

Visualization of Relay Protection Actions



Overview

This paper presents an improved method for post-mortem analysis of relay response to disturbances from DFR data. Specifically, a visualization application for the operation of protective relays using digital fault recorder data is presented. Browser-based tools for first-pass event review, overcurrent coordination, directional logic, phasor interpretation, Fortescue component analysis, and more, built for studies, fault analysis, technical explanation, and training. Open COMTRADE Waveform, timing, phasors, cursors. Traditionally, a two-step procedure is applied to minimize. To ensure that protective relays, circuit breakers, and other protection devices correctly and selectively isolate faults, minimizing damage to equipment and interruptions to customers while maintaining system stability. One-line diagrams and detailed network data (lines, transformers, buses).



Article Content

Feb 24, 2026

Research on the analysis method of power system relay protection ...

The experimental results show that this method can effectively analyze the operation characteristics of power system relay protection, and can accurately check whether the relay ...

Sep 29, 2025

Visualization and Animation of Protective Relay Operation from ...

Specifically, a visualization application for the operation of protective relays using digital fault recorder data is presented. The visualization is implemented with animated display objects attached on a ...

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A Relay Protection Measurement Platform Based on Modularization ...

In order to improve the research and development efficiency of relay protection devices, simplify project processes, and enhance the customization and reusability of functions, this paper proposes a relay ...

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Visualization and Animation of Protective Relay Operation

An important issue in power engineering is the understanding of protective relay operation and response to system disturbances. This paper focuses on protective relaying applications and the use of a ...

Oct 12, 2025

The Interactive Relay Protection Reference | Tools, Learning, and ...

This platform is designed to make relay protection concepts easier to inspect, test, and communicate. It brings together interactive tools, guided learning modules, and engineering notes so users can move ...

Dec 04, 2025

Power System Protection & Relay Coordination Studies

To ensure that protective relays, circuit breakers, and other protection devices correctly and selectively isolate faults, minimizing damage to equipment and interruptions to customers while maintaining ...

Dec 25, 2025

(PDF) Visualization of protection relay functions

Protection relays are part of electricity generation and transfer networks, which help the network to deal with faults. Modern protection relays have tens of protection functions, which...

Jul 15, 2026

A Virtual Environment for Protective Relaying Evaluation and ...

This paper focuses on using this property for animation and visualization of protective relays. We first present the organization of the virtual test bed and then focus on the animation and visualization of ...

Jan 03, 2026

A Virtual Environment for Protective Relaying Evaluation and Testing

The virtual test bed integrates simulation and visualization for enhanced protective relaying analysis. Two examples of animation demonstrate a modified mho relay and a transformer differential relay. ...

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Operation monitoring platform of relay protection equipment at ...

Through the analysis of the internal protection principle of overcurrent relay and the establishment of the hybrid automaton model of overcurrent relay, the action behavior of overcurrent ...

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