

不同负荷模型对湖南电网暂态稳定水平的影响

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摘要

负荷模型是影响电网稳定分析结果的一个重要因素。湖南电力系统负荷特性研究后的综合负荷模型与传统负荷模型有相同的感应电动机比例及恒定阻抗比例, 但感应电动机定子漏抗较小。利用电力系统综合分析程序和基于负荷特性研究后的负荷模型分析了湘鄂联络线的暂态输送能力、不同负荷水平下湘中负荷中心的暂态稳定水平; 并与基于传统负荷模型的湖南电网暂态稳定水平进行了比较。结果表明, 使用负荷特性研究后的负荷模型时, 湖南电网暂态稳定水平得到了明显提高。

关键词 [湖南电网](#); [负荷模型](#); [输送能力](#); [暂态稳定](#); [定子漏抗](#)

分类号

Influence of Different Load Models on Transient Stability Level of Hunan Power Grid

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Abstract

Load model is an important factor that influences the stability analysis of power grid. The synthesis load model of Hunan Power Grid based on the research of load characteristics possesses the same proportions of induction motor and constant impedance as those in conventional load model, but in synthesis load model the stator leakage reactance of induction motor is smaller. By use of power system analysis software package (PSASP) and the load model based on the research of load characteristics the transient transport capacity of the tie-line connecting Hunan Power Grid with Hubei Power Grid as well as the transient stability level of load center located in central Hunan Power Grid under different load levels are analyzed; the obtained results are compared with those based on conventional load model. Comparison results show that the transient stability level of Hunan Power Grid is evidently improved while the load model based on the research of load characteristics is adopted.

Key words [Hunan power grid](#); [load model](#); [transport capacity](#); [transient stability](#); [stator leakage reactance](#)

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