

## 电力系统

### 基于时频原子方法的电压闪变检测方法

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#### 摘要:

提出了一种基于时频原子方法的电压闪变检测方法。该方法将电压闪变信号通过匹配追踪的方式分解成一系列时频原子, 其中每一个原子都来自于冗余的时频原子库, 选择的原子可以最好地匹配信号结构。通过对所选原子的频率参数进行取舍, 从而达到低通滤波的目的。由于该方法中不含有卷积运算, 因此避免了边界效应。仿真结果表明, 该方法不仅能够对电压闪变信号进行不失真地包络检波, 而且能避免传统滤波带来的边界效应。

#### 关键词:

### A Method to Detect Voltage Flicker Based on Time-Frequency Atom Method

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#### Abstract:

A new time-frequency atom-based method to detect voltage flicker is proposed. By means of matching pursuit, the voltage flicker signal is divided into a series of time-frequency atoms in which each atom is from redundant time-frequency atom dictionary and the chosen atoms can match to the signal structure. The frequency parameters of the chosen atoms are accepted or rejected to achieve the aim of low-pass filtering. There is no convolution operation in the proposed method, so the boundary effect can be avoided. Simulation results show that by use of the proposed method, not only undistorted envelope detection can be implemented, but also the boundary effect brought about by traditional filtering can be avoided.

#### Keywords:

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