

Calculation of transformer cast resonant insulation temperature during ferroresonant processes.

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The cases of damage of dry-type transformers associated with melting of the cast resin insulation of their windings, smoke formation and triggering of fire alarms, became the reason for investigation of the reasons of such accidents. To analyze the electromagnetic processes in the electric grid and the thermal processes in the transformer, computer models of this type of transformer were developed, which allow to calculate the ferroresonant processes in distribution networks and to determine their influence on the heating of the transformer insulation. Based on the studies of the processes in cast resin transformers, it was found that some emergency modes can lead to a significant increase in currents in the windings and, as a consequence, to thermal damage to the insulation.

Key words: computer simulation, cast-insulated transformer, heating, ferroresonance.