A new methodology of fault location for predictive maintenance of transmission lines

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Abstract-

This paper presents a new methodology for monitoring, in real-time, the conditions of the insulation of an power transmission line, detecting and locating anomalies in its operation, before the supply of power is interrupted, thus allowing for preventive maintenance. This method uses the harmonic decomposition of the leakage current to analyze the condition of line insulation and employs a neural network to locate the fault. Experimental measurements were obtained to validate the simulated results.

Index Terms- Fault location, harmonic decomposition, leakage current, transmission line, artificial neural networks