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DETERMINATION OF THE INFLUENCE OF CHANGES IN THE LIMITS OF THE INPUT VOLTAGE RANGE ON THE POWER OF A TRANSFORMER ELEMENT OF A VOLTAGE STABILIZER WITH A TRANSFORMER-AND-SWITCHES EXECUTIVE STRUCTURE

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Abstract

In the transformer-and-switches executive structure (TSES) selected for the AC voltage stabilizer, a transforming element (TE), which has a sectioned winding, it is possible, if necessary, to change the array of transmission coefficients as necessary by means of a certain reconfiguration. The need for this may be due in particular to the variation of the boundaries of a given range of changes in the input voltage of the stabilizer. In the work, the influence of such variation on the installed capacity of the transforming element of the TSES is investigated and the possibility of increasing the efficiency of using TE while maintaining its thermal state within pre-determined (predetermined) limits is substantiated. This allows you to either choose a smaller size of the TE core or increase the allowable power of the load. References 15, figure 5, tables 3.

Key words: transformer-and-switches executive, discrete smart transformer, tap changing transformer, voltage stabilizer, voltage stabilizer, AC voltage converter, partitioned winding, thermal processes.

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