

Publications

Refereed Journals

1. W. H. Cole, T. E. McDermott, "A Computer Study and Model Demonstration of Safety Ground Locations During High Voltage Line Maintenance," *IEEE Transactions on Power Apparatus & Systems*, vol. 103, no. 3, pp. 455-462, March 1984.
2. T. H. Frick, J. R. Stewart, A. R. Hileman, C. R. Chowaniec, T. E. McDermott, "Transmission Line Insulation Design at High Altitude," *IEEE Transactions on Power Apparatus & Systems*, vol. 103, no. 12, pp. 3672-3680, December 1984.
3. N. C. Abi-Samra, R. F. Smith, T. E. McDermott, M. B. Chidester, "Analysis of Thyristor-Controlled Shunt SSR Countermeasures," *IEEE Transactions on Power Apparatus & Systems*, vol. 104, no. 3, pp. 584-597, March 1985.
4. D. Bhasavanich, T. E. McDermott, D. M. Milone, J. S. Barnick, L. S. Frost, C. F. Kropp, "Digital Simulations and Field Measurements of Transients Associated with Large Capacitor Bank Switching on Distribution Systems," *IEEE Transactions on Power Apparatus & Systems*, vol. 104, no. 8, pp. 2274-2282, August 1985.
5. D. L. Elkins, A. C. Jain, T. E. McDermott, V. Rees, "Transients During 138-kV SF6 Breaker Switching of Low Inductive Currents," *IEEE Transactions on Industry Applications*, vol. 29, no. 4, pp. 721-726, July/August 1993.
6. T. E. McDermott, T. A. Short, J. G. Anderson, "Lightning Protection of Distribution Lines," *IEEE Transactions on Power Delivery*, vol. 9, no. 1, pp. 138-152, January 1994.
7. T. McDermott, P. Zhou, J. Gilmore, Z. Cendes, "Electromechanical System Simulation with Models Generated from Finite Element Solutions," *IEEE Transactions on Magnetics*, vol. 33, no. 2, pp. 1682-1685, March 1997.
8. T. E. McDermott, I. Drezga, R. P. Broadwater, "A Heuristic Nonlinear Constructive Method for Distribution System Reconfiguration", *IEEE Transactions on Power Systems*, vol. 14, no. 2, pp. 478-483, May 1999. (**Ph. D. Thesis Research**)

Book Chapters

1. T. E. McDermott, "Surge Arresters" section in *CRC Electric Power Engineering Handbook: Power Systems*, 3rd ed., 2012, 17 pp.
2. T. E. McDermott, "Transient Recovery Voltage" section in *CRC Electric Power Engineering Handbook: Power Systems*, 3rd ed., 2012, 19 pp.
3. T. E. McDermott, "Grid Monitoring and State Estimation" section in *Wiley Smart Grid Handbook*, invited for submission by May 15, 2015, ≈15 pp.

Refereed Conference Proceedings

1. T. E. McDermott, S. F. Mauser, "Digital Computer Simulation of Electromagnetic Transients in the Power Industry," Society for Computer Simulation Conference, pp. 233-238, Norfolk, VA, April 18-20, 1984.
2. R. P. Broadwater, J. C. Thompson, T. E. McDermott, "Pointers and Linked Lists in Electric Power Distribution Circuit Analysis," IEEE PICA Conference Proceedings, Baltimore, pp. 16-21, May 1991.
3. T. McDermott, S. Hess, Z. Cendes, "A New Approach to Using Finite Element Solutions in System Simulation," International Symposium on Automotive Technology and Automation, paper 96VR006, Florence, Italy, June 1996, 8 pp.
4. P. Zhou, T. McDermott, Z. Cendes, M. Rahman, "Steady State Analysis of Synchronous Generators by a Coupled Field-Circuit Method," paper TA1-3, IEEE International Electric Machines and Drives Conference Proceedings, May 18-21, 1997, Milwaukee, WI, 3 pp.
5. R. C. Dugan, D. L. Brooks, T. E. McDermott, A. Sundaram, "Using Voltage Sag and Interruption Indices in Distribution Planning", Proceedings IEEE Winter Power Meeting, pp. 1164-1169, February 1999, New York, NY.

