# Implementation and Design of a Permanent Magnet Synchronous Motor Driver


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**ABSTRACT**

In this paper, a permanent magnet synchronous motor drive system is implemented. Encoder rather then Hall elements are used for rotor position detection. The control is performed using Microchip ’s product digital signal controller (DSC) chip dsPIC30F4011. The prototype motor has been constructed using a 30W, 4000-rpm, 8-pole IPM Yaskawa motor. The test of the permanent magnet synchronous motor drive system are evaluated through experiments.



Keywords : Permanent magnet synchronous motor, Encoder, digital signal controller, dsPIC30F4011


**Table of Contents**



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