

The XX International Conference on
ELECTROMAGNETIC DISTURBANCES

EMD 2010

PROGRAMME

22-24 September 2010
Kaunas University of Technology
Lithuania

Conference organizers:

Bialystok University of Technology, Poland
Kaunas University of Technology, Lithuania
Vilnius Gediminas Technical University, Lithuania

Conference Chairman:

Prof. A. Navickas, Kaunas University of Technology, Lithuania

Honorary Chairman:

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Dr. A. Koryzna, Director-General, AB Lietuvos energija, Lithuania
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Prof. R. Rinkevičienė, Vilnius Gediminas Technical University, Lithuania
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Location:

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22 September 2010

Secretariat & Registration

9.00–10.00

OPENING PLENARY SESSION – Beta

10.00–10.30

Session Chair: A. Linas Markevičius

1. A. Navickas, Kaunas University of Technology, Lithuania
2. Z. Dmochowski, Honorary member, Poland
3. **Strategic Projects of Lithuanian Power Industry**
A. Koryzna, Director-General, Lietuvos Energija AB, Lithuania
4. **Department of Electric Power Systems. Challenges of the Smart Power Systems**
A. Morkvėnas, Kaunas University of Technology, Lithuania

Session 1

LIGHTNING AND OVERVOLTAGE PROTECTION – Beta

10.30–12.00

Session Chair: Roma Rinkevičienė

1. **Separation Distances in Lightning Protection of Antennas**
Andrzej W. SOWA
Bialystok University of Technology, Poland
2. **Lightning Protection of Helicopters**
Kazimieras Maceika
Vilnius Gediminas Technical University, Lithuania

Coffee Break

3. **Investigation of Evaluating Method of Influences by Disturbances on Digital TV using Actual Broadcasting Signal**
Nobuo Kuwabara, Shohei Yanagi
Kyushu Institute of Technology, Japan
4. **The Analysis of the Processes of the Temporary Earth Faults in the Insulated Neutral Electrical Network**
Saulius Gudžius*, Linas Andronis Markevičius*, Alfonsas Morkvėnas*, Arnolda Rožanskienė**
*Kaunas University of Technology, Lithuania
**Kruonio HAE, Lithuania

Lunch
12.00–13.00

Session 2
LIGHTNING AND OVERVOLTAGE PROTECTION – Beta
13.00–14.30

Session Chair: Renata Markowska

1. **Current-Potential Measuring Method for Estimation of Threat Related to Lightning Strike to a Radio Base Station**
Renata Markowska, Jaroslaw Wiater, Andrzej Sowa
Bialystok University of Technology, Poland
2. **Some Considerations and Investigations Concerning Far-Field to Near-Field Approximations**
Bernd W. Jaekel *, Ana Mladenovic **, Mirjana Peric **, Dusan Vuckovic **, Nenad Cvetkovic **, Slavoljub Aleksic **
*Siemens AG, Germany;
**University of Nis, Serbia
3. **Switching Overvoltages Due to Fuse Operation in Cable Laterals Connected with MV Overhead Lines**
Murtaza Hashmi*, Matti Lehtonen*, Seppo Hänninen**
*Aalto University, Finland
**Technical Research Centre Of Finland (VTT), Finland
4. **Electric and Magnetic Field Nearby Electronic Devices at HV Substation During Lightning Strike**
Jaroslaw Wiater
Bialystok University of Technology, Poland

