

Simulation, Analytical and Experimental Investigation of Power Distribution Across Step-Up Auto-Transformer Under Linear Loading Conditions

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Abstract— This paper presents determining the actual values of the effective resistance and reactance components of a single phase auto-transformers, the measured values of voltages and currents were used for the calculation of R and X components for fundamental frequency of the system. The obtained values are simulated in the PSpice environment and then how the currents, voltages and power are distributed between them is explained based on calculations.

Index Terms— Autotransformer modeling, Autotransformer simulation, Step-up autotransformer, Polarity

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