

Computer simulation of the complex damage types of multiphase higher voltage electrical transmission lines by using the method of six symmetrical components

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Abstract. In the article, based on the decomposition of the nonsymmetric system of the "m" -vectors of voltages and currents of a multiphase higher voltage electrical transmission lines at the various damages in to "m"-systems of symmetrical components, modelling complex damage types: phase breaks and short circuits, are done. On the example of a six-phase transmission line, the main formulas for calculating of complex damage types and corresponding substitution schemes for their simulation on the computer in the MATHLAB system are presented. To confirm the reliability of developed method, are calculated and modeling the complex damages for usual used double-circuit higher voltage electrical transmisssion line, using the both methods: three and six simmetrical components, regarding the double-circuit higher voltage electrical transmission line as six-phase line.

Keywords: multiphase higher voltage electrical transmission lines, complex damages, six phase simmetrical component, substitution schemes, computer modeling.

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