



THE DAWN OF SYNCHRONIZED TRANSIENT MEASUREMENTS FOR GRID MODERNIZATION

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MIRRASOUL “MIR” MOUSAVI
Sentient Energy

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OVERVIEW

The intricacies of operating and maintaining modern electric power systems are surging due to increased demand, integration of renewable energy resources, and the necessity for a reliable, resilient, and safe power infrastructure. To navigate these complexities, a new generation of data-driven solutions are coming to the fore that are enabled by high-fidelity synchronized transient measurements. These advanced analytics solutions offer a detailed view of grid conditions, which are instrumental in addressing the new requirements for grid modernization.

In this talk, we will delve into notable applications of synchronized transient measurements. We will examine the transformative impact of the solutions enabled by these measurements, illustrating how they can be used to detect and respond to transient disturbances with greater fidelity, and support the incorporation of distributed energy resources. By leveraging this new paradigm, utilities can achieve a forward-looking view of grid conditions, enabling them to anticipate issues and react more effectively to prevent power outages and asset failures. The implications for grid management in terms of strategic planning and change management will also be a key focus area.

BIO

Dr. Mirrasoul “Mir” Mousavi serves as Head of Advanced Analytics and Applications at Sentient Energy. In this capacity, he is responsible for the company’s analytics capability development and strategic technology direction. He leads a multidisciplinary team of data scientists, power system engineers, and software developers dedicated to researching, developing, and delivering market-leading solutions for the electric utility industry. Additionally, Dr. Mousavi provides visionary leadership and subject matter expertise to internal and external stakeholders and collaborators to advance the state of market and technology leadership for digital innovation and business transformation.

Prior to joining Sentient Energy, Mir held various engineering roles at ABB Inc. most recently as Global Technical Director and Executive Engineer in the Power Grids Division. During his tenure with the company, he led technology & strategy development initiatives related to power system automation, digitalization, intelligent monitoring, control, and protection. He also served as volunteer program manager & industry liaison, representing the company in various industrial forums and research consortiums. Dr. Mousavi received his Ph.D. degree in electrical engineering from Texas A&M University. He is a prolific industry speaker, author, mentor, and panelist. He holds over thirty US and international patents and has published several journal articles, conference papers, and book chapters. Mir is a senior member of IEEE and IEEE Power and Energy Society (PES) and has contributed to a number of PES technical working groups.

