

Project title:

*Advanced observer for open loop
control of Surface Mounted PMSM*

Abstract

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Front Page Diagram :

Sensorless FOC for PMSM
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The purpose of the project was to develop a Sensorless control algorithm for accurate speed and position estimation of Surface Mounted Permanent Magnet Motor, at zero and low speeds.

After reviewing fundamental sensorless control principles for PM motors, two sensorless schemes have been developed in Simulink.

Simulation results performed for a given PM machine parameters show the effectiveness of the proposed schemes.

Further results obtained at various operating conditions of the machine allow highlighting one of the proposed algorithms as featuring good performance.

The modeling results prove that it is possible to develop simples and advanced observers for zero and low speeds sensorless control of surface mounted permanent magnet motors, thought this machines are known as owning very limited saliency.