NUI Galway Home
Power Electronics Research Centre ››
Welcome
Research ››
Services ››
Staff ››
Current Staff
Previous Staff
Visiting Academics
Students ››
Publications ››
Collaborators

QUICK SEARCH [?]
Go

PROF. W. G. HURLEY (FELLOW IEEE)

Professor of Electrical Engineering
PERC Director

Contact Information

Phone: 353 91 493136 (Ext: 3136)
Fax: 353 91 494511
Location: Engineering Building, 3rd Floor, Room 3048
Email: ger.hurley@nuigalway.ie
Website: http://www.gerhurley.com/

Research Interests

His research interests are focused in the areas of Electromagnetics, Power Electronics, and Renewable Energy.

Biography

Prof. Hurley was born in Cork, Ireland. He received the B.E. degree with 1st class honours in Electrical Engineering from the National University of Ireland, Cork in 1974. In 1974 he was awarded the Irish ITT Fellowship to the U.S.A. and obtained the M.S. degree in Electrical Engineering from the Massachusetts Institute of Technology, Cambridge MA, in 1976. He was awarded the PhD degree at the National University of Ireland, Galway in 1988. He was awarded the higher doctorate D.Eng degree by the National University of Ireland in 2011.
He worked for Honeywell Controls and Ontario Hydro in Canada from 1977 to 1983 and in the University of Limerick, Ireland from 1983 to 1991. He is currently Professor of Electrical Engineering at the National University of Ireland, Galway. He served as Dean of Research from 2001 to 2004 and as Vice President for Strategic Initiatives and External Affairs from 2004 to 2008. He served on the Udarás/Governing Body of NUI Galway from 2001 to 2005. He is the Founder/Director of the Power Electronics Research Centre at NUI Galway. He served on the faculty at the Massachusetts Institute of Technology as a Visiting Professor of Electrical Engineering in 1997/1998. Prof. Hurley has given invited presentations in Mexico, Japan, Singapore, Spain, Czech Republic, Hong Kong, China and USA.
Prof. Hurley is a Fellow of the Institute of Electronic and Electrical Engineering (IEEE), a Fellow of the Institution of Engineers of Ireland and a member of Sigma Xi. He received the IEEE Power Electronics Society Middlebrook Award for technical achievement in 2013 and he was appointed a Distinguished Lecturer of the IEEE for 2014-2015.

Supervised Researchers

PhDs: Sara Armstrong, John Breslin, Martin Coleman, Chengrui Du, Maeve Duffy, Margaret Glavin, Werner Wolfle, Jun Zhang, Longlong Zhang
Masters: Malhar Bhatt, Martin Butler, Jerry Collins, Martin Collins, Martin Hynes, Martin Keane, Stephen Kelly, Liam Mannion, Ivan Rigney
Post-Docs: Paul Chan, Chi-Kwan Lee, Sai Chun Tang, Yuk Sum Wong, Qianfan Zhang, Chunbo Zhu

Projects

- Grid-connected Inverters (2014-
- Fusion Project (2013-
- High Frequency Resonant Converters with Planar Magnetics (2011-
- Optimisation of Commercial Buildings: Power Electronics (2011)
- Fuel Cells (2009-2010)
- Development of Parameter System for Battery Monitoring and Control (2007-2008)
- Battery Management System for Solar Energy Applications (2005-2013)
- Solar Energy (2003-2010)
- Battery Management Systems (2002-2008)
- Battery Charge Control for Emergency Back Up Systems (2001-2005)
- Solid-state Switching in a 42V Automotive Electrical System (2001-2004)
- Applications of Electroplated Magnetic Materials in Sensors (2001-2002)
- Marie Curie, Sensors (2001-2002)
- The Adaptation of Existing Standard EMI Impulses to a Dual-Voltage Automotive Electrical System (1999-2004)
- PWM Control of Magnetic Suspension System (1999-2002)
- Quasi-active Power Factor Correction: The Role of Variable Inductance (1998-2003)
- Planar Magnetic Telecommunication Transformers (1997-2000)
- Active Filters for Power Quality Improvement in Power Supply Design (1995-1998)
- Optimised High Frequency Transformer Design with Arbitrary Current Waveforms (1994-2002)
- Analysis of Power Factor Correction Schemes in Rectifier Circuits (1993-1998)
- The Application of Wavelet Theory to Power Quality Diagnostics (1993-1996)
- The Development and Implementation of a Classification System for Power Quality Phenomena (1992-2000)
- Modelling and Analysis of Planar Magnetic Devices (1992-1997)

Publications

Books
W.G. Hurley, W.H. Wölfle, Transformers and Inductors for Power Electronics: Theory, Design and Applications, Wiley, Chichester, 2013.
For full list of corrections see here .

