

David Saltiveri, Antoni Arias, Greg Asher, Mark Sumner, Pat Wheeler, Lee Empringham, Cesar Silva

This paper investigates the influence of the power converter on the performance of Surface Mounted Permanent Magnet Synchronous Motor drives, which employ High Frequency voltage injection to achieve low and zero speed control. Experimental results demonstrate the remarkable performance of the sensor less speed and position control employing the Matrix Converter and the contributions of the Space Modulation Profiling technique.

The Matrix Converter has almost zero dead time, which means that behaves almost like an ideal power converter and achieves better results than the conventional Voltage Source Inverter. A comparison of the sensor less technique proposed using both converters is made.



[Download full text](#)