6. R. C. Dugan, T. E. McDermott, "Design of Interfaces for Power Systems Analysis Components", Proceedings IEEE Summer Power Meeting, pp. 852-857, July 1999, Edmonton, Alberta.
7. T. E. McDermott, V. J. Longo, "Advanced Computational Methods in Lightning Performance - the EPRI Lightning Protection Design Workstation", Proceedings IEEE Winter Power Meeting, pp. 2425-2430, January 2000, Singapore.
8. T. E. McDermott, R. C. Dugan, "Foundations for Power Systems Software Development", 2001 IEEE/PES Summer Power Meeting Proceedings, vol. 2, pp. 1078-1082, 15-19 July 2001.
9. R. C. Dugan, T. E. McDermott, D. T. Rizy, S. J. Steffel, "Interconnecting Single-Phase Backup Generation to the Utility Distribution System", 2001 IEEE/PES T&D Conference and Exposition Proceedings, vol. 1, pp. 486-491, 28 October – 2 November 2001.
10. T. E. McDermott, "Distribution System Reliability and Reconfiguration Software Tools", 2001 IEEE/PES T&D Conference and Exposition Proceedings, vol. 1, p. 993, 28 October – 2 November 2001.
11. T. E. McDermott, "Feeder Overcurrent Protection Design Tools for Power Quality Improvement", Power Quality 2005 Conference Proceedings, 25-27 October 2005, Baltimore, MD, 10 pp.
12. T. E. McDermott, "Line Arrester Energy Discharge Duties", 2006 IEEE/PES T&D Conference and Exposition Proceedings, 21-26 May 2006, Dallas, 5 pp.
13. T. E. McDermott, "Induction Machine Test Case for Distribution Feeders – Steady State and Dynamic Solutions", 2006 IEEE/PES T&D Conference and Exposition Proceedings, 21-26 May 2006, Dallas, 3 pp.
14. T. E. McDermott, R. Juchem, D. Devarajan, "Distribution Feeder and Induction Motor Modeling with VHDL-AMS", 2006 IEEE/PES T&D Conference and Exposition Proceedings, 21-26 May 2006, Dallas, 6 pp.
15. T. E. McDermott, "An Open Source Distribution System Simulator", IEEE / PES 2006 General Meeting Proceedings, June 18-22, 2006, Montreal, Canada, 4 pp.
16. N. Samaan, T. E. McDermott, R. Zavadil, J. Li, "Induction Machine Test Case for the 34-Bus Test Feeder – Steady State and Dynamic Solutions", IEEE / PES 2006 General Meeting Proceedings, June 18-22, 2006, Montreal, Canada, 5 pp.
17. T. E. McDermott, "Radial Distribution Feeder and Induction Machine Test Cases – Steady State Solutions", IEEE / PES 2006 General Meeting Proceedings, June 18-22, 2006, Montreal, Canada, 3 pp.
18. T. E. McDermott, J. C. Smith, "Software Tools for Distributed Wind Applications", AWEA WindPower 2006 Proceedings, June 4-7, 2006, Pittsburgh, PA, 11 pp.
19. T. E. McDermott, L. Fagan, S. Tourian, C Bryan, "Cape Wind System Impact Studies for Interconnection Approval", AWEA WindPower 2006 Proceedings, June 4-7, 2006, Pittsburgh, PA, 12 pp.
20. T. M. Smith, B. A. Muschlitz, F. R. Goodman, T. E. McDermott, "Advanced Feeder Design for Distributed Generation", IEEE / PES 2007 General Meeting Proceedings, June 24-28, 2007, Tampa, FL, 6 pp.
21. T. E. McDermott, "Distribution System Data Exchanges to Support Line and Cable Parameter Calculations", IEEE / PES 2007 General Meeting Proceedings, June 24-28, 2007, Tampa, FL, 7 pp.
22. T. E. McDermott, "Development of Tools and Resources to Assess the Impact of Wind Generation on Utility Distribution Systems", APPA Engineering & Operations Conference, April 15-18, 2007, Atlanta, GA, 12 pp.
23. T. E. McDermott, "Open Source Data Translation for Distribution System and Transient Modeling", IEEE / PES 2008 T & D Conference Proceedings, April 20-23, 2008, Chicago, IL, 6 pp.
24. T. E. McDermott, "Designing and Maintaining a Pollution-Resilient Electric Power System", IEEE / PES 2008 T & D Conference Proceedings, April 20-23, 2008, Chicago, IL, 4 pp.
25. T. E. McDermott, "Neutral-Earth Voltage Test Case Solutions with an Electromagnetic Transients Program", IEEE / PES 2008 General Meeting Proceedings, July 20-24, 2008, Pittsburgh, PA, 5 pp.
26. T. E. McDermott, "Working Group on Recommended Practice for Distribution System Analysis – P1729", IEEE / PES 2008 General Meeting Proceedings, July 20-24, 2008, Pittsburgh, PA, 2 pp.