Edited Books
W.G. Hurley, Proceedings of the 31st IEEE Power Electronics Specialists Conference, PESC'00, Galway, Ireland, 2 volumes, 1662 pp., June 2000.
W.G. Hurley, Proceedings of the 29th Universities Power Engineering Conference, UPEC'94, University College Galway, 2 volumes,

1024pp., September 1994.

Journals

J. Zhang, Z. Ouyang, M.C. Duffy, M.A.E. Andersen, W.G. Hurley, “Leakage Inductance Calculation for Planar Transformers with a Magnetic Shunt”, IEEE Trans. on Industry Applications, vol. 50, no. 6, pp. 1–6, November 2014.
M.E. Glavin, W.G. Hurley, “Optimisation of a Photovoltaic Battery Ultracapacitor Hybrid Energy Storage System”, Solar Energy, vol. 86, no. 10, pp. 3009–3020, October 2012.
L. Zhang, W.G. Hurley, W.H. Wölfle, “A New Approach to Achieve Maximum Power Point Tracking for PV System with a Variable Inductor”, IEEE Trans. on Power Electronics (Special Issue on Microgrids), vol. 26, no. 4, pp. 1031–1037, April 2011.
J. Lu, H. Jia, A. Arias, W.G. Hurley, Z.J. Shen, “Modeling, Design, and Characterization of Multi-turn Bondwire Inductors with Ferrite Epoxy Glob Cores for Power Supply System-on-Chip or System-in-Package Applications”, IEEE Trans. on Power Electronics, vol. 25, no. 8, pp. 2010–2017, August, 2010.
S. Armstrong, W.G. Hurley, “A Thermal Model for Photovoltaic Panels under Varying Atmospheric Conditions”, Applied Thermal Engineering, vol. 30, no. 12, pp. 1488–1495, August 2010.
S. Armstrong, W.G. Hurley, “A New Methodology to Optimise Solar Energy Extraction under Cloudy Conditions”, International Journal of Renewable Energy, vol. 35, no. 4, pp. 780–787, April 2010.
W.G. Hurley, Y.S. Wong, W.H. Wölfle, “Self-Equalization of Cell Voltages to Prolong the Life of VRLA Batteries in Standby Applications”, IEEE Trans. on Industrial Electronics, vol. 56, no 6, pp. 2115-2120, June 2009.
Y.S. Wong, W.G. Hurley, W.H. Wölfle, “Charge Regimes for Valve-Regulated Lead-Acid Batteries: Performance Overview Inclusive of Temperature Compensation”, Journal of Power Sources, vol. 183, no. 2, pp. 783–791, September 2008.
M. Coleman, W.G. Hurley, C.K. Lee, “An Improved Battery Characterisation Method Using a Two Pulse Load Test” IEEE Trans. on Energy Conversion, vol. 23, no. 2, pp. 708–713, June 2008.
M. Coleman, C.K. Lee, C. Zhu, W.G. Hurley, "State-of-Charge Determination from EMF Voltage Estimation: Using Impedance, Terminal Voltage, and Current for Lead-Acid and Lithium-Iron Batteries", IEEE Trans. on Industrial Electronics, vol. 54, no. 5, pp. 2550–2557, October 2007.
W.G. Hurley, P. Ripka, "Excitation Efficiency of Fluxgate Sensors", Sensors and Actuators A: Physical, vol. 129, no. 1, pp. 75–79, May 2006.
W.G. Hurley, C.K. Lee, "Development, Implementation, and Assessment of a Web-Based Power Electronics Laboratory", IEEE Trans. on Education, vol. 48, no. 4, pp. 567–573, November 2005.
M. Bhatt, W.G. Hurley, W. Wölfle, "A New Approach to Intermittent Charging of Valve-Regulated Lead-Acid Batteries in Standby Applications", IEEE Trans. on Industrial Electronics, vol. 52, no. 5, pp. 1337–1342, October 2005.
P. Ripka, J. Kubik, M. Duffy, W.G. Hurley, S. O'Reilly, "Current Sensor in PCB Technology", IEEE Sensors Journal, vol. 5 no. 3, pp. 433–438, June 2005.
J. Breslin, W.G. Hurley, "Critical Choices in a System for Optimized Design of Arbitrary Waveform Transformers", Journal of Circuits, Systems, and Computers, vol. 13, no. 4, pp. 919–928, August 2004.
