



超、特高压输电线路高频参数计算方法

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摘要：通过考虑线路趋肤效应、有损大地、地线以及分裂导线的影响所建立的计算方法，可以准确地计算超、特高压输电线路高频参数。结果显示：在频率低于10 kHz时线路内阻抗随频率的上升增加很快；在频率较低时土壤电阻率对导体自阻抗和内阻抗的影响程度较大；与不考虑趋肤效应相比，特高压酒杯塔在考虑趋肤效应时计算得到的0.1 MHz下的无限电干扰值要小大约3 dB；1.5 MHz以下特高压单回输电线路对短波测向台（站）的防护间距在考虑趋肤效应计算得到的要小约300 m。

关键词：输电线路；高频参数；多分裂；趋肤效应

The Calculation Method for High-Frequency Parameters of EHV/UHV Transmission Lines

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Abstract: The high-frequency parameters of EHV/UHV transmission lines can be accurately calculated by taking into account the factors of skin effect, lossy ground, overhead shielding lines and bundles. The research shows that the inner reactance of transmission lines increases rapidly as the frequency gets higher in the scope of lower than 10 kHz. For low frequency, the self reactance and the inner reactance of the conductor are seriously influenced by the soil resistivity. In comparison to the case without considering skin effect, the radio interference of the lines on wine-cup towers at 0.1 MHz frequency is about 3 dB smaller than that with skin effect while at 1.5 MHz frequency the protective distance between the single-circuit UHV transmission line and the short wave direction finder unit is about 300 m smaller than that with skin effect.

Key words: power transmission line; paramters of high-frequency; bundling; skin effect

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