27. M. Baran, T. McDermott, "Distribution System State Estimation Using AMI Data", IEEE Power Systems Conference and Exposition Proceedings, 2009, March 15-18, 2009, Seattle, WA, 3 pp.
28. R. C. Dugan, W. H. Kersting, S. Carneiro, R. F. Arritt, T. E. McDermott, "A Roadmap for the IEEE PES Test Feeders", IEEE Power Systems Conference and Exposition Proceedings, 2009, March 15-18, 2009, Seattle, WA, 4 pp.
29. T. E. McDermott, "Distributed Wind Evaluation Methodology", AWEA WindPower 2009, Chicago, IL, May 4-7, 2009, 15 pp.
30. T. E. McDermott, J. F. Manwell, J. G. McGowan, "A Checklist Approach to DR Interconnection and Impact Studies", IEEE / PES 2009 General Meeting Proceedings, July 26-30, 2009, Calgary, Alberta, Canada, 4 pp.
31. T. E. McDermott, "Behavioral Models of DR Technologies for Feeder-Level Analysis", IEEE / PES 2009 General Meeting Proceedings, July 26-30, 2009, Calgary, Alberta, Canada, 4 pp.
32. T. E. McDermott, R. C. Dugan, T. L. King, M. F. McGranaghan, "Modeling Distribution Automation Schemes with a Control Systems Overlay", IEEE / PES 2009 General Meeting Proceedings, July 26-30, 2009, Calgary, Alberta, Canada, 3 pp.
33. M. Baran, T. E. McDermott, "State Estimation for Real Time Monitoring of Distribution Feeders", IEEE / PES 2009 General Meeting Proceedings, July 26-30, 2009, Calgary, Alberta, Canada, 4 pp.
34. M. E. Baran, J. Jung, T. E. McDermott, "Including Voltage Measurements in Branch Current State Estimation for Distribution Systems", IEEE / PES 2009 General Meeting Proceedings, July 26-30, 2009, Calgary, Alberta, Canada, 5 pp.
35. M. E. Baran, J. Jung, T. E. McDermott, "Topology Error Identification Using Branch Current State Estimation for Distribution Systems", IEEE T&D Conference & Exposition: Asia and Pacific, October 26-30, 2009, 4 pp.
36. T. E. McDermott, "A New Version of the IEEE Flash Program", IEEE / PES 2010 T&D Conference Proceedings, April 19-22, 2010, New Orleans, LA, 4 pp.
37. T. E. McDermott, "Voltage Control and Voltage Fluctuations in Distributed Resource Interconnection Projects", IEEE / PES 2010 T&D Conference Proceedings, April 19-22, 2010, New Orleans, LA, 4 pp.
38. R. C. Dugan, R. Arritt, T. E. McDermott, S. M. Brahma, K. Schneider, "Distribution System Analysis to Support the Smart Grid", IEEE / PES 2010 General Meeting Proceedings, July 25-29, 2010, Minneapolis, MN, 8 pp.
39. J. G. Cleary, T. E. McDermott, J. Fitch, D. J. Colombo, J. Ndubah, "Case Studies: Interconnection of Wind Turbines on Distribution Circuits", IEEE Conference on Innovative Technologies for an Efficient and Reliable Electricity Supply, September 27-29, 2010, Waltham, MA, 5 pp.
40. V. Akhmatov, B. C. Gellert, T. E. McDermott, W. Wiechowski, "Risk of Temporary Over-Voltage and High-Voltage Fault-Ride-Through of Large Wind Power Plants", 9th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Farms, October 18-19, 2010, Quebec City, QC, 6 pp.
41. J. Schoene, T. McDermott, R. Zavadil, L. Freeman, R. Walling, J. Fielder, "Perspectives on New and Emerging Customer Loads and the Impact on Utility Operations", 2011 DistribuTECH Conference, January 31 – February 3, 2011, San Diego, CA, 16 pp.
42. T. E. McDermott, "A Test Feeder for DG Protection Analysis", IEEE / PES 2011 Power Systems Conference & Exposition Proceedings, March 20-23, 2011, Phoenix, AZ, 7 pp.
43. T. E. McDermott, C. Dafis, "Cost-Effective Ship Electrical System Simulation", ASNE Intelligent Ships Symposium IX, May 25-26, 2011, Philadelphia, PA, 13 pp.
44. R. C. Dugan, T. E. McDermott, "An Open Source Platform for Collaborating on Smart Grid Research", IEEE / PES 2011 General Meeting Proceedings, July 24-29, 2011, Detroit, MI, 7 pp.
45. T. E. McDermott, "Modeling PV for Unbalanced, Dynamic and Quasistatic Distribution System Analysis", IEEE / PES 2011 General Meeting Proceedings, July 24-29, 2011, Detroit, MI, 3 pp.

