

HIGH SPEED 8/6 CLOSED LOOP CONTROL OF SWITCH RELUCTANCE MOTOR POWERED BY SOLAR PHOTOVOLTAICS

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ABSTRACT

The High Speed 8/6 Switched Reluctance Motor (SRM) is a member of machine family. The motor's simple construction, ruggedness and inexpensive manufacturability makes more attractive for industrial applications. The advantages of High Speed 8/6 Switched Reluctance Motor (SRM) are highly reliable, good performance and reduce the maintenance. The absence of windings in rotor and permanent magnets stretches probability to attain very high speeds and turned High Speed 8/6 Switched Reluctance Motor (SRM) into perfect solution for operation in hard conditions like presence of vibration or impact. In this paper a detailed analysis and modelling of three different types of converters used in with the four phase High Speed 8/6 Switched Reluctance Motor (SRM). These converts are R-Dump, Asymmetric and Bifilar type. Finally High Speed 8/6 Closed Loop Control of Switch Reluctance Motor Powered by Solar Photovoltaic's proposed in this paper. PI controller is used in closed loop and the simulation results are presented by using Matlab / Simulink platform.

KEYWORDS: *High Speed 8/6 Switched Reluctance Motor (SRM), Converters, R-Dump, Asymmetric, Bifilar, PI Controller*