

2018

List of Publications



Dr Martin Judd

High Frequency Diagnostics
& Engineering Ltd

April 2018

2018

- E Corr, A Reid, X Hu, W H Siew, M Zhu, M Judd, M Seltzer-Grant and R Giussani, “Partial Discharge Testing of Defects in Dielectric Insulation under DC and Voltage Ripple Conditions”, accepted paper, CIGRE Science & Engineering Journal, June 2018
- D Upton, B Saeed, P Mather, M Sibley, P Lazaridis, K Mistry, I Glover, F T Filho, C Tachtatzis, R C Atkinson and M D Judd, “Low Power Radiometric Partial Discharge Sensor using Composite Transistor-Reset Integrator”, accepted paper, IEEE Trans. Dielectrics and Electrical Insulation, April 2018
- D W Upton, B I Saeed, P J Mather, P I Lazaridis, M F Q Vieira, R C Atkinson, C Tachtatzis, M S Garcia, M D Judd and I A Glover, “Wireless Sensor Network for Radiometric Detection and Assessment of Partial Discharge in High-Voltage Equipment”, Radio Science, Vol. 53, pp. 1-8, March 2018

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- A A Jaber, P I Lazaridis, M Moradzadeh, I A Glover, Z D Zaharis, M F Q Vieira, M D Judd, R C Atkinson, “Calibration of free-space radiometric partial discharge measurements”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 24, No. 5, pp. 3004-3014, October 2017
- X Hu, W H Siew, M D Judd and X Peng, “Transfer Function Characterization for HFCTs used in Partial Discharge Detection”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 24, No. 2, pp. 1088-1096, April 2017
- J B Gillespie, M Maclean, M J Given, M P Wilson, M D Judd, I V Timoshkin and S J MacGregor, “Efficacy of pulsed 405-nm LEDs for antimicrobial photodynamic inactivation: effects of intensity, frequency and duty cycle”, Photomedicine and Laser Surgery, Vol. 35, No. 3, pp. 150-156, March 2017
- X Peng, J Wen, Z Li, G Yang, C Zhou, A Reid, D M Hepburn, M D Judd and W H Siew, “Rough set theory applied to pattern recognition of partial discharge in noise affected cable data”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 24, No. 1, pp. 147-156, February 2017
- X Peng, J Wen, Z Li, G Yang, C Zhou, A Reid, D M Hepburn, M D Judd and W H Siew, “SDMF based interference rejection and PD interpretation for simulated defects in HV cable diagnostics”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 24, No. 1, pp. 83-91, February 2017
- A M Ishak, M T Ishak, M T Jusoh, S F Syed Dardin and M D Judd, “Design and optimization of UHF partial discharge sensors using FDTD modeling”, IEEE Sensors Journal, Vol. 17, No. 1, pp. 127-133, January 2017

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- S G Koutoula, I V Timoshkin, M D Judd, S J MacGregor, M P Wilson, M J Given, T Wang and E I Harrison, “A Study of Energy Partition During Arc Initiation”, IEEE Trans. Plasma Science, Vol. 44, No. 10, pp. 2137-2144, October 2016
- Y Jiang, S G McMeekin, A J Reid, A Nekahi, M D Judd and A Wilson, “Monitoring contamination level on insulator materials under dry condition with a microwave reflectometer”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 23, No. 3, pp. 1427-1434, June 2016
- Y Jiang, S G McMeekin, A J Reid, A Nekahi, M D Judd and A Wilson, “Feasibility study on application of microwave radiometry to monitor contamination level on insulator materials”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 23, No. 2, pp. 1012-1020, April 2016

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- P Michalis, A Tarantino, C Tachtatzis and M D Judd, “Wireless monitoring of scour and re-deposited sediment evolution at foundation elements based on soil electromagnetic properties”, Smart Materials and Structures (IoP), Vol. 24, No. 12, December 2015
- Y Zhang, D Upton, A Jaber, H Ahmed, B Saeed, P Mather, P Lazaridis, A Mopty, C Tachtatzis, R Atkinson, M Judd, M Queiroz Vieira and I Glover, “Radiometric Wireless Sensor Network Monitoring of Partial Discharge Sources in Electrical Substations”, International Journal of Distributed Sensor Networks, Vol. 11, No. 9, pp. 1-9, September 2015

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- R M Harris, M D Judd, P J Moore and J Livie, “Radiometric Detection and Analysis of Arcing Faults”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 22, No. 3, pp. 1547-1558, June 2015