Coffee Break

Session 3
SOURCES OF ELECTROMAGNETIC DISTURBANCES (1) – Beta
15.00–16.30

Session Chair: Saulius Gudžius

1. **The Issue of Forecasting and Finding of Electromagnetic Ship's Signatures**
Krzysztof Dymarkowski*, Rafał Namiotko* Grzegorz Pettke**
Edward Szmit **
*OBR Centrum Techniki Morskiej S.A., Poland
**Polski Rejestr Statków S.A., Poland
2. **Estimation of Gap Breakdown Field for Air Discharge of ESD-Gun with Low Charge Voltages**
Ikuko Mori*, Osamu Fujiwara**
*Suzuka National College of Technology, Japan
**Nagoya Institute of Technology, Japan
3. **Monitoring System Considering Time Varying Electromagnetic Fields in Magnetic Fusion Test Facilities**
Tatsuhiko Uda*, Masahiro Tanaka*, Shizuhiko Deji**, Yoshitsugu Kamimura***, Jianqing Wang****, Osamu Fujiwara*****
*National Institute for Fusion Science, Japan
**Kobe Co-Medical College, Japan
***Utsunomiya Univ, Japan
****Nagoya Institute of Technology, Japan
4. **Modelling of Overvoltages in the Induction Drive with Fuzzy Controller**
Saulius Lisauskas, Roma Rinkevičienė
Vilnius Gediminas Technical University, Lithuania
5. **Low Frequency Emission is Indicator of Geomagnetic Disturbances**
Larkina Vera Ivanovna
IZMIRAN, Russia

Gala Dinner
17.30–20.00

Conference Dinner: Alfa room, hotel „Park Inn Kaunas“

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Session 4
SOURCES OF ELECTROMAGNETIC DISTURBANCES – Beta
9.00–10.30

Session Chair: J. Arvydas Virbalis

1. **Spatial Distribution of Electromagnetic Field Inside Different Lightning Protection Systems During Direct Lightning Strike**
Tomasz Maksimowicz, Karol Aniserowicz
Bialystok University of Technology, Poland
2. **Analysis of Overvoltage Protection Systems Designed for Low Voltage Installations using Numerical Simulations.**
Konrad Sobolewski
Warsaw University of Technology, Poland
3. **Influence of Slotted Enclosure Radiation Pattern on Measurements of Shielding Effectiveness in GTEM Cell**
Andrzej Rusiecki
Bialystok University of Technology, Poland
4. **Lightning Hazard for Tourists on the Giewont Mountain Top**
Marek Szczerbiński
AGH University of Science and Technology, Poland

Tour
11.30–19.00

Departure at 11.30 from the hotel “Park Inn Kaunas”, K.Donelaičio st.27.
Non-formal clothes are recommended during the tour.

“Stumbras” Museum	12.00–14.30
Lunch	15.00–16.00
Tour Kaunas Old Town	16.00–18.30
Dinner	18.30–20.00

24 September 2010

Session 5
EMD IN POWER SYSTEMS – Beta
10.00–11.30

Session Chair: Robertas Lukočius

1. **Investigate of Inductor Poles Shaped Influence to Magnetic Field Distribution**
Robertas Lukočius, Milvydas Šiožinys
Kaunas University of Technology, Lithuania
2. **EMD Problem Solution for Stochastic Character Energy at Wind Micro Power Plants**
Povilas Balčiūnas, Povilas Norkevičius
Kaunas University of Technology, Lithuania
3. **Investigation of the Voltage Influence on Partial Discharge Characteristic Parameters in Solid Insulations**
Povilas Valatka, Gediminas Daukšys
Kaunas University of Technology, Lithuania
4. **Effect of Soil Parameters on the Calculation of Surface Impedance during a Lightning Stroke**
Lahcene Boukelkoul*, Hocine Benalla**
*LRES University of Skikda, Algeria;
**University of Constantine, Algeria

Coffee Break

Session 6
MEASUREMENTS AND SIMULATION OF DISTURBANCES – Beta
11.45–12.30

Session Chair: Vytautas Adomavičius

1. **Experimental Research of Pulse Processes in the Object Grounding System**
Nerijus Bagdanavičius *, **, Anatolijus Drabatiukas *, Šarūnas Kilius *, Alfonsas Morkvėnas **
* Kaunas Technical College, Lithuania;
** Kaunas University Of Technology, Lithuania

