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SIMULATION OF THE TRANSFORMATIVE ELEMENTS WITH SECTIONING OF THE WINDINGS AS PART OF AC VOLTAGE SOURCE CONVERTERS

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Abstract

Transformative elements with sectioning of the windings, which are components of transformer-and-switches executive structures (TSES) of AC voltage source converters, differ in multivariance of connections of simultaneously working sections and their current load. In order to take into account and use this fact to improve the weight and size of these components multiphysics modeling of TSES has been conducted. The method of calculation of such transformative elements has been proved and developed. Several options for increasing the specific power of auto-transformer with three winding sections have been proposed. References 9, figures 6, tables 3.

Key words: transformer-and-switches executive structure, transformative elements, sectioning of the windings, electrical and thermal processes, specific power, the method of calculation.

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