S.C. Tang, M. Duffy, P. Ripka, W.G. Hurley, "Excitation Circuit for Fluxgate Sensor Using Saturable Inductor", Sensors and Actuators A:Physical, vol. 113, no. 2, pp. 156–165, July 2004.
W.G. Hurley, M. Hynes, W. Wölfle, "PWM Control of a Magnetic Suspension System", IEEE Trans. on Education, vol. 47, no. 2, pp. 165–173, May 2004.
W. Wölfle, W.G. Hurley, "Quasi-Active Power Factor Correction with a Variable Inductive Filter: Theory, Design and Practice", IEEE Trans. on Power Electronics, vol. 18, no. 1, pp. 248–255, January 2003.
W.G. Hurley, E. Gath, J. Breslin, "Optimizing the A.C. Resistance of Multilayer Transformer Windings with Arbitrary Current Waveforms", IEEE Trans. on Power Electronics, vol. 15, no. 2, pp. 369–376, March 2000. (Transaction Prize Paper)
W.G. Hurley, M.C. Duffy, S. O'Reilly, S.C. O'Mathúna, "Impedance Formulas for Planar Magnetic Structures with Spiral Windings", IEEE Trans. on Industrial Electronics, vol. 46, no. 2, pp. 271–278, April 1999.
W.G. Hurley, W. Wölfle, J. Breslin, "Optimized Transformer Design: Inclusive of High Frequency Effects", IEEE Trans. on Power Electronics, vol. 13, no. 4, pp. 651–659, July 1998.
S. O'Reilly, S.C. O'Mathúna, M.C. Duffy, W.G. Hurley, "A Comparative Analysis of Interconnection Technologies for Integrated Multilayer Inductors", Microelectronics International: Journal of the International Society for Hybrid Microelectronics, vol. 15, no. 1, pp. 6–10, January 1998.
W.G. Hurley, M.C. Duffy, "Calculation of Self and Mutual Impedances in Planar Sandwich Structures", IEEE Trans. on Magnetics, vol. 33, no. 3, pp. 2282–2290, May 1997.
W.G. Hurley, W. Wölfle, "Electromagnetic Design of a Magnetic Suspension System", IEEE Trans. on Education, vol. 40, no. 2, pp. 124–130, May 1997.
W.G. Hurley, M.C. Duffy, "Calculation of Self and Mutual Impedances in Planar Magnetic Structures", IEEE Trans. on Magnetics, vol. 31, no. 4, pp. 2416–2422, July 1995.
W.G. Hurley, "The Fundamentals of Power Factor Correction", International Journal of Electrical Engineering Education, vol. 31, no. 3, pp. 213–229, July 1994.
W.G. Hurley, D.J. Wilcox, "Calculation of Leakage Inductance in Transformer Windings", IEEE Trans. on Power Electronics, vol. 9, no. 1, pp. 121–126, January 1994.
D.J. Wilcox, W.G. Hurley, T.P. McHale, M. Conlon, “Application of Modified Modal Theory in the Modelling of Practical Transformers”, IEE Proceedings Part C, vol. 139, no. 6, pp. 513–520, November 1992.
D.J. Wilcox, W.G. Hurley, M. Conlon, “Calculation of Self and Mutual Impedances Between Sections of Transformer Windings”, IEE Proceedings Part C, vol. 136, no. 5, pp. 308–314, September 1989.
D.J. Wilcox, M. Conlon, W.G. Hurley, “Calculation of Self and Mutual Impedances for Coils on Ferromagnetic Cores”, IEE Proceedings Part A, vol. 135, no. 7, pp. 470–476, September 1988.
S.J. Croall, W.G. Hurley, “Case Studies of Prediction and Mitigation of Induced AC Voltages on Pipelines”, Materials Performance, vol. 23, no. 4, pp. 30–33, April 1984.
W.G. Hurley, S.J. Croall, “Electromagnetic Voltage Induction and Mitigation on Passive Conductors from Overhead Transmission Lines”, IEEE Trans. on Power Apparatus and Systems, vol. PAS-102, no. 7, pp. 2341–2348, July 1983.
W.G. Hurley, “Lumped-Parameter Model of the Delay Solenoid Valve with Integral Thermistor”, IEEE Trans. on Industrial Electronics, vol. IE-29, no. 3, pp. 225–229, August 1982.
W.G. Hurley, J.G. Kassakian, “Induction Heating of Circular Ferromagnetic Plates”, IEEE Trans. on Magnetics, vol. MAG-15, no. 3, pp. 1174–1181, July 1979.

