002, respectively. He worked at Waseda University for 3 years as an Assistant Professor and a Lecturer, and at Kagoshima National College of Technology for 3 years as an Assistant Professor. He was a Visiting Researcher at the LAPLACE in Université Paul Sabatier, France, from 2011 for 1 year. He is a member of IEEE, IEEJ and CIGRE.	

- Summary of presentation slides will be handed out in the workshop.
- Book of “Advanced Nanodielectrics – Fundamentals and Applications –” is available for purchase at special price (30 % discount).

Original book price is 114 GBP (16,074 JPY)*.

<https://www.crcpress.com/Advanced-Nanodielectrics-Fundamentals-and-Applications/Tanaka-Imai/p/book/9789814745024>

You can obtain the book at 11,500 JPY.

* 1 GBP = 141 JPY



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**We look forward to
your participation.**

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