#### **PUBLICATIONS**

#### Papers in IEEE Transactions

- A.M. Palani, H. Wu, M.M. Morcos, "A Frank-Wolfe progressive hedging alogorithm for improved lower bounds in stochastic SCUC," *IEEE Access*, Vol. 7, No. 1, pp. 99398-99406, 2019.
- S. Zhang, M.M. Morcos, K.D. Srivastava, "On the management of metallic particle contamination in gas insulated switchgear," *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 24, No. 5, pp. 2746-2754, 2017.
- S.D. Kim, M.M. Morcos, "An application of dynamic thermal line rating control system to up-rate the ampacity of overhead transmission lines," *IEEE Transactions on Power Delivery*, Vol. 28, No. 2, pp. 1231-1232, 2013.
- W.R. Ibrahim and M.M. Morcos, "An adaptive fuzzy self-learning technique for prediction of abnormal operation of electrical systems," *IEEE Transactions on Power Delivery*, Vol. 21, No. 4, pp. 1770-1777, 2006.
- M.A. Awadallah and M.M. Morcos, "Automatic diagnosis and location of open-switch fault in brushless DC motor drives using wavelets and neuro-fuzzy systems," *IEEE Transactions on Energy Conversion*, Vol. 21, No. 1, pp. 104-111, 2006.
- M.A. Awadallah, M.M. Morcos, S. Gopalakrishnan, T.W. Nehl, "Detection of stator short circuits in VSI-fed brushless DC motors using wavelet transform, "*IEEE Transactions on Energy Conversion*, Vol. 21, No. 1, pp. 1-8, 2006.
- W.R. Ibrahim and M.M. Morcos, "Novel data compression technique for power waveforms using adaptive fuzzy logic," *IEEE Transactions on Power Delivery*, Vol. 20, No. 3, pp. 2136-2143, 2005.
- M.A. Awadallah, M.M. Morcos, S. Gopalakrishnan, T. Nehl, "A neuro-fuzzy approach to automatic diagnosis and location of stator inter-turn faults in CSI-fed PM brushless DC motors," *IEEE Transactions on Energy Conversion*, Vol. 20, No. 2, pp. 253-259, 2005.
- M.M. Tawfik and M.M. Morcos, "On the use of Prony method to locate faults in loop systems by utilizing modal parameters of fault current," *IEEE Transactions on Power Delivery*, Vol. 20, No.1, pp. 532-534, 2005.
- M.A. Awadallah and M.M. Morcos, "Diagnosis of stator short circuits in brushless DC motors by monitoring phase voltages," *IEEE Transactions on Energy Conversion*, Vol.20, No. 1, pp. 246-247, 2005.
- J.C. Gomez and M.M. Morcos, "Coordination analysis of voltage sag and over-current protection in electrical systems with distributed generation," *IEEE Transactions on Power Delivery*, Vol. 20, No. 1, pp. 214-218, 2005.
- M.A. Awadallah and M.M. Morcos, "ANFIS-based diagnosis and location of stator in-turn faults in PM brushless DC motors," *IEEE Transactions on Energy Conversion*, Vol. 19, No. 4, pp. 795-796, 2004.

