Abstract

This paper deals with the capacitive VAr requirements of single-phase two winding self-excited induction generators used in wind energy conversion. To predict the capacitance requirement a simple and generalized mathematical model is developed using nodal admittance method. The proposed model completely eliminates the major mathematical effort followed so far. The steady-state performance analysis of single-phase two winding self-excited induction generator for different regulating criteria such as constant terminal voltage or constant air gap flux is carried out using genetic algorithm. Results are presented in normalized form so that they are valid for a wide range of machines and would be useful for the design of voltage regulators for such generators.

References

Capacitive Var Requirements of Single-Phase Two Winding Self-Excited Induction Generators for Desired Voltage Regulation


Index Terms

Computer Science  Artificial Intelligence
Keywords
Genetic Algorithm  Induction Generator  And Steady-state Analysis