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IMPULSE CHARACTERISTICS OF THE TYPICAL CONFIGURATIONS OF GROUNDING DEVICES FOR TOWERS OF 110 KV OVERHEAD LINES

ABSTRACT

Two families of grounding devices for 110 kV transmission towers usually used and still using in Macedonia and Former Yugoslavia, and their resistance to ground for 50 Hz current, when buried in homogenous soil, are presented in this paper. Using some empiric relations, obtained by regression analysis of the results of laboratory investigations on models in [3], impulse coefficients of different tower grounding devices are calculated for different magnitudes of the impulse lighting current and different specific resistance of the ground in the range from 100 up to 5000 $\Omega \cdot m$. Effects of different relevant parameters on impulse grounding resistance, impulse coefficients and probability of flashover are discussed also.

Keywords: grounding, overhead lines, impulse coefficients, probability, flashover.