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- L Truong, P Lewin and M Judd, “Characterization of streamers in liquid nitrogen under AC voltages using UHF techniques”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 21, No. 3, pp. 1109-1118, June 2014

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- M D Judd, “Partial discharge detection and location in transformers using UHF techniques”, Chapter 13 in *Electromagnetic transients in transformer and rotating machine windings*, C Q Su (ed.), IGI Global, pp. 487-520, 2013
- N M Roscoe and M D Judd, “Optimization of Voltage Doublers for Energy Harvesting Applications”, IEEE Sensors Journal, Vol. 13, No. 12, pp. 4904-4911, December 2013
- P Michalis, M Saafi and M D Judd, “Capacitive Sensors for Offshore Scour Monitoring”, Proc. Inst. Civil Engineers (ICE) – Energy, Vol. 166, No. 4, pp. 189-197, November 2013
- A M Ishak, P Baker, W H Siew and M D Judd, “Characterizing the Sensitivity of UHF Partial Discharge Sensors using FDTD Modelling”, IEEE Sensors Journal, Vol. 13, No. 8, pp. 3025-3031, August 2013
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- A J Reid, M D Judd, W H Siew, C Zhou, D Hepburn and P Withers, “Fault Location and Diagnosis in a Medium Voltage EPR Power Cable”, IEEE Trans. Dielectrics and Electrical Insulation, Vol. 20, No. 1, pp. 10-18, February 2013

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- A J Reid and M D Judd, "Ultra Wide Bandwidth Measurement of Partial Discharge Current Pulses in SF6", Journal of Physics D: Applied Physics, Vol. 45, No. 16, 2012
- B Musa, W Siew, M Judd, T Wang and Q Li, “Time and Frequency Characterisation of Transients because of Switching in 400 kV Air-Insulated Substations: Bus Bar Currents”, IET Generation, Transmission & Distribution, Vol. 6, No. 5, pp. 417-423, May 2012

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- A J Reid, M D Judd, R A Fouracre, B G Stewart and D M Hepburn, “Identification of Simultaneously Active Partial Discharge Sources using Combined RF and IEC60270 Measurement”, IET Science, Measurement and Technology, Vol. 5, No. 3, pp. 102-108, May 2011
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2018

- M Siegel, S Coenen and M Judd, “UHF PD Sensor Characterisation using GTEM Cells”, paper submitted to ETG Hochspannungstechnik conference (Berlin), November 2018
- M D Judd, “TBD”, Keynote presentation, 53rd International Universities Power Engineering Conference (UPEC), (Glasgow), September 2018
- D W Upton, R P Haigh, B I Saeed, U Khan, H Mohamed, K Mistry, P J Mather, P I Lazaridis, F T Filho, C Tachtatzis, R Atkinson, M Judd and I A Glover, “Low Power High-Speed Folding ADC based Partial Discharge Sensor for Wireless Fault Detection in Substations”, accepted paper, 2nd URSI Atlantic Radio Science Conference (Gran Canaria), May 2018
- B I Saeed, D W Upton, M F Q Vieira, F Torres, H Mohamed, K Mistry, P J Mather, P Lazaridis, U Khan, C Tachtatzis, R Atkinson, M Judd and I A Glover, “A Supervisory System for Partial Discharge Monitoring”, accepted paper, 2nd URSI Atlantic Radio Science Conference (Gran Canaria), May 2018

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- S G Koutoula, I V Timoshkin, M D Judd, S J MacGregor, M P Wilson, M J Given, T Wang and E I Harrison, “Transient arcing process: Energy components and associated risks”, UHVnet Colloquium (Cardiff, UK), January 2016

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- M Judd, W H Siew, X Hu, E Corr, M Zhu, A Reid, O El Mountassir, M Urizarbarrena Cristobal, R Giussani and M Seltzer-Grant, “Partial Discharges under HVDC Conditions”, Proc. Euro TechCon (Stratford-upon-Avon, UK), December 2015
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- A J Reid, W H Siew, E Corr, M Zhu, X Hu, M Seltzer-Grant, R Giussani, M D Judd and O El-Mountassir, “Investigating the Effects of VSC Harmonic Content on PD Characteristics in HVDC Insulation Systems”, EPRI HVDC & FACTS Conference, August 2015
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- S G Koutoula, M D Judd, I V Timoshkin and E I Harrison, “Investigating ways to Prevent Electrical Arc Flash”, Proc. 12th Petroleum and Chemical Industry Conference (PCIC) Europe, (London, UK), pp. 90-97, June 2015
- S G Koutoula, I V Timoshkin, Nina M Roscoe, M D Judd and E I Harrison, “An Investigation into the Spark Resistance”, UHVnet Colloquium, (Stafford, UK), January 2015

