

UK Magnetics Society

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www.ukmagsoc.org

one day seminar

Electromagnetic Losses in Electrical Machines

Tuesday, 8 November 2011

at

Mappin Hall, Sir Frederick Mappin Building, University of Sheffield

As designers search for ever-increasing efficiency and carbon-footprint-saving reductions in losses, the question of the power losses due to the electromagnetic fields in electrical machines is becoming an important topic. Established methods, good for sinusoidal excitation conditions and the fundamental-frequency component of fields, are increasingly inappropriate for modern machines. It is also becoming important to evaluate accurately the losses in rotor cans and permanent magnets, not only from an efficiency point of view, but also because of the implications for component temperatures and the provision of cooling. The meeting will look at losses in copper, iron, magnets and structural components. Ways of calculating these effects will be discussed, as well as ways of validating the calculations through measurement. This aspect will cover measurement of material properties for input to the calculations and of device performance for checking their predictions. Another theme of the day will be what can be done about the problem through design and materials selection.

PROGRAMME

Chairman: Dr Kais Atallah, Dept of Elec & Elec Engineering, University of Sheffield

Chairman: Dr Jonathan Sturgess, ALSTOM Grid Research and Technology

from 0900 REGISTRATION/COFFEE

1000 ***Eddy Current Losses in the Permanent Magnets of Wind Turbine Generators***
Professor Jiabin Wang, Dept of Elec Eng, University of Sheffield

1345 ***A New Ni-Fe Alloy for Low Loss Motors and Generators***
Dr Johannes Tenbrink, Vacuumschemze GmbH, Germany

1030 ***Electromagnetic Losses in Magnetically Geared Brushless Permanent Magnet Machines***
Dr David Powell, Magnomatics Ltd

1415 ***True Specific Losses in Soft Magnetic Materials of Electrical Machines***
Dr Pawel Hanczewski, Cummins Generator Technologies

1100 ***Measurement and Prediction of Iron Loss under Complex Magnetisation Waveforms***
Dr Phil Anderson, Wolfson Centre for Magnetics, Cardiff University

1445 ***Enhanced Iron Loss Calculation for Turbogenerators with Frequency Higher than 50/60 Hz***
Grégoire Vienne, ALSTOM Switzerland Ltd, Switzerland

1130 ***Permanent Magnet Synchronous Machine Design Optimisation to Minimise Overall Losses***
Puvaneswaran Arumugam, Dept of Elec & Elec Eng, University of Nottingham

1515 ***Modelling and Measurement of Core Losses in Synchronous Machines***
Paavo Rasilo, Aalto University, Dept of Elec Engineering, Finland

1200 LUNCH

1545 TEA/COFFEE - END OF SEMINAR

PLEASE COMPLETE AND RETURN TO:

Jane Ward, UK Magnetics Society, Grove Business Centre, Grove Technology Park, Wantage, Oxon OX12 9FA
 tel: +44 (0)1235 770652 fax: +44 (0)1235 772295 email: jward@ukmagsoc.co.uk www.ukmagsoc.org

I wish to attend the UK Magnetics Society one-day seminar **Electromagnetic Losses in Electrical Machines**, to be held on Tuesday, 8 November 2011 at the University of Sheffield and enclose remittance to cover technical sessions, seminar documentation, refreshments and lunch (cheques made payable to the **UK Magnetics Society** and drawn on a UK bank).

Payment may also be made by bank transfer: UK Magnetics Society, Barclays Bank plc, 17 Market Place, Wantage, Oxon OX12 8AG, UK, Acct No 50893293, Sort Code No: 20-90-91, IBAN:GB98 BARC 2090 9150 8932 93, SWIFTBIC: BARCGB22. **Please add £10 to cover bank charges if paying by bank transfer from overseas.**

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<input type="checkbox"/> Non-member students	£ 45.00	£ 9.00	£ 54.00

* 3 delegates get 50% off the third person (cheapest rate applies). For bookings of more than 3 people, please contact Jane Ward

PLEASE NOTE REFUNDS CANNOT BE MADE FOR CANCELLATIONS RECEIVED 72 HOURS PRIOR TO THE SEMINAR

PLEASE REGISTER BY 31 OCTOBER IF POSSIBLE

Surname.....		First name.....	
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