STUDY OF TRANSFORMER AND MOTOR WINDING UNDER PULSED POWER APPLICATION

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ABSTRACT:

Pulsed Power in the form of Recurrent Surge Generator (RSG) can be used for testing various parameters of Motor or Transformer windings including inter turn, interlayer insulation and many other winding defects. In motor and dry type transformers insulation has many interfaces and undesirable defects and these defects can be exposed under this non destructive testing methodology.

With the development of power electronics, variable frequency drives (VFD), Dry Type or cast resin Transformers used with PWM Sine wave inverters for solar power are being widely used. Solid insulation system used nowadays are shifting more and more to high frequency applications. To probe the integrity of the Electrical insulation system as well as winding defects we have used the recurrent surge generator for testing winding integrity as well as Partial Discharge(PD) at fast rising voltage enabling PD measurement at closer situation under which the insulation system is supposed to work. We have discussed test results on different system with recurrent surge voltages of different rise time.

Key words:

Fast Rising Voltage, Partial Discharge, Pulsed Power, Recurrent Surge Generator, Solid Insulation.

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