46. J. Schoene, T. E. McDermott, J. C. Smith, R. Zavadil, J. Lamoree, "Flicker from Distributed Wind Generation", IEEE / PES 2011 General Meeting Proceedings, July 24-29, 2011, Detroit, MI, 9 pp.
47. T. E. McDermott, "Using IEEE Flash to Estimate Transmission and Distribution Line Lightning Performance", IEEE / PES 2012 T&D Conference Proceedings, May 7-10, 2012, Orlando, FL, 2 pp.
48. T. E. McDermott, T. A. Short, F. G. Velez, J. S. McDaniel, "Open Source Lightning Protection and Electromagnetic Transients Software", IEEE / PES 2013 General Meeting Proceedings, July 21-25, 2013, Vancouver, BC, 5 pp.
49. J. Schoene, T. E. McDermott, R. Walling, C. Pallem, "Evaluating the Response of Surge Arresters to Temporary Overvoltages", Insulator News and Market Report (INMR) World Congress, September 11, 2013, Vancouver, BC, 11 pp.
50. B. Grainger, O. Scioscia, T. E. McDermott, G. F. Reed, E. Lin, "Prediction and Experimental Verification of Core Loss and Temperature Distribution for Geometrically Scaled FINEMET Toroids Using Finite Element Analysis", IEEE APEC, March 16-20, 2014, Fort Worth, TX, 6 pp.
51. B. Grainger, V. Kounev, G. Reed, T. McDermott, D. Tipper, Z. Mao, "Analysis of an Offshore Medium Voltage DC Microgrid Environment – Part I: Power Sharing Controller Design", IEEE / PES 2014 T&D Conference Proceedings, April 15-17, 2014, Chicago, IL, 5 pp.
52. L. Wieserman, T. E. McDermott, "Fault current and overvoltage calculations for inverter-based generation using symmetrical components", IEEE Energy Conversion Conference & Exposition, September 14-18, 2014, Pittsburgh, PA, 6 pp.
53. T. E. McDermott, P. Famouri, S. Polter, "High-Phase-Order Induction Generators for Electric Ships," ASNE Day Conference, March 4-5, 2015, Arlington, VA, 7 pp.
54. V. Kounev, D. Tipper, M. Levesque, B. M Grainger, T. McDermott, G. F. Reed, "A Microgrid Co-Simulation Framework", 2015 IEEE Workshop on Modeling and Simulation of Cyber-Physical Energy Systems, April 13, 2015, Seattle, WA, 6 pp.
55. Y. Fang, T. E. McDermott, "Grid Models and Building Models of Residential Energy Loads", Engineering Sustainability 2015, April 19-21, 2015, Pittsburgh, PA, 2 pp.
56. S. P. Cortes, T. E. McDermott, A. D. Cardoza, M. J. Korytowski, "Case Study for Sustainable Building Modeling on a University Campus", Engineering Sustainability 2015, April 19-21, 2015, Pittsburgh, PA, 2 pp.
57. S. B. Swindler, T. J. Dionise, S. A. Johnston, T. E. McDermott, "Using Simulation Tools to Predict and Prevent Vacuum Circuit Breaker Switching Induced Transformer Failures", ASNE Intelligent Ships Symposium, May 20-21, 2015, Philadelphia, PA, 14 pp.
58. T. E. McDermott, R. Clark, "Revitalizing an Electromechanical Energy Conversion Course", ASEE Annual Conference and Exposition, June 14-17, 2015, Seattle, WA, 18 pp.
59. A. P. Reiman, T. E. McDermott, G. F. Reed, B. Enayati, "Guidelines for High Penetration of Single-Phase PV on Power Distribution Systems", IEEE PES General Meeting, July 26-30, 2015, Denver, CO, 5 pp.
60. S. R. Abate, T. E. McDermott, M. Rylander, J. Smith, "Smart Inverter Settings for Improving Distribution Feeder Performance", IEEE PES General Meeting, July 26-30, 2015, Denver, CO, 5 pp.