Patents

W.H. Wölfle, W.G. Hurley, Y.S. Wong, "Battery Charger and Method", European Patent No. 2065997, July 2011, US Patent Application 2009/0140697, June 2009.
M. Coleman, W.G. Hurley, C.K. Lee, C. Zhu, "A Method and Device for Determining Characteristics of an Unknown Battery", European Patent Application No 06075610.3, March 2006, U.S. Patent No. 7,692,410, April 2010.
M. Duffy, W.G. Hurley, P. Ripka, S.C. Tang, "Excitation Circuit for a Fluxgate Sensor", NAT101/C/US, Patent No 6,867,587, March 2005.

Conferences

C. Du, W.G. Hurley, M.D. Xu, “Design Methodology of a Resonant Inductor in a ZVS Inverter”, Proceedings of the 5th IEEE Power Electronics for Distributed Generation Conference, PEDG2014, Galway, pp. 1–7, June 2014.
J. Zhang, W.G. Hurley, W.H. Wölfle, “Design of the Planar Transformer in LLC Resonant Converters for Micro-grid Applications”, Proceedings of the 5th IEEE Power Electronics for Distributed Generation Conference, PEDG2014, Galway, pp. 1–7, June 2014 (Prize Paper Award).
J. Zhang, W.G. Hurley, W.H. Wölfle, “Gapped Transformer Design Methodology and Implementation for LLC Resonant Converters”, Proceedings of the 29th IEEE Applied Power Electronics Conference, APEC’14, Fort Worth, Texas, pp. 726–731, March 2014.
J. Zhang, Z. Ouyang, M. Duffy, M. Andersen, W.G. Hurley, "Leakage Inductance Calculation for Planar Transformers with a Magnetic Shunt", Proceedings of the IEEE Energy Conversion Congress & Expo., ECCE 2013, Denver, pp. 643–648,September 2013.
I. Lope, J. Zhang, W.G. Hurley, “Common-Mode Choke Design Considerations Applied to Domestic Induction Heating”, Proceedings of the 48th Universities Power Engineering Conference, UPEC2013, Dublin, vol. 1, pp. 1–5, September 2013.
L. Zhang, W.G. Hurley, W.H. Wölfle, M.C. Duffy, “A Optimized Design of LLC Resonant Converters Incorporating Planar

