

# **Abstract**

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## **Detection of rotor position of permanent magnet synchronous motor**

This paper presents a new method for rotor position detection and speed estimation of permanent magnet synchronous machines. Information is obtained by monitoring controller signals to eliminate position and speed sensors. Drive system model is developed for free running machine and sensorless vector control operation then simulation is carried out to verify effectiveness of the proposed method. The method can reduce the system cost and improve the drive system reliability