

特高压半波长输电系列论文

特高压半波长交流输电系统经济性与可靠性评估

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摘要:

结合特高压交直流输电技术经济性方面的最新研究成果, 采用最小年费用法对特高压半波长交流输电系统和±800 kV特高压直流输电系统2种输电方案的经济性进行方案比较和敏感性分析, 给出了特高压半波长交流输电系统的临界经济输送功率和附加控制费用上限, 并对特高压半波长交流输电系统和±1 000 kV特高压直流输电系统的输电经济性进行了比较。运用可靠性评估方法对特高压半波长交流输电系统和±800 kV特高压直流输电系统2种输电方案进行了定性和定量的可靠性评估。

关键词: 特高压; 半波长交流输电; 直流输电; 经济性; 可靠性 UHV half-wavelength AC transmission (HWACT) DC transmission economy reliability

Economic Analysis and Reliability Assessment of UHV Half-wavelength AC Transmission

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Abstract:

Combining with the latest research finding in the technology and economy of UHV AC/DC power transmission, using minimum annual cost method the economy of two kinds of power transmission systems, i.e., UHV half-wavelength AC transmission (UHV HWACT) system and ±800 kV DC power transmission system, are researched by multi scheme comparison and sensibility analysis. The critical economic transmission capacity of UHV HWACT and upper limit of additional control cost are given, and the transmission economy of UHV HWACT and that of ±1 000 kV DC transmission are compared. By use of reliability assessment, quantitative and qualitative reliability assessment of the two transmission schemes are performed.

Keywords: UHV half-wavelength AC transmission (HWACT) DC transmission economy reliability

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