

# **INTELLIGENT MONITORING OF BUSHINGS IN AN ELECTRICAL TRANSFORMER**

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## **ABSTRACT**

This paper introduces the new intelligence technology in the transformer fault diagnosis i.e. to monitor the bushings and inform the control room if the bushings are faulty mainly due to partial break down. This results in the change in capacitance and the partial discharges in the setup. The effect of partial break down with high voltage can be very dangerous, ultimately leading to complete failure.

We make use of Partial discharge signals that can be detected by the UHF sensor. The electrical sensors are used to detect the change in capacitance. The sensors can be either mounted inside the insulation or outside the bushings and are controlled by intelligent functions.

The sensor pulses are digitized, analyzed and processed in order to generate an appropriate data output, supervisory control and data acquisition alarm. The intelligent system detects the fault in the bushes with the help of intelligent sensors and notifies the engineers about the fault in the bushing. Hidden faults achieve the possibility and accuracy of primary diagnosis when this method of diagnosis is applied.

**KEYWORDS:** Bushing, Sensors, Transformer, Fault Sensing, Uhf Sensor. Electric Sensor