电力系统

基于参数辨识方法的谐波源定位

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摘要：

根据非线性负荷产生谐波的特点，建立了负荷时域等值模型。在系统侧和用户侧负荷参数未知的情况下，利用公共耦合点上电压、电流的物理关系，采用以参数辨识方法跟踪辨识负荷阻抗，确定谐波源，同时引入量化的电流非线性度来划分各负荷的谐波责任。仿真结果表明，该方法简单可行，不受背景谐波影响。

关键词： 谐波源　参数辨识　非线性度

Harmonic Source Localization Based on Parameter Identification

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Abstract:

In allusion to the feature that non-linear load leads to haomonics, an equivalent load model in time domain is built. Under unknown load parameters at system side and consumer side, by use of physical relation between voltage and current at the point of common coupling (PCC) the load impedance is traced and identified by parameter indetification to locate harmonic source, meanwhile the quantized nonlinearity of current is led in to decide the responsibility to be borne by each consumer for the deterioration of power quality caused by harmonics. Simulation results show that the proposed method is simple and feasible and is not influenced by background harmonics.

Keywords: harmonic source　parameter identification　nonlinearity

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