

بسم الله الرحمن الرحيم



HOSSAM MAGHRABY



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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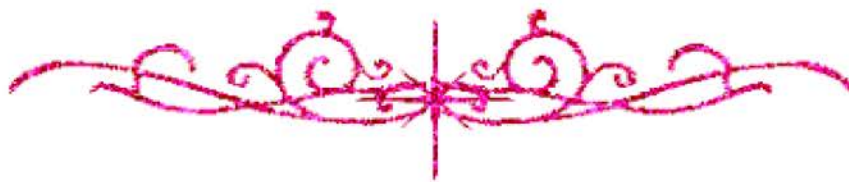
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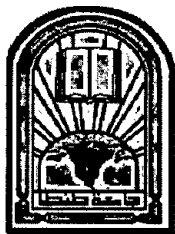


بالرسالة صفحات

لم ترد بالأصل



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Analysis of Salient pole Solid Rotor Fully Pitched Machine

A thesis submitted in partial fulfillment for the degree of
master of science in Electrical Engineering
Electrical Power and Machines

By

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Dedication

I would like to dedicate this dissertation to my great parents, my brothers, and my sisters who have supported and encouraged me throughout my academic career.

Dalia Zaky Bassuny

Abstract

The current thesis presents an investigation for the performance of salient pole solid rotor distributed stator windings machine, which is a three-phase AC supply stator fed machine with salient solid rotor poles, in different operating modes.

The machine has been tested in the asynchronous motor mode of operation when fed from variable voltage constant frequency supply. Also, it has been considered in generation mode when driven by a variable speed prime mover.

The machine has been investigated when running at synchronous speed changing its mode to be synchronous reluctance motor. Also the machine has been dealt as synchronous reluctance generator with necessary periphery conditions.

Finally, the same machine has been studied when it is considered as a switched reluctance motor taking into consideration the inductance profile with respect to rotor position.

The mathematical model of each mode of operation has been presented. Experimental and simulated results have been compared.

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