- M.A. Awadallah and M.M. Morcos, "Switch fault diagnosis of PM brushless DC motor drive using adaptive fuzzy techniques," *IEEE Transactions on Energy Conversion*, Vol. 19, No. 1, pp. 226-227, 2004.
- J.C. Gomez and M.M. Morcos, "Specific energy concept applied to the voltage sag ride-through capability of sensitive equipment in DG embedded systems," *IEEE Transactions on Power Delivery*, Vol. 18, No. 4, pp. 1590–1591, 2003.
- W.R. Ibrahim and M.M. Morcos, "A power quality perspective to system operational diagnosis using fuzzy logic and adaptive techniques," *IEEE Transactions on Power Delivery,* Vol. 18, No. 3, pp. 903-909, 2003.
- J.C. Gomez and M.M. Morcos, "Impact of EV battery chargers on the power quality of distribution systems," *IEEE Transactions on Power Delivery*, Vol.18, No. 3, pp. 975-981, 2003.
- M.A. Awadallah and M.M. Morcos, "Application of AI tools in fault diagnosis of electrical machines and drives," *IEEE Transactions on Energy Conversion*, Vol. 18, No. 2, pp. 245-251, 2003.
- S.D. Kim and M.M. Morcos, "Mechanical deterioration of ACSR conductors due to forest fires," *IEEE Transactions on Power Delivery*, Vol. 18, No. 1, pp. 271–276, 2003.
- J.C. Gomez and M.M. Morcos, "Voltage sag and recovery time in repetitive events," *IEEE Transactions on Power Delivery*, Vol. 17, No. 4, pp. 1037-1043, 2002.
- C. Roux and M.M. Morcos, "On the use of a simplified model for switched reluctance motors," *IEEE Transactions on Energy Conversion*, Vol. 17, No. 3, pp. 400-405, 2002.
- S. Zhang, M.M. Morcos, H. Anis, S.M. Gubanski, K.D. Srivastava, "The impact of electrode coating on the insulation integrity of GIS/GITL with metallic particle contaminants," *IEEE Transactions on Power Delivery*, Vol. 17, No. 2, pp. 318-325, 2002.
- W.R. Ibrahim and M.M. Morcos, "Artificial intelligence and advanced mathematical tools for power quality applications: A survey," *IEEE Transactions on Power Delivery,* Vol. 17, No. 2, pp. 668-673, 2002.
- J.C. Gomez, M.M. Morcos, C. Reineri, G. Campetelli, "Behavior of induction motor due to voltage sags and short interruptions," *IEEE Transactions on Power Delivery*, Vol. 17, No. 2, pp. 434-440, 2002.
- A. Lakshmikanth and M.M. Morcos, "A power quality monitoring system: a case study in DSP-based solutions for power electronics," *IEEE Transactions on Instrumentation and Measurement*, Vol. 50, No. 3, pp. 724-731, 2001.
- M.M. Tawfik and M.M. Morcos, "ANN-based techniques for estimating fault location on transmission lines using Prony method," *IEEE Transactions on Power Delivery*, Vol. 16, No. 2, pp. 219-224, 2001.
- M.M. Morcos, S. Zhang, K.D. Srivastava, S. Gubanski, "Dynamics of metallic particle contaminants in GIS with dielectric-coated electrodes," *IEEE Transactions on Power Delivery*, Vol. 15, No. 2, pp. 455-460, 2000.
- A. Lakshmikanth, M.M. Morcos, W.N. White, "A real-time system for power quality testing," *IEEE Transactions on Instrumentation and Measurement*, Vol. 47, No. 6, pp. 1464-1468, 1998.

- K.S. Prakash, K.D. Srivastava, M.M. Morcos, "Movement of wire particles in compressed SF<sub>6</sub> GIS upon dielectric coating of conductors," *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 4, No. 3, pp. 344-347, 1997.
- T.K. Chan and M.M. Morcos, "On the use of IGBT-gated GTO-cascode switches in quasi-resonant converters," *IEEE Transactions on Industry Applications*, Vol. 31, No. 6, pp. 1227-1233, 1995.
- M.M. Morcos, J.A. Mowry, A.J. Heber, "A solid-state speed controller for capacitor motors driving ventilation fans," *IEEE Transactions on Industry Applications*, Vol.30, No. 3, pp. 656-664, 1994.
- M.M. Morcos and K.D. Srivastava, "On electrostatic trapping of particle contamination in GITL systems," *IEEE Transactions on Power Delivery*, Vol. 7, No. 4, pp. 1698-1705, 1992.
- M.M. Morcos, H. Anis, K.D. Srivastava, "Metallic particle movement, corona and breakdown in compressed gas insulated transmission line systems," *IEEE Transactions on Industry Applications*, Vol. 27, No. 5, pp. 816-823, 1991.
- M.M. Morcos, H. Anis, K.D. Srivastava, "Particle initiated corona and breakdown in GITL systems," *IEEE Transactions on Electrical Insulation*, Vol. 24, No. 4, pp. 561-571, 1989.
- M.M. Morcos and H. Anis, "Random energization transients in EHV systems," *IEE Proceedings,* Part C, Vol. 136, No. 6, pp. 325-330, 1989.

