

البحث رقم (5)

Effects of VA rating on the fault diagnosis of power transformer using SFRA test		عنوان البحث :
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		ملخص البحث
The electric power transformer is an essential part of an electrical power system since it is used to step up or down voltage levels to maintain the system performance as well as possible. Frequency response analysis (FRA) is one of the most widely used techniques for detecting various types of mechanical damage in transformers. The equivalent circuit of the transformer will be represented by a complex network of R, L, and C elements in the FRA technique. For transformer faults diagnosis, various calculation techniques and diagnostic techniques may be used, such as acoustic emission analysis, thermal images of electromagnetic radiation, transformer temperature, and humidity analysis. SFRA test is one of these techniques that could be used to determine the fault type based on its response over a wide frequency range. The main challenge of the SFRA test is that the functional interpretation requirement for this test is not universally accepted Also statistical features are defined for this SFRA response to be used in fault detection and classification. In this paper, the effect of the transformer rating on the fault diagnosis techniques using SFRA is tested. Also, the effect of the transformer VA rating on the statistical parameters and the classification rules of fault diagnosis is discussed. Finally, the features used in fault diagnosis are ranked according to its independence of the transformer rating resulting in a more accurate matching fault diagnosis technique.		