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Coil Winding, Insulation & Electrical Manufacturing 2004

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### **INDUCTICA - Technical Conference Programme**

International Conference for inductive and electromagnetic components, systems and devices including manufacturing and processing.

Inductive devices are often taken for granted - Coils are as old as electricity itself! However, in recent years there have been considerable advances, particularly in areas like superconductivity, micro-coils and new magnetic materials. Despite this, many manufacturing, testing and analysis methods remain little changed. This conference represents both the new and the old in this respect and our wish is to expand it in both directions.

Tuesday 15th June 2004

### **Introduction and Welcome to Inductica**

**O900-0930** A Brief History of Electromagnetism by Prof. Dr. G.J. Monkman - Fachhochschule Regensburg & INDUCTICA Conference Chairman

### **Session 1 - Coil Winding and Inductive Component Manufacture**

| 0930-1000 | Optimal shape design of a multiple-coil device for induction heating.  P. Di Barba, B. Forghani, M. Negro & U. Piovan - Department of Electrical Engineering, University of Pavia, Italy             |
|-----------|--|
| 1000-1030 | Innovative Approaches for Optimising Tension Control.  K. Feldmann & A. Dobroschke - Friedrich-Alexander-Universität Erlangen-Nürnberg   |
| 1100-1130 | New, machine-based resin impregnation processes.  B. Ashley - Newtech Ltd, UK  |
| 1130-1200 | Managing Crack Propagation Mechanisms through the Material Selection Process for Coil Windings in High Temperature and Radiation Resistant Applications.  J.G. Hubrig - Innovation Services Inc, USA |
| 1200-1230 | Insulation of electrical components under vacuum.  M. Kaufmann - Hedrich Vacuum Systems, Germany   |
| 1230-1500 | Discussion/Lunch/Exhibition  |
|           |  |

### **Session 2 - Materials Including Insulators and Magnetic Materials**

| 1500-1530 | P. Kopcanský, L. Tomco, K. Marton, M. Koneracká, M. Timko, & I. Potocová -<br>Institute of Experimental Physics, Slovak Academy of Sciences, Slovakia |
|-----------|---|
| 1530-1600 | Compared nanocrystalline and ferrite optimized Common Mode Choke for RFI filters suitable as compact components.                                      |
| 1600-1630 | T. Waeckerlé, T. Save, B. Vachey & D. Gautard - Cie IMPHY ALLOYS (Arcelor Group), France Insulating Systems for Wind Turbine Generators.              |
|           | R. Brütsch - Von Roll Isola, Switzerland  |

1630-1700 Mica insulation of rotary electrical machines with high resources of electrical strength.

V.M. Pak, A.I. Drachev, A.B. Gilman, V.V. Starovoitenkov & N.M. Vakser - Elinar Holding Company, Russia

### Wednesday 16th June 2004

### **Session 3 - Transformer, Motor and Generator Technology**

| <ul> <li>H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt</li> <li>Can inrush currents in transformers be avioded.         <ul> <li>M. Konstanzer - Emeko, Germany</li> </ul> </li> <li>Motors Severe Starting Problems &amp; Remedial Measure.         <ul> <li>H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt</li> </ul> </li> </ul> |           |  |  |
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| <ul> <li>H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt</li> <li>Can inrush currents in transformers be avioded.         <ul> <li>M. Konstanzer - Emeko, Germany</li> </ul> </li> <li>Motors Severe Starting Problems &amp; Remedial Measure.         <ul> <li>H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt</li> </ul> </li> </ul> | 0900-0930 | · · · · · · · · · · · · · · · · · · ·  |  |
| M. Konstanzer - Emeko, Germany  1100-1130 Motors Severe Starting Problems & Remedial Measure.  H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt   | 0930-1000 | Estimation of Residual Service Life Time Of Electric Machines Windings.  H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt |  |
| H.A.M.A. Habiba - Arab Petroleum Pipelines CO. – SUMED, Egypt  | 1000-1030 |  |  |
| 1130-1200 Electrostatic and electromagnetic induced current switching of earthe  | 1100-1130 | •  |  |
| J. Santhosh & K.N.Srinivasan -   | 1130-1200 | Electrostatic and electromagnetic induced current switching of earthed switches. J. Santhosh & K.N.Srinivasan -                        |  |

### **Session 4 - Modelling and Simulation**

Discussion/Lunch/Exhibition

| 1500-1530 | Iron Core Inductor High Frequency Circuit Model for EMC Applications.  J. Luszcz - Gdansk University of Technology, Poland   |
|-----------|--|
| 1530-1600 | Automated Finite Element Aided Design of Skewed Rotor Induction Motors.  C. Riley, A. Michaelides, K. Hoeffer, D. Griffiths & J. K. Sykulski - Vector Fields Ltd, UK |
| 1600-1630 | Modelling of power transformers.  M. Simeonov & I. Novakov - Technical University of Gabrovo, Bulgaria   |

### Thursday 17th June 2004

1200-1500

### **Session 5 - Test and Measurement**

| 0900-0930 | Power And Measuring Transformers Priory Failure Events And PD- Activities As A Result Of High Speed Temperature Overfall.  Y.P. Aksenov, A.V.Golubev, V.V.Buzaev, Y.M.Sapozhnikov, Y.A.Dementiev & V.A.Rodionov, Depart ment of Electrical Engineering, University of Pavia, Pavia, Italy |
|-----------|---|
| 0930-1000 | Design and manufacturing of eddy current sensors.  H. Aschenbrenner - Micro-Epsilon-Messtechnik, Germany  |
| 1000-1030 | In vivo electromagnetic dosimetry using tooth enamel as a detector material.  S. Egersdörfer & A. Wieser - University of applied sciences, (Fachhochschule Regensburg), Germany,  |
| 1100-1130 | Application of the EL CID Test with Circulating Currents in Stator Windings.  J. Sutton & D. Bertenshaw - ADWEL International Ltd, UK   |
| 1130-1200 | Monitoring systems for rotating machines: PD-Activity measurements.  Y.P. Aksenov, G.Noe, & I.Arces - DIACS", Moscow, Russia  |
| 1200-1230 | PD detection methods on twisted-pair sample under repetitive bipolar impulse.  K. Kimura, S. Ushirone, S. Ohtsuka, M. Hikita & W. Bitoh - Kyushu Institute of Technology, Japan   |
| 1230-1300 | Corona Resistant Polyimide Film High Frequency Testing and Applications. S.A. Filliben - DuPont High Performance Materials, USA   |
| 1330-1600 | End of Conference/Exhibition  |



# Coil Winding, Insulation & Electrical Manufacturing 2004

International Conference and Exhibition Messe Berlin - Berlin -Germany June 15th - 16th - 17th, 2004

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