

NEURAL NETWORK BASED TORQUE CONTROL OF SWITCHED RELUCTANCE MOTOR FOR HYBRID ELECTRICAL VEHICLES

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ABSTRACT

The switched reluctance motor (SRM) is a simple, low-cost, and robust motor suitable for variable-speed as well as servo type applications. With relatively simple converter and control requirements, the SRM is gaining an increasing attention in the drive industry. The SRM is known to be highly cost-effective and reliable due to its simple structure and the unidirectional operation of its converter. A number of power electronic converter topologies have been developed over the years exclusively for use in conjunction with SRM drives. In principle, the quest has always been for a converter with a minimum number of switches. In this proposed method, torque ripple of an SRM Drive system has been controlled with the help of Neural Network based PID controller. And also the comparison of results is made between with and without PID controller.

KEYWORDS: SRM Characteristics, Neural Network PID Controller, Back Propagation Neural Network, Power Converter, Simulink Model