



THE NORTH AMERICAN SYNCHROPHASOR INITIATIVE WEBINAR SERIES

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Distribution grid monitoring: Challenges in developing PMU-rich feeders

Increasing visibility into distribution grids requires upgrades to monitoring infrastructure. Advanced metering infrastructure (AMI) has only been minimally insightful in security and resilience cases, while the proliferation of distributed energy resources disrupts our understanding of unidirectional power flows. PMUs have benefitted transmission system operators immensely, and have been gradually adopted by utilities, too, in the last 5 years. The sizes and spreads of distribution systems, however, challenges us from an unforeseen aspect: how to effectively store, collect and transmit measurement data from numerous sensing locations to decision-making centers and actuate in the midst of critical phenomena. This webinar will review the Information and Telecommunication (IT) bottlenecks brought about by the wide use of PMUs in distribution systems from both an industrial and an academic perspective. How does existing IT infrastructure hinder broader PMU adoption and consideration of additional use cases? How can we adjust to and overcome the current IT bottlenecks for crucial monitoring and control applications? How is cyber-physical security both an IT and a PMU related consideration? How can hierarchical architectures bridge the gap until we have more answers to our IT framework challenges?



Panayiotis (Panos) Moutis, PhD, is Assistant Professor at the Dept. of Electrical Engineering at the City College (CCNY) of the University of New York (CUNY). Panos received both his diploma (2007) and his PhD (2015) degrees in Electrical and Computer Engineering at the National Technical University of Athens, Greece, and has published more than 30 papers and contributed to 4 book chapters. He has over 10 years of industry experience on Renewable Energy and Energy Efficiency and serves as advisor and executive in energy start-ups. He is Chair of the IEEE-USA Energy Policy Committee, senior editor of IEEE & IET scientific journals, member of IEEE standard working groups, a senior member of the IEEE, and leads the Distribution Task Team at the North American Synchro-Phasor Initiative and the Power & Energy Community at the Climate Change AI initiative.



Daniel Dietmeyer serves as the Team Lead for the Transmission Protection and Automation team within System Protection and Control Engineering at San Diego Gas and Electric. Daniel joined the company's Electric Grid Operations in 2013 and has managed large projects including the Transmission Control Room Rebuild, Falling Conductor Protection program, and Transmission/Distribution Protection projects. Prior to joining SDG&E he worked on aircraft in Aerospace and Defense for a period of 15 years. Daniel holds a Bachelor's and Master's Degree in Electrical Engineering, numerous professional certificates, two FCC licenses and is a licensed Professional Engineer in the state of California.

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