Magnetics", Proceedings of the 28th IEEE Applied Power Electronics Conference, APEC'13, Long Beach, California, pp. 1683–1688, March 2013.
L. Zhang, W.G. Hurley, D. Xu, "Modelling of a Portable PEMFC System", 14th Power Electronics and Motion Control Conference, EPE-PEMC, Ohrid, Macedonia, pp. 96–100, September 2010 .
L. Zhang, W.G. Hurley, W.H. Wölfle, "A New Approach to Achieve Maximum Power Point Tracking for PV System with a Variable Inductor", 2nd International Symposium on Power Electronics for Distributed Generation Systems, PEDG 2010, Hefei, China, pp. 948–952, June 2010.
M.E. Glavin, P.K.W. Chan, W.G. Hurley, "Optimization of Autonomous Hybrid Energy Storage System for Photovoltaic Applications", 1st IEEE Energy Conversion Congress and Exposition, San Jose, pp. 1417–1424, September 2009.
M.E. Glavin, P.K.W. Chan, S. Armstrong, W. G. Hurley, "A Stand-Alone Photovoltaic Supercapacitor Battery Hybrid Energy Storage System", 13th Power Electronics and Motion Control Conference, EPE-PEMC, Poznan, Poland, pp. 1711–1718, September 2008.
S. Armstrong, M.E. Glavin, W.G. Hurley, "Comparison of Battery Charging Algorithms for Stand Alone Photovoltaic Systems", 38th IEEE Power Electronics Specialists Conference, PESC'08, Rhodes, Greece, pp. 1469–1475, June 2008.
Y.S. Wong, W. G. Hurley, W.H. Wölfle, "Temperature Compensation Algorithm for Interrupted Charge Control Regime for a VRLA Battery in Standby Applications", 23rd IEEE Applied Power Electronics Conference, APEC'08, Austin, Texas, pp. 1278–1283, February 2008.
M.E. Glavin, W.G. Hurley, "Ultracapacitor/Battery Hybrid for Solar Energy Storage", 42nd Universities Power Engineering Conference, UPEC 2007, University of Brighton, UK, vol. 2, pp. 791–795, September 2007.
M. Glavin, W.G. Hurley, "Battery Management System for Solar Energy Applications", 41st Universities Power Engineering Conference, UPEC 2006, Northumbria University, Newcastle upon Tyne, UK, vol. 1, pp. 79–83, September 2006.
M. Coleman, C.K. Lee, W.G. Hurley, "State of Health Determination: Two Pulse Load Test for a VRLA Battery", Proceeding of the 37th IEEE Power Electronics Specialists Conference, PESC'06, Jeju, Korea, vol. 1, pp. 422–427, June 2006.
S. Armstrong, W.G. Hurley, "Investigation of the Harmonic Response of a Photovoltaic System with a Solar Emulator", 11th European Conference on Power Electronics and Applications, EPE'05 Dresden, Germany, paper no. 486, CD ROM, September 2005. **S. Armstrong, W.G. Hurley,** "A Quantitative Algorithm for Calculating Maximum Power Point Tracking Efficiency", 40th Universities Power Engineering Conference, UPEC 2005, University College Cork, paper no. 196, CD-ROM, pp. 1235–1239, September 2005.
S. Armstrong, W.G. Hurley, "Investigating the Effectiveness of Maximum Power Point Tracking for a Solar System", 36th IEEE Power Electronics Specialists Conference, PESC'05, Recife, Brazil, vol. 1, pp. 204–209, June 2005.
W.G. Hurley, M. Coleman, C.K. Lee, C. Zhu, "A Combined SOC Estimation Method Under Varied Ambient Temperature for a Lead-Acid Battery", 20th IEEE Applied Power Electronics Conference, APEC'05, Austin, Texas, vol. 2, pp. 991–997, March 2005.
S. Armstrong, W.G. Hurley, "Self-regulating Maximum Power Point Tracking for Solar Energy Systems", 39th Universities Power Engineering Conference, UPEC 2004, University of the West of England, Bristol, vol. 2, pp. 604–608, September 2004.
