

Dedication

**With much pleasure I wish
to dedicate this research
to my**

Father soul,

Mother,

Brother soul,

Sist

ers,

And friends

ACKNOWLEDGEMENT

I wish to express my thanks and gratitude to my supervisor Dr. Awadalla Taifor Ali for his help and guidance through several stages of this work. I am also grateful for the assistance of my colleagues and staff in the College of Electrical Engineering who supplied me with all the resources needed to complete this study .

Abstract

The Electric Motor System (EMS) is used widely in different industrial, agricultural and mining applications. However, the speed of the DC electric system is a very vital factor in accomplishing the tasks effectively. This study tries to find out the most effective way of achieving an electric motor system with a regular speed at any load.

A microcontroller ATmega16 used to control the speed of the EMS using the DC motor .The microcontroller ATmega16 sends signals to the DC motor, which equal to the motor terminal voltage, and in turn the DC motor drives at speed according to the amount of the signal received from the microcontroller.

is It found that using the microcontroller ATmega16 provides three levels of stable speeds, and can be seen on display screen LCD. This result is of economical value because it reduces energy consumption and operation time.

المستخلص

يستخدم نظام المحرك الكهربائي علي نطاق واسع في مختلف التطبيقات الصناعية والزراعية والتعدين لذلك فإن سرعة النظام الكهربائي المستمر هو عامل حيوي جداً في إنجاز المهام علي نحو فعال

هذه الدراسة تحاول معرفة الطريقة الأكثر فعالية لتحقيق نظام محرك كهربائي مع سرعة منتظمة في اي حمولة

تم استخدام المتحكم الدقيق للتحكم في سرعة محرك التيار المستمر .حيث يقوم المتحكم الدقيق بإرسال إشارة لمحرك التيار المستمر والتي تساوي الجهد المطبق علي محرك التيار المستمر، فيدور المحرك بسرعة تعتمد علي كمية الإشارة .الواصلة من المتحكم الدقيق

تبين أن إستخدام المتحكم الدقيق يوفر ثلاثة مستويات للسرعة، والتي يمكن رؤيتها علي شاشة العرض .وهذه النتيجة ذات قيمة إقتصادية لأنها تقلل من إستهلاك الطاقة .ووقت العملية

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