

Operational practices of power distribution systems are impacted by the increasing connection of renewable energy resources, electric vehicles, energy storage systems and deployment of demand-response mechanisms. A time-deterministic and accurate knowledge of the system state, coupled with an adequate level of automation able to protect and control the system, enables the better operation of these power grids. In this respect, synchrophasor networks may provide distribution systems operators with local-area, synchronized, low latency and high-resolution measurements from distribution-level phasor measurement units (D-PMUs). The data availability is a necessary but not sufficient step to build an enhanced operational intelligence that is required by the future distribution grid. Data must be furnished with useful analytics to translate said data into actionable information. Therefore, in this special section, we aim to publish original research papers, visionary reviews, and practical test results on the theory, applications, algorithms, and technologies, as well as case studies associated with D-PMUs. Exceptional survey papers will also be considered.

Topics of interest include but are not limited to:

- Application of PMUs for the enhancement of distribution system monitoring and situational awareness
- Application of PMUs to improve the distribution system control and the integration of DERs
- Data analytics algorithms and learning methodologies relying on distribution-level synchrophasors
- Data visualization techniques for distribution-level synchrophasors
- Combined analysis of distribution-level PMU data with transmission-level PMU data or data from smart meters.
- Data mining and data quality issues of distribution-level PMUs and its impact on distribution grid monitoring and control
- Data storage and computational infrastructure for distribution-level PMUs
- Telecommunication and networking infrastructure for distribution-level PMUs
- Testbeds, case studies, and utility insights on applications of distribution-level PMUs

This special section solicits original work that is not under consideration for publication in other venues. Two-page short papers are required for the first round of reviews. Authors of selected short papers will be invited to submit full papers in the second round. Authors should refer to <http://www.ieee-pes.org/publications/information-for-authors> for information on content and formatting of submissions. Please submit a PDF version of the short paper via e-mail to hamed@ece.ucr.edu before the deadline. Full papers should be submitted to: <https://mc.manuscriptcentral.com/tsg-pes>.

Important Dates

- March 1, 2018: Deadline for submission of **short paper (two-pages)**
- April 30, 2018: Decision notification for inviting full paper submissions
- September 30, 2018: Deadline for submission of **full paper**
- February 28, 2019: Notification of final decisions
- March 31, 2019: Publication materials due

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