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论文

配电系统电压跌落源定位新方法

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摘要:

定义阻抗可由干扰引起的电压电流增量计算得到,其实部符号可表明干扰源在测试点上游还是下游:定义阻抗的实部符号为正时说明干扰源在监测点上游;为负时说明干扰源在监测点下游. 基于定义阻抗提出了一种定位电压跌落源的新方法. 为解决使用同一周期的数据可能得到相反结论的问题,利用多个周期的数据,并通过最小二乘法进行数据处理,以提高该定位方法的精确度. 仿真实验的结果均验证了该方法的有效性

关键词: 电能质量;电压跌落;电压跌落源定位;最小二乘法;定义阻抗

A new detecting method for the voltage sag source in a distribution system

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Abstract:

Calculating the increments of the voltage and current caused by disturbance can get the defined impedance. The sign of the real part of the defined impedance can reveal if the disturbance is from upstream or downstream. A positive sign showed that the source of sag was upstream, and the negativesign showed that the source of sag was downstream. A new and effective detecting method for the voltage sag source was proposed based on the defined impedance. In order to solve the problem that using a single during an event cycle could yieldunreliable results,the data of multiple cycles were processed by using the least squares method. Simulation results showed that this method was effective.

Keywords: power quality; voltage sag; voltage sag source detection; least squares method; defined impedance

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