Non-refereed Publications

1. T. McDermott, P. Zhou, J. Gilmore, Z. Cendes, "Simulation Models Magnets that Move," *Machine Design*, pp. 79-85, December 14, 1995.
2. T. E. McDermott, R. C. Dugan, G. J. Ball, "Power Quality for Distribution Planning", PQA '98 North America, June 8-11, 1998, Phoenix, AZ.
3. S. Bhatt, T. E. McDermott, D. Brooks, R. C. Dugan, "Impact of Utility Lightning Protection Practices on Customer Facilities", PQA '99 North America, May 24-27, 1999, Charlotte, NC.
4. R. C. Dugan, T. E. McDermott, W. C. Roettger, "Distribution Planning with Distributed Generation", Latin America Power 99, June 29-July 1, 1999, Miami, FL.

5. T. E. McDermott, R. C. Dugan, G. J. Ball, "A Methodology for Including Power Quality Concerns in Distribution Planning", 5th International Conference on Electrical Power Quality and Utilisation (EPQU 99), September 15-19, 1999, Cracow, Poland, 8 pp.
6. R. C. Dugan, T. E. McDermott, "Distributed Generation and Power Quality", PQA 2000 North America, May 15-18, 2000, Memphis, TN, 15 pp.
7. R. C. Dugan, T. E. McDermott, G. J. Ball, "Planning for Distributed Generation", *IEEE Industry Applications Magazine*, vol. 7, no. 2, pp. 80-88, March/April 2001.
8. R. C. Dugan, T. E. McDermott, "Distributed Generation", *IEEE Industry Applications Magazine*, vol. 8, no. 2, pp. 19-25, March/April 2002. **(Prize Article for 2002).**
9. T. E. McDermott, R. C. Dugan, "PQ, Reliability and DG", *IEEE Industry Applications Magazine*, vol. 9, no. 5, pp. 17-23, September/October 2003.
10. L. Wieserman, T. McDermott, C. Stoltenberg, "Impacts of Solar Variability", Energy Association of Pennsylvania Spring Meeting, March 23-25, 2015, Mars, PA.

