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DISTRIBUTION OF LINE-TO-GROUND FAULT CURRENTS IN GROUNDING SYSTEM OF OVERHEAD LINES

ABSTRACT

A model for short circuit current analysis during line to ground fault at arbitrary location along a transmission line is presented in the paper. It uses data for single and three phase short circuit currents obtained by means of common computer programs for short circuit analysis. Furthermore, exact model for the transmission line grounding system, taking into acount all mutual couplings between conductors and ground wires, real spans and real tower resistances to ground, is also presented. It enables calculation of the potentials and currents in the grounding system under line to ground fault conditions.

Keywords: Short circuit currents, grounding systems, fault currents flow.