



配电网故障区间判断的改进型矩阵算法

余畅¹, 刘皓明²

摘要: 在馈线终端单元 (FTU) 装置中设置三种工作模式, 在此基础上提出一种分区判断故障的改进型矩阵算法。首先采用分区思想以常开型联络开关为界将配电网分成许多小区, 根据故障信息粗略判断出发生故障的小区。针对发生故障的小区形成网络描述矩阵, 根据不同工作模式下的故障信息对网络描述矩阵进行修正形成故障判断矩阵, 根据故障判断矩阵中的元素特征就可判断故障发生区间。仿真结果表明此算法判断正确, 没有产生漏判现象。

关键词: 配电网络; 馈线自动化; 故障定位; 故障小区; 故障判断矩阵

Improved Matrix Algorithm for Fault Section Detection in Distribution System

YU Chang¹, LIU Haoming²

Abstract: An improved matrix algorithm is presented for fault section detection based on three kinds of work patterns in FTU. The distribution network is first divided into many small areas by open switch, and then the small area which has fault can be roughly detected according to the fault information. A network description matrix of the fault area is formed and corrected based on the fault information from different work patterns. Finally a fault judgment matrix can be obtained, from which the exact fault section can be detected. The proposed algorithm is computationally efficient and capable of detecting feeder terminal fault, circle net fault as well as multi source multi fault, which can not be solved simultaneously in other algorithms.

Key words: distribution network; feeder automation; fault location; small fault area; fault judge matrix

[点击此处下载](#)

[关闭窗口](#)