Invited Talks

1. Utility Variable Generation Integration Group, "PV Applications on Distribution Feeders", September 19, 2012, Albuquerque, NM.
2. OpenDSS Training Workshop, invited presentation by EPRI and FirstEnergy, Akron, OH, January 21-23, 2013 (note: attendee organizations included Case Western, WVU, Kema, GE and FirstEnergy).
3. CEATI Smart Grid Task Force, "New Developments in IEEE 1547 for Distributed Resource Interconnections", ~20 organizations by webinar, March 26, 2014.
4. University of Central Florida, "Challenges and Opportunities in Renewable Energy Integration into the Electric Power System", April 3, 2014.
5. Utility Variable Generation Integration Group, panel session chair and update on IEEE Standard 1547, May 19-22, 2014, Anchorage, AK.
6. Utility Variable Generation Integration Group, "PV Applications on Distribution Feeders", June 17, 2014, Portland, OR.

Electric Power Research Institute (EPRI) Reports

1. S. F. Mauser, T. E. McDermott, User Survey and Implementation Plan for EMTP Enhancements, EPRI Report EL-3668, September 1984, Palo Alto, CA.
2. S. F. Mauser, T. E. McDermott, Electromagnetic Transients Program (EMTP) Primer, EPRI Report EL-4202, September 1985, Palo Alto, CA.
3. S. F. Mauser, T. E. McDermott, Electromagnetic Transients Program (EMTP) Application Guide, EPRI Report EL-4650, November 1986, Palo Alto, CA.
4. T. E. McDermott, T. J. Dionise, Distribution Workstation: Specifications, EPRI Report EL-7249, vol. 1 and 2, April 1991, Palo Alto, CA.
5. T. E. McDermott, D. E. Parrish, D. B. Miller, LPDW: Lightning Protection Design Workstation Seminar Notes, EPRI TR-000530, September 1992, Palo Alto, CA.
6. T. E. McDermott, LPDW: Lightning Protection Design Workstation User's Manual, EPRI AP-000530, December 1992, Palo Alto, CA.
7. T. E. McDermott, G. J. Ball, Power Quality for Distribution Planning, EPRI Report TR110346, April 1998, Palo Alto, CA.
8. D. L. Brooks, T. E. McDermott, LPDW Version 5.0 Technical Report - Ground Stroke Model for Underground Cables and DFlash Validation Studies, EPRI WO4098-02, March 1999, Palo Alto, CA.
9. T. E. McDermott, N. Samaan, Distribution System Design for Strategic Use of Distributed Generation, October 2005, Palo Alto, CA. 1010671.

10. T. McDermott, T. Smith, B. Muschlitz, J. Lamoree, EPRI First-Generation Advanced Radial Feeder for the Distribution System of the Future: Enabling Strategic Use of Distributed Generation, December 2006, Palo Alto, CA. 1012432.
11. T. McDermott (PI), Program on Technology Innovation: Distribution Common Information Model (CIM) Modeling of Two North American Feeders, March 2009, Palo Alto, CA. 1018281.
12. T. McDermott (PI), Smart Distribution Applications and Technologies, September 2011, Palo Alto, CA. 1020090.

CEATI Reports

1. T. E. McDermott, J. D. Schoene, Arc Flash on a Utility System, CEATI Report T084700-5079, February 2010, Montreal, QC.
2. T. E. McDermott, Distribution System Phasing Using AMI and DSCADA, CEATI Report T094700-5085, April 2011, Montreal, QC.
3. T. E. McDermott, Power Factor Correction Capacitor Software Tool (PFC Tool), CEATI Report T094700-5152, January 2012, Montreal, QC.
4. T. E. McDermott, Solar Power Variability Impacts on the Distribution System, CEATI Report (in publishing), September 2013, Montreal, QC.