

自动化

## 一种实用的配电网短路故障定位方法

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摘要

结合我国配电网的实际情况, 提出一种能够确定配电网故障点确切位置的实用算法, 该算法通过提取故障后负荷电流及电压的正序、负序和零序分量, 并考虑故障前后线路电流的变化量, 建立了故障前后线路电压电流的线性方程组, 联立求解得出故障点距离。该算法适用于中性点经低电阻接地或不直接接地系统的各种短路故障的定位, 并可实现故障的自动在线检测。

关键词

[配电网](#); [故障定位](#); [相间短路](#); [单相接地](#)

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## A Practical Method to Locate Short Circuit Faults in Distribution Network

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Abstract

According to practical condition of distribution networks in China, a practicable algorithm that can find out exact position of faulty point in distribution network is proposed. By means of extracting positive-, negative- and zero-sequence components of both post-fault load current and voltage as well as considering the variation of line current before and after the fault, a set of linear equations of voltages and currents in distribution network before and after the fault is built, and the position of faulty point can be obtained by solving the equation set. The proposed algorithm is suitable to the location of various short-circuit faults occurred in distribution networks with neutral grounding via low resistance or that with neutral indirectly grounded, and the automatic online fault detection can be implemented by use of the proposed algorithm.

Key words

[distribution network](#); [fault location](#); [inter-phase short circuit](#); [single-phase earth fault](#)

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