

电力系统

基于模糊理论和层次分析法的电力系统电压态势预警等级综合评估

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摘要

文中将层次分析法和模糊理论相结合, 首先通过层次分析法得到电压态势评估的初步权重; 再对该权重进行修正, 得到综合权重, 增强其客观性; 最后运用模糊综合评判对电压态势预警等级进行综合评估, 从而得到电力系统的电压态势等级。实例分析表明, 该方法有利于区分电压态势的等级及对电压态势进行定性和定量评估。

关键词

[电力系统](#); [电压态势](#); [层次分析法](#); [模糊方法](#); [综合评估](#)

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Comprehensive Evaluation of Forewarning Grade of Voltage State and Tendency in Power Systems Based on Fuzzy Theory and Analytic Hierarchy Process

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Abstract

In order to master the voltage state and tendency (VST) in time and accurately to ensure secure and stable operation of power system, at first by means of analytical hierarchy process (AHP) the subjective weight of VST evaluation is obtained; then the obtained weight is revised to get integrated weight and enhance its objectivity; finally, by use of fuzzy comprehensive judgment the forewarning grade of VST is comprehensively evaluated, thus the VST grade of power system is gained. Practical case study shows that the proposed method is propitious to distinguish the grades of VST and to carry out qualitative and quantitative evaluation of VST.

Key words

[power system](#); [voltage state and tendency \(VST\)](#); [analytic hierarchy process \(AHP\)](#); [fuzzy method](#); [synthetic evaluation](#)

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