P. Ripka, W.G. Hurley, "Excitation Efficiency of Fluxgate Sensors", 5th European Magnetic Sensors and Actuators Conference, EMSA 2004, Cardiff, Paper no. MO-6, pp. 1–9, July 2004.
C. Zhu, W.G. Hurley, M. Coleman, "State of Charge Determination in a Lead-Acid Battery: Combined EMF Estimation and Ah-balance Approach", 35th IEEE Power Electronics Specialists Conference, PESC'04, Aachen, Germany, vol. 3, pp. 1908–1914, June 2004.
M. Bhatt, W. Wölfle, W.G. Hurley, "Ladung und Ladungserhatung bei Blei Akkumulatoren fuer Standby-Anwendungen durch geregelte Ladeunterbrechung und Pulsstromsteuerung", Desing&Elektronik Entwicklerforum, Batterien, Ladenkonzepte & Stromversorgungsdesign, Munich, Germany, March 2004.
M. Coleman, C.B. Zhu, W.G. Hurley, "Battery Monitoring and Control for Automotive Applications", 38th Universities Power Engineering Conference, UPEC 2003, Aristotle University, Thessaloniki, Greece, vol. 1, pp. 145–148, September 2003.
J. Breslin, W.G. Hurley, "A Web-Based System for Transformer Design", 7th International Conference on Knowledge-Based Intelligent Information and Engineering Systems, KES'2003, University of Oxford, pp. 715–721, September 2003.
M. Bhatt, W.G. Hurley, W. Wölfle, "A New Approach to Intermittent Charging of Valve-Regulated Lead-Acid Batteries in Standby Applications", 34th IEEE Power Electronics Specialists Conference, PESC'03, Acapulco, Mexico, vol. 2, pp. 895–900, June 2003.
P. Ripka, W.G. Hurley, "Switching-Mode Fluxgate", 12th International Conference on Solid-State Sensors, Actuators and Microsystems, Transducers'03, Boston, MA, vol. 2, pp. 1283–1288, June 2003.
W. Wölfle, W.G. Hurley, "Power Factor Correction and Harmonic Filtering for AC/DC Converters", 28th IEEE Industrial Electronics Conference, IECON'02, Seville, Spain, pp. 3238–3243, (Invited paper), November 2002.
S.C. Tang, M.C. Duffy, P. Ripka, W.G. Hurley, "Excitation Circuit for Fluxgate Sensor Using Saturable Inductor", 16th European Conference on Solid-State Transducers, EUROSENSORS XVI, Czech Technical University, Prague, Czech Republic, MP66, pp. 159–160, September 2002 (Best Poster Prize).
M. Keane, W.G. Hurley, "Intelligent Semiconductor Switch for 42V Automotive Application", 37th Universities Power Engineering Conference, UPEC 2002, Staffordshire University, pp. 416–420, September 2002.
M. Bhatt, W.G. Hurley, W. Wölfle, "Battery Charge Control for Emergency Back-Up Systems", 37th Universities Power Engineering Conference, UPEC 2002, Staffordshire University, pp. 411–415, September 2002.
U. Reghelin, W.G. Hurley, W. Wölfle, "Quasi-Active Power Factor Correction with a Variable Inductive Filter: Finite Element Analysis", 37th Universities Power Engineering Conference, UPEC 2002, Staffordshire University, pp. 431–435, September 2002.
P. Ripka, J. Kubik, M. Duffy, W.G. Hurley, S. O'Reilly, "Current Sensor in PCB Technology", 1st IEEE International Conference on Sensors, IEEE SENSORS 2002, Kissimmee, FL, USA, vol. 2, pp. 779–784, June 2002.
P. Ripka, W.G. Hurley, "Excitation Tuning in Fluxgate Sensors", 19th IEEE Instrumentation and Measurement Technology Conference, IMTC2002, Anchorage, AK, USA, vol. 1, pp. 677–680, May 2002.
