

Preview

This paper analyzes in detail the application of big data technology in power system relay protection, and emphasizes its importance in improving the stability and reliability of power system. It involves the use of protective devices, such as relays and circuit breakers, to detect and isolate faults that may. Due to the continuous expansion of power grid scale, the increasing operation life of equipment, and the continuous improvement of professional management requirements, all kinds of data of relay protection show the characteristics of variety and large quantity. Accordingly, the big data technology. Voltage source converters (VSC)-HVDC can realize the independent control of active and reactive power, transmit power to the passive network, and connect the electric energy generated by small and scattered renewable energy sources more economically. For the power transmission, large grids are interconnected, which makes them vulnerable to various types of disturbances and failures. Relay protection (RP) is one of the key components of ensuring the safety of electric power systems, performing the function of rapid detection and shutdown of their d the growing introduction of renewable. This paper presents development of an expert system based automated analysis solution, which performs validation and diagnosis of digital protective relay operation in great detail by analyzing data contained in various relay reports and files. In the system, forward chaining reasoning is used to.

This project aims to combine artificial intelligence theories and methods such as deep learning, machine learning, and data mining to study a new type of fault diagnosis and relay

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Artificial intelligence (AI) technology has many advantages in feature extraction, identification, big data processing and so on. It can make outstanding performance in modern power

To address the high complexity and diversity of faults in relay protection devices, as well as the challenges in fault feature extraction that affect fault identification accuracy, an adaptive

Based on big data platform of relay protection statistics analysis module, the evaluation and application of relay protection and safety automation equipment ad

Relay protection big data creates good conditions for the improvement of professional applications, and data integrity is an important aspect that reflects data quality. The association of

A complete big data platform will provide a basic framework for the relay protection professional data storage, flexible processing, association sharing, high-speed computing, thus providing algorithms

This paper firstly discusses the new form of power grid development, then analyzes some problems of relay protection under the new form of power grid, and finally focuses on the application of AI in relay

In this paper we study a simple model based on adding two Weibull survival functions. Some simplifications of the model are also presented. The graphical estimation technique based on

In this respect, the study provides a significant application example demonstrating the usability of digital protection relays in both field applications and technical training environments.

The actual fault situation of the relay protection is complicated, and the existing diagnosis knowledge organized according to isolated cases is difficult to directly guide the on-site application.

By leveraging Big Data Analytics, engineers can develop adaptive protection strategies that dynamically adjust relay settings based on real-time data. This ensures optimized protection

In the future, artificial intelligence and big data technologies will drive the deep development of adaptive relay protection.

Based on the test system, the protection performances by the ordinary relay protection strategy and the proposed local detection and local

The paper summarizes the operating principles of relay applications, the available measurements used by relays and the protection schemes for various faults that occur frequently in

The implementation of digital normative and technical documents (DNTD) in the electric power industry, especially in the field of relay protection (RP), significantly increases the efficiency of design and

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