#### **Papers in Other Refereed Journals**

- S.D. Kim, M.M. Morcos, "Application and evaluation of short-term emergency ratings for double-circuit transmission lines," *Electric Power Components and Systems*, Vol.40, pp. 729-740, 2012.
- J.C. Gomez and M.M. Morcos, "Over-current coordination in systems with embedded DG," *Electric Power Components and Systems*, Vol. 39, pp. 576-589, 2011.
- F. Misoc, J. Lookadoo, M.M. Morcos, "Effect of DC-DC converter topologies and operation on the electrical performance of fuel cells," *Electric Power Components and Systems*, Vol. 38, pp. 851-861, 2010.
- J.C. Gomez and M.M. Morcos, "A new methodology for coordination of over-current protection systems with embedded distributed generation," *Electric Power Components and Systems*, Vol. 38, pp. 615-619, 2010.
- F. Misoc, J. Lookadoo, M.M. Morcos, "A comparative study of two power sources in DC systems," *Electric Power Components and Systems*, Vol. 37, No. 8, pp. 936-942, 2009.
- M.M. Morcos and J.C. Gomez, "On over-current protection/voltage sag ride-through in systems with embedded distributed generation," *Electric Power Components and Systems*, Vol.37, No. 7, pp. 813-816, 2009.
- J.C. Gomez and M.M. Morcos, "Contactors immunity to voltage sags," *Electric Power Components and Systems*, Vol. 37, No. 3, pp. 347-353, 2009.
- W.R. Ibrahim and M. M. Morcos, "A novel technique for prediction of abnormal operation of electrical systems," *Electric Power Components and Systems*, Vol. 35, No. 7, pp. 851-856, 2007.

- J.C. Gomez and M.M. Morcos, "Inclusion of sensitive equipment immunity in the overcurrent protection of transmission and sub-transmission systems," *Electric Power Components and Systems*, Vol. 35, No. 2, pp. 239-243, 2007.
- J.C. Gomez and M.M. Morcos, "On over-current protection in transmission systems," *Electric Power Components and Systems*, Vol. 34, No. 10, pp. 1157-1161, 2006.
- M.M. Morcos and J.C. Gomez, "Mitigation of distance voltage-sag penetration into industrial premises with distributed generation," *Electric Power Components and Systems*, Vol. 34, No. 9, pp. 961-965, 2006.
- C.A. Reineri, J.C. Gomez, M.M. Morcos, "Experimental study of induction motor performance with unbalanced supply," *Electric Power Components and Systems*, Vol. 34, No. 7, pp. 817-829, 2006.
- M.M. Tawfik and M.M. Morcos, "Fault location on loop systems using the Prony algorithm," *Electric Power Components and Systems*, Vol. 34, No. 4, pp. 433-443, 2006.
- M.A. Awadallah and M.M. Morcos, "Performance analysis of low-inductance PM brushless DC motors under stator inter-turn faults," *Electric Power Components and Systems*, Vol. 33, No. 7, pp. 767-780, 2005.
- M.A. Awadallah and M.M. Morcos, "Automatic fault diagnosis of electric machinery: a case study in PM brushless DC motors," *Electric Power Components and Systems*, Vol. 33, No. 6, pp. 597-610, 2005.
- M.M. Morcos, S. Zhang, K.D. Srivastava, "On the performance of particle-contaminated GIS with coated electrodes," *Electric Power Components and Systems*, Vol. 33, No. 5, pp. 575-586, 2005.
- S.D. Kim, M.M. Morcos, J.C. Gomez, "Voltage sag magnitude and phase-jump due to short circuits in distribution systems with variable fault resistance," *Electric Power Components and Systems*, Vol. 33, No. 5, pp. 493-512, 2005.
- M.A. Awadallah and M.M. Morcos, "Diagnosis of open-phase faults in PM brushless motors using wavelet and adaptive fuzzy techniques," *Electric Power Components and Systems*, Vol. 32, No. 11, pp. 1165-1190, 2004.
- J.C. Gomez and M.M. Morcos, "A study of voltage sags generated by induction motor starting," *Electric Power Components and Systems*, Vol. 32, No. 6, pp. 645-653, 2004.
- S.D. Kim and M.M. Morcos, "An improved method for classifying power quality disturbances," *Electric Power Components and Systems,* Vol. 32, No. 4, pp. 407-420, 2004.
- J.C. Gomez and M.M. Morcos, "Estimation of voltage sag effects on sensitive equipment due to induction motor starting," *Electric Power Components and Systems*, Vol. 31, No. 7, pp. 709-716, 2003.
- T.K. Chan and M.M. Morcos, "Switching performance of power semiconductor devices in a cascode switch," *Electric Power Components and Systems,* Vol. 30, No. 2, pp. 167-198, 2002.
- S. Zhang, M.M. Morcos, S.M. Gubanski, K.D. Srivastava, "Experimental verification of particle movement modeling in a coaxial dielectric coated electrode system in SF<sub>6</sub>," *Gaseous Dielectrics IX*, L.G. Christophorou and J.K. Olthoff, Editors, Plenum Publishers, New York, pp. 327-332, 2001.
- J.C. Gomez and M.M. Morcos, "Voltage sag mitigation using overcorrect protection devices," *Electric Power Components and Systems*, Vol. 29, No. 1, pp. 71-81, 2001.

