

ADVANCEMENTS IN MONITORING AND DIAGNOSTICS OF PHOTOVOLTAIC SYSTEMS

ORGANIZED BY

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SPECIAL SESSION OVERVIEW

Photovoltaic (PV) systems are a widespread and well-established technology playing a key role in the worldwide energy transition towards decarbonization. In the past decades, many governments introduced incentive policies resulting in a large diffusion PV system and in the sharp reduction of the levelized cost of energy (LCOE) for PV technologies. Nowadays, the return of the investment for a PV system mainly relies on selling the energy produced during its lifetime; therefore, reliability, safety and maintenance to maintain an adequate level of performance are crucial aspects for PV systems. Failure or degradation of any component of a PV system strongly affects the performance of the whole system. Therefore, continuous monitoring and diagnostics of PV systems are fundamental tools for preventive and predictive maintenance.

This special session aims to bring together researchers, practitioners, and industry experts to discuss cutting-edge developments in monitoring, fault detection, fault, degradation identification and parameter estimation of PV systems.

TOPICS OF INTEREST

We invite original contributions, but not limited to, the following topics:

- Advanced methods for monitoring PV systems.
- Advanced methods for fault detection and fault identification in PV systems.
- Advanced methods for PV system state-of-health evaluation.
- Degradation and failure mechanisms in PV systems.
- Embedded systems and edge computing for real time diagnostic and fault detection.
- Parameters identification of PV modules and PV systems for diagnostic purposes.
- Identification of mismatch in PV generators.
- Protection schemes for PV systems.
- Forecasting techniques for preventive maintenance of PV systems.

Join us in exploring the bright future of PV systems and contributing to advancements that power a sustainable tomorrow!