M. Keane, W.G. Hurley, "Solid State Switching in 42V Automotive Environment", 36th Universities Power Engineering Conference, UPEC 2001, University of Wales, Swansea, Session 6B, September 2001.
I. Rigney, W.G. Hurley, "Design Parameters for Electronic Components in a 42V Automotive Environment", 36th Universities Power Engineering Conference, UPEC 2001, University of Wales, Swansea, Session 8C, September 2001
M. Hynes, W.G. Hurley, "The Design and Implementation of a Switched Mode Converter for a Magnetic Suspension System", 36th Universities Power Engineering Conference, UPEC 2001, University of Wales, Swansea, Session 1B, September 2001.
W. Wölfle, W.G. Hurley, S. Lambert, "Quasi-active Power Factor Correction: the Role of Variable Inductance", IEEE Power Electronics Specialists Conference, PESC'01, Vancouver, Canada, vol. 4, pp. 2078–2083, June 2001.
M. Hynes, W.G. Hurley, "The Design and Implementation of a DC-DC Power Conversion Board for a Laboratory Exercise", 35th Universities Power Engineering Conference, UPEC 2000, Belfast, Session 5B, September 2000.
I. Rigney, W.G. Hurley, "The Adaptation of Existing Standard EMI Pulses to a Dual-voltage Automotive Electrical System", 35th Universities Power Engineering Conference, UPEC 2000, Belfast, Session 4B, September 2000.
J.G. Breslin, W.G. Hurley, "Computer Aided High Frequency Transformer Design Using an Optimized Methodology", 7th IEEE Workshop on Computers in Power Electronics, COMPEL 2000, Blacksburg, Virginia, pp. 277–280, July 2000.
W. Wölfle, W.G. Hurley, S. Arnold, "Power Factor Correction for AC-DC Converters with Cost Effective Inductive Filtering", IEEE Power Electronics Specialists Conference, PESC'00, Galway, Ireland, pp. 332–337, June 2000.
M. Duffy, T. O'Donnell, S. O'Reilly, S.C. O'Mathúna, P. McCluskey, W.G. Hurley, "Comparison of Integrated Component Technologies for Power Conversion Applications", 4th International Power Electronics Conference, IPEC'00, Tokyo, Japan, pp. 309–314, April 2000. (Invited Paper)
S. Guttowski, R.J. Thomas, W.G. Hurley, J.G. Kassakian, "The Impact of the Transition from 14V to 42V on EM Noise of Automotive Relays", 1st International Congress on 42V PowerNet, Villach, Austria, September 1999.
W.G. Hurley, E. Gath, J.G. Breslin, "Optimizing the A.C. Resistance of Multilayer Transformer Windings with Arbitrary Current Waveforms", IEEE Power Electronics Specialists Conference, PESC'99, Charleston, SC, pp. 580–585, June 1999.
S. Kelly, W.G. Hurley, "Planar Pulse Transformers: Analysis and Design", 33rd Universities Power Engineering Conference, UPEC'98, Edinburgh, vol. 1, pp. 290–293, September 1998.
S. Kelly, W.G. Hurley, "Planar Pulse Transformers for Switching Circuits", 32nd Universities Power Engineering Conference, UPEC'97, UMIST, Manchester, vol. 1, pp. 503–506, September 1997.
M. Butler, W.G. Hurley, W. Wölfle, "Active Power Factor Correction of a Single Stage AC-DC Converter with Reactive Power Control", 7th European Conference on Power Electronics and Applications, EPE'97, Trondheim, Norway, vol. 1, pp. 176–181, September 1997.
J.G. Breslin, W.G. Hurley, "Derivation of Optimum Winding Thickness for Duty Cycle Modulated Current Waveshapes", 28th IEEE Power Electronics Specialists Conference, PESC'97, St. Louis, MO, vol. 1, pp. 655–661, June 1997.