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- M Judd, “Developments in UHF PD Monitoring Technology for Power Transformers”, Proc. Euro TechCon (Stratford-upon-Avon, UK), December 2014
- N H Aziz, V M Catterson, M D Judd, S M Rowland and S Bahadoorsingh, “Prognostic Modeling for Electrical Treeing in Solid Insulation using Pulse Sequence Analysis”, Proc. 2014 IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), (Des Moines, USA), pp. 373-376, Oct 2014
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- J M R de Souza Neto, E C T de Macedo, J S Da Rocha Neto, M F Queiroz Vieira, I A Glover, M D Judd, R Atkinson and J Soraghan, “Plausibility of Incoherent Detection for Radiometric Monitoring of Insulation Integrity in HV Substations”, Proc. Antennas and Propagation Conference (LAPC), (Loughborough, UK), pp. 494-499, November 2013

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- N H Aziz, M D Judd and V M Catterson, "Identifying Prognostic Indicators for Electrical Treeing in Solid Insulation through PD Analysis", Proc. 2013 IEEE International Conference on Solid Dielectrics (ICSD), (Bologna, Italy), pp. 152-155, July 2013
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- M Judd, M Zhu and N Roscoe, "Powering Sensors through Energy Harvesting", Euro TechCon (Glasgow, UK), November 2012
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- M Zhu, N M Roscoe and M D Judd, "Energy Harvesting in Substations for Autonomous Sensing", EuroDoble Colloquium (Manchester, UK), October 2012
- P Michalis, M Saafi and Judd M D, "Integrated Wireless Sensing Technology for Surveillance and Monitoring of Bridge Scour", Proc. 6th International Conference on Scour and Erosion, (Paris, France), pp. 395-402, August 2012
- P Michalis, M Saafi and Judd M D, "Wireless Sensor Networks for Surveillance and Monitoring of Bridge Scour", Proc. 11th International Conference of Protection and Restoration of the Environment, (Thessaloniki, Greece), pp. 1345-1354, June 2012
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- R M Harris, X Hu, M D Judd, and P Moore, "Detection and Location of Arcing Faults in Distribution Networks Using a Non-Contact Approach", Proc. IEEE International Power Modulator and High Voltage Conference, (IPMHVC), (San Diego, USA), pp. 583-586, June 2012
- A M Ishak, M D Judd, W H Siew and P C Baker, "Evaluation of FDTD Modelling as a Tool for Predicting the Response of UHF Partial Discharge Sensors", Proc. IEEE International Symposium on Electrical Insulation (ISEI), (San Juan, Puerto Rico), pp. 502-506, June 2012
- A J Reid, M D Judd and G Duncan, "Simultaneous Measurement of Partial Discharge Using TEV, IEC60270 and UHF Techniques", Proc. IEEE International Symposium on Electrical Insulation (ISEI), (San Juan, Puerto Rico), pp. 439-442, June 2012
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- P C Baker, M D Judd, I Kerr and C Johnstone, "Towards Phase-Resolved Partial Discharge Diagnostics in Wireless Sensor Networks Proc. 5th Universities High Voltage Network (UHVnet) Colloquium (Leicester, UK), January 2012
- A M Ishak, W H Siew and M D Judd, "Simulated and Measured Frequency Responses of Disk-Type UHF Partial Discharge Sensors", Proc. 5th Universities High Voltage Network (UHVnet) Colloquium (Leicester, UK), January 2012
- X Hu, W H Siew and M D Judd, "Implementing HFCTs in FDTD Modelling of Partial Discharge Detection in Power Distribution Cables", Proc. 5th Universities High Voltage Network (UHVnet) Colloquium (Leicester, UK), January 2012

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- M Judd, "Locating Partial Discharges in Power Transformers", Euro Techcon (Warwick, UK), November 2011
- M Judd, "UHF Monitoring Techniques for Power Transformers", Qualitrol Condition Monitoring Conference (Dubai), November 2011
- M J Given, R Mason, M D Judd, P McGlone, I V Timoshkin and M P Wilson, "Comparison between RF and Electrical Signals from the Partial Discharge Activity of Twisted Pair Cables at Reduced Pressures", Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), (Cancun, Mexico), October 2011
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