# ABSTRAK

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Judul : Rancang Bangun Penggerak Elektronik Motor *Switched Reluctance* Berbasis Mikrokontroler Arduino Uno
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ABSTRAK

Pada skripsi ini dilakukan studi dan realisasi penggerak motor s*witched reluctance*. Studi ini bertujuan untuk mengatur kecepatan motor *switched reluctance* dengan 5 tahap kecepatan 20%, 40%, 60%, 80%, dan 90% dengan mengatur sinyal PWM (*Pulse Width Modulation*) pada optocoupler melalui mikrokontroler dan juga mengetahui bagaimana proses *switching* IGBT pada rangkaian daya. Kendali kecepatan motor *switched reluctance* dan urutan proses switching pada IGBT diatur menggunakan arduino UNO yang input kodingnya sesuai keinginan, menggunakan software arduino IDE. Pada duty cycle 20% motor *switched reluctance* belum berputar dikarenakan tegangan dan arus yang menyuplai belum cukup, pada duty cycle 40% SRM sudah berputar karena tegangan dan arus yang menyuplai motor *switched reluctance* sudah terpenuhi, jika duty cycle dinaikan lagi menjadi 60%, 80%, dan 90% maka kecepatan motor *switched reluctance* akan lebih cepat putarannya sesuai kenaikan presentase PWM.
Kata kunci:Motor *Switched Reluctance,* IGBT, *Optocoupler, Pulse Width Modulation*

*ABSTRACT*

*In this final project, the study and realization of switched reluctance motor drives were carried out. This study aims to regulate the speed of a switched reluctance motor with 5 stages of speed of 20%, 40%, 60%, 80%, and 90% by adjusting the PWM (Pulse Width Modulation) signal on the optocoupler via a microcontroller and also knowing how the IGBT switching process in the circuit power. The speed control of the switched reluctance motor and the sequence of the switching processes on the IGBT is set using the Arduino UNO, which input the coding as desired, using the Arduino IDE software. In the 20% duty cycle the switched reluctance motor has not yet rotated because the voltage and current that supply is not sufficient, at the 40% duty cycle the SRM has rotated because the voltage and current that supplies the switched reluctance motor has been met to make the switched reluctance motor rotate 187 RPM, when the percentage of duty cycle is increased to 60%, then the motor speed of switched reluctance is 878.8 RPM, when the percentage of duty cycle is increased to 80%, then the speed of the switched reluctance motor is 2003 RPM, and when the percentage of the duty cycle is increased to 90%, the speed of the switched reluctance motor is 2306 RPM.*
*Keywords:Switched Reluctance Motor, IGBT, Optocoupler, Pulse Width Modulation.*