W.G. Hurley, M.C. Duffy, S. O'Reilly, S.C. O'Mathúna, "Impedance Formulas for Planar Magnetic Structures with Spiral Windings", IEEE Power Electronics Specialists Conference, PESC'97, St. Louis, MO, pp. 627–633, June 1997.
S. O'Reilly, S.C. O'Mathúna, M.C. Duffy, W.G. Hurley, "A Comparative Analysis of Interconnection Technologies for Integrated Multilayer Inductors", 11th European Microelectronics Conference, Venice, Italy, pp. 427–435, May 1997.
W.G. Hurley, "Optimizing Core and Winding Design in High Frequency Transformers", Proceedings of V IEEE Congreso Internacional de Electronica de Potentica, Cuernavaca, Mexico, pp. 1–13, October 1996. (Keynote Paper)
J.G. Breslin, W.G. Hurley, "A Novel Optimisation Scheme for Designing High Frequency Transformer Windings", 31st Universities Power Engineering Conference, UPEC'96, Crete, vol. 1, pp. 465–468, September 1996.
M. Butler, W.G. Hurley, W. Wölfle, "A Novel Scheme for Active Power Factor Correction of a Single-stage AC-DC Converter", 31st Universities Power Engineering Conference, UPEC'96, Crete, vol. 1, pp. 421–424, September 1996.
J.J. Collins, W.G. Hurley, "The Application of Expert Systems and Neural Networks to the Diagnosis of Power Quality Problems", Third International Conference on Power Quality, PQA'94, Amsterdam, A-2.03, October 1994.
D. McKernan, S. Suttle, W.G. Hurley, "Power Quality at an Earth Satellite Station: A Case Study", Third International Conference on Power Quality, PQA'94, Amsterdam, A-1.04, October 1994.
M.C. Duffy, W.G. Hurley, "High Frequency Effects in Planar Magnetics: Inclusive of Skin Effect", IEEE Power Electronics Specialists Conference, PESC'95, Atlanta GA, pp. 645–650, June 1995.
J.G. Breslin, W.G. Hurley, "Design of Magnetic Components Using a Graphical Interface: Inclusive of High Frequency Effects", 30th Universities Power Engineering Conference, UPEC'95, University of Greenwich, London, vol. 1, pp. 347–350, September 1995.
L.G. Mannion, W.G. Hurley, "Rectifier Circuit Analysis with Power Factor Correction", 30th Universities Power Engineering Conference, UPEC'95, University of Greenwich, London, vol. 2, pp. 753–756, September 1995.
M.P. Collins, W.G. Hurley, E. Jones, "The Application of Wavelet Theory in an Expert System for Power Quality Diagnostics", 30th Universities Power Engineering Conference, UPEC'95, University of Greenwich, London, vol. 1, pp. 274–277, September 1995.
D. McKernan, S. Suttle, W.G. Hurley, "Power Quality at an Earth Satellite Station: A Case Study", Third International Conference on Power Quality, PQA'94, Amsterdam, A-1.04, October 1994.
J.J. Collins, W.G. Hurley, "Application of Expert Systems and Neural Networks to the Diagnosis of Power Quality Problems", Third International Conference on Power Quality, PQA'94, Amsterdam, A-2.03, October 1994.
L.G. Mannion, W.G. Hurley, "Effect of Source Impedance on Input Current Harmonics in Rectifier Circuits", 29th Universities Power Engineering Conference, UPEC'94, University College Galway, vol. 2, pp. 963–966, September 1994.
D. McKernan, W.G. Hurley, "Waveform Signatures of Power Disturbances: Measurement and Analysis", 29th Universities Power Engineering Conference, UPEC'94, University College Galway, vol. 2, pp. 959–962, September 1994.
M.C. Duffy, W.G. Hurley, "High Frequency Effects in Planar Magnetic Structures", 29th Universities Power Engineering Conference, UPEC'94, University College Galway, vol. 1, pp. 244–247, September 1994.
M.P. Collins, W.G. Hurley, E. Jones, "The Application of Wavelet Theory to Power Quality Diagnostics", 29th Universities Power Engineering Conference, UPEC'94, University College Galway, vol. 1, pp. 129–132, September 1994
S.C. O'Mathúna, W.G. Hurley, J. Madden, "Technology Capability Assessment for Planar Magnetics", High Frequency Power Conversion Conference, San Jose, U.S.A., pp. 524–538, April 1994.
J. Collins, W.G. Hurley, T.P. McHale, P.J. Nolan, "Classification of Power Quality Problems Using Neural Networks and Expert System Approaches", 28th Universities Power Engineering Conference, UPEC'93, Staffordshire University, vol. 2, pp. 506–509, September 1993.
M.C. Duffy, W.G. Hurley, "Inductance Calculations for Planar Magnetics", 28th Universities Power Engineering Conference, UPEC'93, Staffordshire University, vol. 1, pp. 34–37, September 1993.
W.G. Hurley, W. Wölfle, "Optimizing the Design of Transformers at High Frequencies", 27th Universities Power Engineering Conference, UPEC'92, University of Bath, vol. 1, pp. 282–285, September 1992.
W.G. Hurley, P.S. McNamara, "Characterization of Transformer Cores Using a New Mutual Impedance Formula", 4th European Conference on Power Electronics and Applications, EPE'91, Florence, vol. 2, pp. 452–457, September 1991.
W.G. Hurley, M.H. O'Brien, "Issues Related to Computer Aided Design (CAD) of High Frequency Transformers", 26th Universities Power Engineering Conference, UPEC'91, University of Brighton, vol. 2, pp. 501–504, September 1991.
W.G. Hurley, D.J. Wilcox, P.S. McNamara, "Calculation of Short Circuit Impedance and Leakage Impedance in Transformer Windings", 22nd IEEE Power Electronics Specialists Conference, PESC'91, Boston MA, pp. 651–658, June 1991.
W.G. Hurley, P.S. McNamara, "Leakage Inductance Effects in Switched-Mode Power Supply Design", 25th Universities Power Engineering Conference, UPEC'90, Robert Gorden's University, Aberdeen, vol. 1, pp. 123–126, September 1990.
W.G. Hurley, D.J. Wilcox, "Transient Analysis of Three-phase Transformer Windings", 24th Universities Power Engineering Conference, UPEC'89, Queen's University, Belfast, pp. 403–406, September 1989.
W.G. Hurley, D.J. Wilcox, "Transformer Modelling under Transient Conditions: Inclusion of LV Winding and Screen", 23rd Universities Power Engineering Conference, UPEC'88, Nottingham Trent University, pp. B5.1–B5.4, September 1988.
W.G. Hurley, D.J. Wilcox, M. Conlon, "Transformer Modelling under Transient Conditions: Validation of a New Model", 22nd Universities Power Engineering Conference, UPEC'87, University of Sunderland, no. 4.01, pp. 1–4, April 1987.
W.G. Hurley, S.J. Croall, "Electromagnetic Voltage Induction and Mitigation on Passive Conductors from Overhead Transmission Lines", IEEE Winter Power Meeting, New York, February 1982.

Power Electronics Research Centre,
Electrical & Electronic Engineering,
NUI Galway, Galway, Ireland.
Phone +353 91 493270 Fax +353 91 494511.
E-mail the Webmaster
This page was last updated Tuesday, October 07, 2014