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Investigation of model transformer insulation behavior during PD activity in Di-Benzo-Di-Sulfide Sulphur contaminated transformer oil using online tanδ measurement

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Sulphur can be present in mineral insulating oil and can manifest in stable, highly reactive and corrosive form. The corrosive sulphur reacts with the copper conductor in transformer and forms semi conductive copper sulphide at the surface of the copper conductor. The paper insulation used on the copper conductor may get damaged due to copper sulfide deposits which also affect the partial discharge activities prevalent in the transformer paper-oil insulation. The affect of Sulphur on model transformer paper-oil insulation is studied with online measurement of Dissipation factor (tanδ) and partial discharges (PD). The paper presents results of the investigatory work carried out with on-line tanδ and PD measurements made during experiments with Paper covered copper conductor (PCCC) in presence of Di-Benzo-Di-Sulfide contamination in transformer oil.

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