- S.K. Starrett and M.M. Morcos, "Hands-on, minds-on electric power education," *Journal of the American Society for Engineering Education*, Vol. 90, No. 1, pp. 93-99, 2001.
- M.M. Morcos, K.D. Srivastava, M. Holmberg, S.M. Gubanski, "Dielectric coatings and particle movement in GIS/GITL systems," *Gaseous Dielectrics VIII*, L.G. Christophorou and J.K. Olthoff, Editors, Plenum Publishers, New York, pp. 403-408, 1998.
- M.M. Morcos and H. Anis, "On random line-to-neutral switching transients in transmission systems," *Electric Machines and Power Systems*, Vol. 24, No. 3, pp. 303-311, 1996.
- M.M. Morcos, J.A. Mowry, A.J. Heber, "A new speed controller for induction motors driving agricultural fans," *Journal of Agricultural Engineering Research*, Vol. 54, No. 2, pp. 159-169, 1993.
- M.M. Morcos and K.D. Srivastava, "On the particle-initiated breakdown of SF<sub>6</sub> insulated cables," *Europhysics Letters*, Vol. 17, No. 6, pp. 529-534, 1992.
- M. Aboelsaad and M.M. Morcos, "New analytical approach for computing power losses and ground current density profiles of unipolar DC corona," *Acta Physica Hungarica*, Vol. 69, No. 1-2, pp. 3-18, 1991.
- M.M. Morcos and K.D. Srivastava, "Particle-initiated corona as indicative diagnosis in gas insulated systems," *Acta Physica Hungarica*, Vol. 68, No. 1-2, pp. 3-13, 1990.
- H. Anis, M.M. Morcos, K.D. Srivastava, "Corona stabilized breakdown in particle contaminated compressed SF<sub>6</sub> systems," *Gaseous Dielectrics IV*, L.G. Christophorou and M.O. Pace, Editors, Pergamon Press, New York, pp. 387-395, 1984.

## **IEEE Power Engineering Letters**

- M.A. Awadallah and M.M. Morcos, "Adaptive fuzzy-based stator-winding fault diagnosis of PM brushless DC motor drive by monitoring supply current," *IEEE Power Engineering Review*, Vol. 22, No. 12, pp. 46-49, 2002.
- J.C. Gomez and M.M. Morcos, "Voltage sag effects on sensitive equipment due to starting cycles of induction motor," *IEEE Power Engineering Review*, Vol. 22, No. 8, pp. 51-52, 2002.
- S.D. Kim and M.M. Morcos, "Diagnosis of useful life for ACSR conductors using a fuzzy inference system," *IEEE Power Engineering Review*, Vol 22, No. 5, pp. 61-64, 2002.
- S.D. Kim and M.M. Morcos, "An application of solenoid sensor for inspecting deterioration of ACSR conductors due to forest fires," *IEEE Power Engineering Review*, Vol. 21, No. 10, pp. 50-53, 2001.
- M.A. Awadallah and M.M. Morcos, "A fuzzy-logic-based AVR for a stand-alone alternator feeding a heating load," *IEEE Power Engineering Review*, Vol. 21, No. 10, pp. 53-56, 2001.
- M.M. Tawfik and M.M. Morcos, "Prony application for locating faults on loop systems," *IEEE Power Engineering Review*, Vol. 21, No. 8, pp. 41-43, 2001.
- W.R. Ibrahim and M.M. Morcos, "An adaptive fuzzy technique for learning power-quality signature waveforms," *IEEE Power Engineering Review*, Vol. 21, No. 1, pp. 56-58, 2001.
- C. Roux and M.M. Morcos, "A simple model for switched reluctance motors," *IEEE Power Engineering Review*, Vol. 20, No. 10, pp. 49-52, 2000.

