Hassan El-Kishky, Ph.D., P.E.
Associate Professor Electrical Engineering
The University of Texas at Tyler

Education:

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Ph.D.	Electrical Engineering, Arizona State University, 1995
M.S.	Assiut University, Assiut, Egypt, 1991
M.B.A.	The University of Texas at Tyler, 2003
B.S.	Ain Shams University, Cairo, Egypt, 1984
P.E.	Texas

Honors and Awards:

Certificate of Appreciation for Contributing to the Fulfillment of the Research Objectives of the University, UT Tyler, 2010.

Best Associate Editor Award, the International Journal of Modeling and Simulation, ACTA, 2007.

Awarded UT Tyler's Best Elec Eng. Professor Award in 15/16, 06/07, 04/05, 02/03, 01/02, and in 00/01.

Research Interests:

I am currently working on developing and equipping the Department's EMC/EMI lab. The lab will be used for research and development as well as for third-party compliance testing and certification of electrical and electronic systems to meet national and international EMC and EMI standards such as ANSI C63.4, FCC Part 15, EN 61326, and military standards. I am also working on developing a user-friendly software package (**INSFOT**) for the design and characterization of high voltage insulation and corona-suppression systems for high voltage large rotating machines. **INSOFT** will also be used to perform thermal analysis and uprating studies for large electrical machines. I am also working on control of advanced aircraft electric power systems. Moreover, I am working on developing robust supervisory control and protection system for large power systems based on synchrophasors' real-time data analytics. I am also developing models for advanced aircraft electric power systems including hybrid Auxiliary Power Units, the More-Electric Aircraft (MEA), and the All-Electric Aircraft (AEA) propulsion systems.

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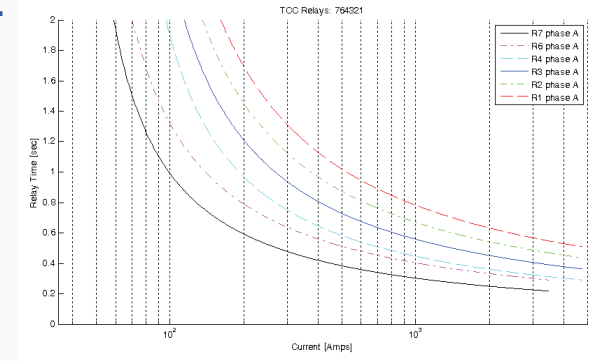
Areas of Research Interest

Aircraft Electric Power Systems:

- Simulation, Modeling and Characterization of Advanced Aircraft Electric Power Systems
- Hybrid Auxiliary Power Units for Advanced Aircraft Propulsion Systems

Condition-Monitoring, Control and Protection of Modern Power Systems:

- Synchro-Phasors and Data Processing for Condition-Monitoring of Power Systems. Big Data Processing and Clustering Techniques for Diagnostics and Control of Power Systems
- Supervisory Control and Protection System for Power Systems with Large Share of Distributed Generation

High Voltage Engineering and Electrical Insulation Systems:

- Design, Development, and Testing of High Voltage Insulation and Corona-Suppression Systems for High Voltage Large Rotating Machines
- Condition Monitoring and Root-Cause Failure Analysis of High Voltage Insulation for Large Rotating Machines
- Aging Mechanisms of High Voltage Outdoor Insulators-Electric Potential, Electric Field and Surface Energy Distribution.

Degradation of stress-grading systems

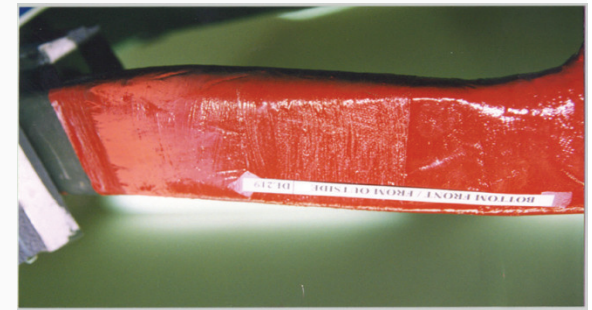INSOFT-Design of HV Insulation Systems

Select Publications:

P. Mohammadi and H. El-Kishky, "On Enhancing Power Systems PMU Based Data Analysis and Condition Monitoring," Proceedings, 47th North American Power Symposium (NAPS 2015), Charlotte, NC, October 6-8, 2015.

H. Ibrahimi and H. El-Kishky, "A Novel Generalized State-Space Averaging (GSSA) model for Advanced Aircraft Electric Power Systems." Elsevier, Journal of Energy Conversion and Management 89 (2015): 507-524.

H. Ibrahimi, J. Gatabi, and H. El-Kishky, "An Auxiliary Power Unit for Advanced Aircraft Electric Power Systems." Elsevier, Electric Power Systems Research Journal 119 (2015): 393-406.
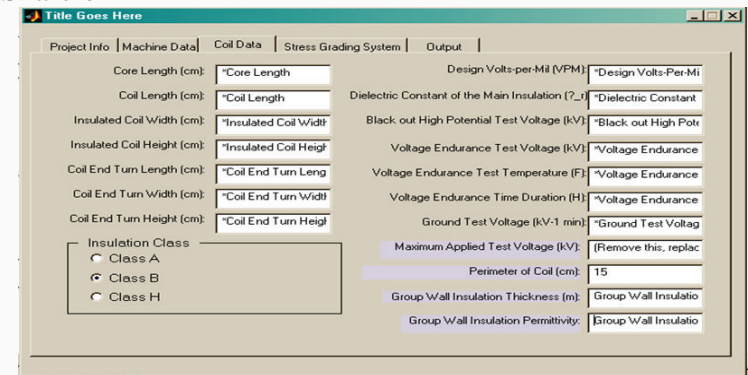
H. El-Kishky, H. Ibrahimi, On modeling and control of advanced aircraft electric power systems: System stability and bifurcation analysis, International Journal of Electrical Power & Energy Systems 12/2014; 63:246–259.

P. Mohammadi, H. El-Kishky, A Robust Initialization Algorithm for k-Means Clustering in Power Distribution Networks with PMU-based Adaptive Protection System, Proceedings of the Power Modulator and High Voltage Conference (IPMHVC), 2014 IEEE International

P. Mohammadi, H. El-Kishky, The Impacts of Distributed Generation on Fault Detection and Voltage Profile in Power Distribution Networks, Proceedings of the Power Modulator and High Voltage Conference (IPMHVC), 2014 IEEE International
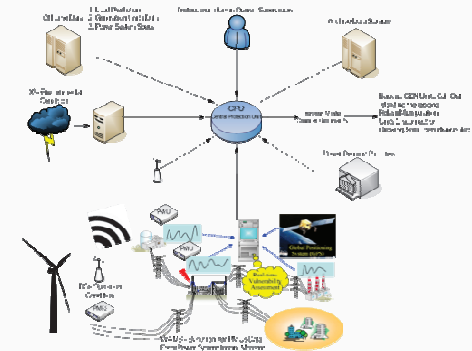
Abdel-Akher, M. Aly, M.M. ; Ziadi, Z. ; El-kishky, H. ; Abdel-Warth, M.A. "Voltage stability modeling and analysis of unbalanced distribution systems with wind turbine energy systems", Industrial Technology (ICIT), 2014 IEEE International Conference on.

Power System's Central Protection

Hassan El-Kishky, Ph.D., P.E.