Analysis of Cable Joint Faults in Distribution Boxes

Medium-voltage (MV) cable joints (CJs) are critical components in power distribution networks, ensuring the seamless transmission of electrical energy to consumers.

This paper provides theoretical and modeling support for the fault identification of 10 kV cable joints, filling the knowledge gap of this critical fault type in relay protection.

This research will be conducted to improve reliability and longevity of medium voltage cable joints by reviewing good practices of all steps in cable jointing processer.

Based on the above methods, this paper proposes a research method for cable fault warning in distribution networks that combines data and models.

This research reveals the strong influence of contact resistance and water tree defect on cable joints, quantifying the resulting hazards like loss increase, temperature rise and electric field ...

The fabrication of intermediate joints for distribution cables involves complex processes and special materials, during which various defects may occur. If these defects are not detected in time, they can ...

This paper conducts an analysis of two incidents of breakdown and explosion in 220 kV integral prefabricated cable joints that occurred on the same cable circuit. Initially, the short-circuit ...

Often cable updates are part of a large program update so a failed cable could indicate larger system concerns. Second, there are suggestions aimed at internal modifications that can prevent these ...

To investigate the impacts of different defects on electrical field ...

To investigate the impacts of different defects on electrical field distribution in cable joints, equivalent models of 110 kV cable joints with needle damage, impurity defect and scratch in ...

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