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Abstract

The formation of hotspots in the power transformers is one of the major threats for the life of the transformer. Therefore, the hot spot temperature value is an important parameter governing the life expectancy of a power transformer. This paper presents an approach to estimate and locate the hotspot accurately by considering the losses distributed across the transformer geometry. The distributed equivalent electrical circuit based on the thermal electrical analogy, is developed for a 50 kVA transformer. The results are also compared with the classical approach of estimating the hot spot temperature.

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Index Terms

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Keywords

Distributed losses FEM Hotspots Thermal electrical analogy Temperature profile Thermal model.