- J.C. Gomez and M.M. Morcos, "Effect of distribution system protection on voltage sags," *IEEE Power Engineering Review*, Vol. 20, No. 5, pp. 66-68, 2000.
- S.K. Starrett and M.M. Morcos, "Development of a power learning environment," *IEEE Power Engineering Review,* Vol. 20, No. 4, pp. 70-73, 2000.
- S. Zhang, M.M. Morcos, K.D. Srivastava, S.M. Gubanski, "On the effect of electrode coating on the breakdown probability of particle-contaminated GITL systems," *IEEE Power Engineering Review,* Vol. 20, No. 3, pp. 49-51, 2000.
- W.R. Ibrahim and M.M. Morcos, "Preliminary applications of an adaptive fuzzy system for power quality diagnostics," *IEEE Power Engineering Review*, Vol. 20, No. 1, pp. 55-58, 2000.
- M.M. Morcos and D.L. Soldan, "A Master's degree program with emphasis on electric power systems through distance education," *IEEE Power Engineering Review*, Vol. 19, No. 8, pp. 49-51, 1999.
- L. Ananth and M.M. Morcos, "A power quality monitoring system: A case study in DSP-based solutions for electric power industry," *IEEE Power Engineering Review*, Vol. 19, No. 7, pp. 47-50, 1999.
- M.M. Morcos, S. Zhang, K.D. Srivastava, S.M. Gubanski, "On the dynamics of metallic particle contaminants in compressed gas insulated systems with dielectric-coated electrodes," *IEEE Power Engineering Review*, Vol. 19, No. 3, pp. 70-71, 1999.
- W.R. Ibrahim and M.M. Morcos, "Electric power quality and artificial intelligence: Applicability and overview," *IEEE Power Engineering Review*, Vol. 19, No. 3, pp. 63-65, 1999.
- M.M. Tawfik and M.M. Morcos, "A novel approach for fault location on transmission lines," *IEEE Power Engineering Review,* Vol. 18, No. 12, pp. 58-60, 1998.

#### **Feature Articles**

- M.M. Morcos and J.C. Gomez, "Electric power quality: The strong connection with power electronics," *IEEE Power & Energy Magazine*, Vol. 1, No. 5, pp. 18-25, 2003.
- M.M. Morcos and J.C. Gomez, "Flicker sources and mitigation," *IEEE Power Engineering Review,* Vol. 22, No. 11, pp. 5-10, 2002.
- J.C. Gomez and M.M. Morcos, "Flicker measurement and light effect," *IEEE Power Engineering Review,* Vol. 22. No. 11, pp. 11-15, 2002.
- J.C. Gomez and M.M. Morcos, "Coordinating overcorrect protection and voltage sag in distributed generation systems" *IEEE Power Engineering Review,* Vol. 22, No. 2, pp. 16-19, 2002.
- J.C. Gomez, M.M. Morcos, C. Reineri, G. Campetelli, "Induction motor behavior under short interruptions and voltage sags," *IEEE Power Engineering Review,* Vol. 21, No. 2, pp. 11-15, 2001.
- M.M. Morcos, C.R. Mersman, G.D. Sugavanam, N.G. Dillman, "Battery chargers for electric vehicles," *IEEE Power Engineering Review*, Vol. 20, No. 11, pp. 8-11, 2000.
- M.M. Morcos, S.A. Ward, H. Anis, K.D. Srivastava, S.M. Gubanski, "Insulation integrity of GIS/GITL systems and management of particle contamination," *IEEE Electrical Insulation Magazine*, Vol. 16, No. 5, pp. 25-37, 2000.

M.M. Morcos and W.R. Ibrahim, "Electric power quality and artificial intelligence: Overview and applicability," *IEEE Power Engineering Review*, Vol. 19, No. 6, pp. 5-10, 1999.

## **Book Chapters**

J.C. Gomez and M.M. Morcos, *Power Quality: Mitigation Technologies in a Distributed Environment*, Chapter 10, Springer-Verlag, London, A.M. Munoz, Editor, pp. 293-314, 2007.

### **EPRI Report**

M.M. Morcos, A.J. Heber, J.A. Mowry. Steady-State Speed Controller for Single-Phase Capacitor Motors. Electric Power Research Institute, EPRI Report TR-100174, 1992.

## **TEACHING**

Courses taught at Kansas State University (1986 – 2017)

ECE 510	Circuit Theory I
ECE 511	Circuit Theory II
ECE 525	Electronics I
ECE 530	Control Systems Design
ECE 581	Energy Conversion
ECE 589	Circuits and Machines Lab
ECE 590	Senior Seminar
ECE 624	Power Electronics
ECE 780	Power Seminar
ECE 824	Advanced Power Electronics
ECE 882	Power Quality
ET 537	Electronic Measurements
ET 542	Electric Motors and Controls

# SHORT COURSES

M.M. Morcos and J.C. Gomez, Impact of Power Electronics on Electric Power Quality, Olathe, KS, 2001.

- M.M. Morcos and J.C. Gomez, Power Electronics and Power Quality A Strong Connection, Graz, Austria, 2001.
- M.M. Morcos, Power Quality Considerations for Adjustable Speed Drives, Manhattan, KS, 1998.
- M.M. Morcos, N.G. Dillman, G.L. Johnson, Power Electronics, Manhattan, KS, 1994.

# PERSONAL DATA

A native of Cairo, Egypt, Dr. Morcos was born on October 19, 1944. He married Sharon K. Hearne on June 17, 1989.