2. **Research of EMD in Small Scale Grid-Tied PV System**
Česlovas Ramonas *, Vytautas Adomavičius **
* Kaunas University of Technology, Lithuania
** The Centre of Renewable Energy at Kaunas University of
Technology, Lithuania
3. **Research of EMD Minimization Possibilities in Small-Scale Grid-
Tied PV System**
Česlovas Ramonas *, Vytautas Adomavičius **
* Kaunas University Of Technology, Lithuania
** The Centre Of Renewable Energy At Kaunas University Of
Technology, Lithuania
4. **125 MVA Power Autotransformer Electric and Magnetic Fields
Analysis**
Ramūnas Deltuva, J. Arvydas Virbalis
Kaunas University of Technology, Lithuania

Closing Plenary Session
12.30–13.00

Lunch
13.00–14.00

22 September 2010

Posters

1. **Long-Term Power Quality Monitoring in Distribution Networks**
Pavel Santarius*, Petr Krejci*, Radovan Hajovsky*, Radim Cumpelik**
*VŠB – Technical University of Ostrava, Czech Republic;
**CEZ, a.s., Czech Republic
2. **Lightning Induced Voltage Measurements on an Buried Power Cable**
Yu Hui***, Dong Wansheng**, Zhang Yang**
*Beijing Meteorological Bureau, China;
**Chinese Academy of Meteorological Sciences, China
3. **Determination of the Necessity of Protection Measures Against the Dangerous Influence of Lightning and Their Choice**
Martins Ozolnieks, Edvins Vanzovics
Riga Technical University, Latvia
4. **Shielding Effectiveness of Gradient Liquid-Containing Composite Materials**
Natallia Nasonova, Tatiana Pulko, Galina Pukhir, Viacheslav Kizimenko, Leonid Lynkov
Belarus State University of Informatics and Radioelectronics, Belarus
5. **Simulation of Multi-Pulse Rectifiers Using the Program EMTP-ATP**
Stanislav Kocman, Jan Dudek, Tien Trung Vo
VŠB – Technical University of Ostrava, Czech Republic
6. **Influence of AC Drives with Selected Devices for Harmonic Reduction on the Quality of Supply Voltage**
Stanislav Kocman, Jan Dudek, Tien Trung Vo
VŠB – Technical University of Ostrava, Czech Republic
7. **Influence of AC Electric Railways on Electric Power Supplying System**
Bogdan Fukala *, Václav Kolář *, Josef Paleček *, Petr Orság
VŠB – Technical University of Ostrava, Czech Republic

8. **Influence of an AC Traction System on the Voltage Distortion of a Traction Transformer**
Petr Orság, Jaromír Kijonka, Josef Paleček, Tien Trung Vo
VŠB – Technical University of Ostrava, Czech Republic
9. **Investigation of Compact Fluorescent Lamp Electromagnetic Radiation**
Konstantinas Otas, Alfonsas Vaškys, Paulius Vaškys
Kaunas University of Technology, Lithuania
10. **Electromagnetic Method to Reveal Short Circuits of Steel Plates of Turbogenerators Stators Core**
Mihails Krilovs, Elena Ketnere, Vadims Suvorovs
Riga Technical University, Latvia;
11. **Electromagnetic Field Models for High Current Lightnings**
Igor I. Kononov, Igor E. Yusupov, Ivan S. Zelinskiy
Saint-Petersburg State University, Russia
12. **Software for Computer Simulation of Ultra-Wideband Antenna Arrays Based on the New Scattering Matrix**
Marek Nowakowski
Bialystok University of Technology, Poland
13. **Method of Frequency Evaluation from a Signal Affected by Noise**
Robertas Lukočius, Juozapas Arvydas Virbalis, Roma Račkienė,
Milvydas Šiožinys
Kaunas University of Technology, Lithuania
14. **A New Method for Describing the Horizontal Electric Field Induced by a Lightning Strike return Stroke**
Scott L Meredith, Susan K Earles, Niescja N Turner
Florida Institute of Technology, USA
15. **Analysis of Fast Electromagnetic Processes in Overhead Distribution Lines**
Saulius GUDŽIUS, Linas Andronis MARKEVIČIUS, Alfonsas MORKVĖNAS, Linas MARKEVIČIUS *
Kaunas University of Technology, Lithuania
* JSC “Modesa”

