

Review of Phasor Measurement Unit-Based Fault Detection Techniques

Dnyaneshwar Shivaji Waghmode¹ and Dr. Nitesh Kumar Dixit²

¹Research Scholar, Department of Electrical Engineering

²Research Guide, Department of Electrical Engineering
Sunrise University, Alwar, Rajasthan

Abstract: *The evolution of power systems toward smart grids has increased the demand for fast, accurate, and wide-area fault detection techniques. Phasor Measurement Units enabled by Global Positioning System time synchronization, provide high-resolution, time-synchronized measurements of voltage and current phasors across the power network. These capabilities make PMUs highly suitable for fault detection, localization, and system monitoring. This review paper examines PMU-based fault detection techniques, discussing their principles, methodologies, applications, advantages, and limitations in modern power systems.*

Keywords: Machine Learning, Power System Protection, Synchronized Phasors