

Abstract

Ahmed Mohamed Ahmed Hebala

A Comparative Study of Winding Configuration Effect on the Performance of Low Speed PMSG Using FEM

This paper presents a comparative study of the effect of three different winding configurations on the performance of permanent magnet synchronous generators (PMSG). Three generator models with the same outer radius and stack length, and different winding configurations are simulated using Finite element method (FEM) software the configurations are the long pitched, short the pitched distributed winding and the concentrated winding. The performance of the models is compared. The results show a better performance of concentrated winding over the traditional distributed windings in terms of efficiency and power to weight ratio.