A Novel ANFIS based Algorithm for Fault Detection in Power Transformers

Abstract

Power Transformers are important parts of the power distribution network, used to change voltages level for transmission between sub stations and electricity consumers. Power Transformers are prone to failure due to general ageing of parts, which can lead to high replacement costs. It not only interrupts the supply of electricity, but can cause explosion and potentially halting the power network. Dissolved Gas Analysis (DGA) is a reliable technique for detecting the presence of incipient fault conditions in oil immersed transformers in which the presence of certain key gases is monitored. In this paper a novel algorithm based on ANFIS (Adaptive Neural And Fuzzy Inference System) using different fuzzy membership function is proposed and it is validated on DGA data obtained from PSTCL (Punjab State Transmission Corporation Ltd.) located at Patiala & Ludhiana. The key gases considered are hydrogen, methane, ethane, ethylene, acetylene..

References
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Index Terms

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