Abstract

Switched Reluctance Motor (SRM) has simple and solid construction, low-cost, good reliability at high temperatures, and large torque density. Yet, the higher torque ripple from magnetic saliency is a severe problem. This paper experimentally verifies the performance of a switched reluctance motor, the integrated noise removal filter does not require any mathematical modeling of the noise and therefore, can be used effectively to control non-impulsive-type noise. An analysis with the noise and error commonly found in practical motor drives is given, it is shown using experimental results that the NRF scheme can cope well with erroneous and noisy feedback signal and interfacing STM-32 ARM processor.

References

Integrated Noise Removal Filter for Switched Reluctance Motor (SRM)

- Hanif, Tahersima1, Mohammadjafar, Kazem, Saleh, Mohammadhossein, Tahersima, Navid Hamedi1, "Optimization of Speed Control Algorithm to Achieve Minimum Torque Ripple for a Switched Reluctance Motor Drive via GA," 10. 1109/PESA. 2011. 5982954, Publication Year: 2011 IEEE, Page(s): 1 - 7

Index Terms

Computer Science

Fuzzy Systems

Keywords

Switched Reluctance Motor (SRM)  Noise Removal Filter (NRF)  Pulse Width Modulation (PWM)

STM-32 ARM Processor