شبكة المعلومات الجامعية

# بسم الله الرحمن الرحيم


HOSSAM MAGHRABY

شبكة المعلومات الجامعية


# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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# بعض الوثائق الأصلية تالفة

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# بالرسالة صفحات

# لم ترد بالأصل

HOSSAM MAGHRABY

Tanta University

Faculty of Engineering

Electrical Power and Machines Department



# 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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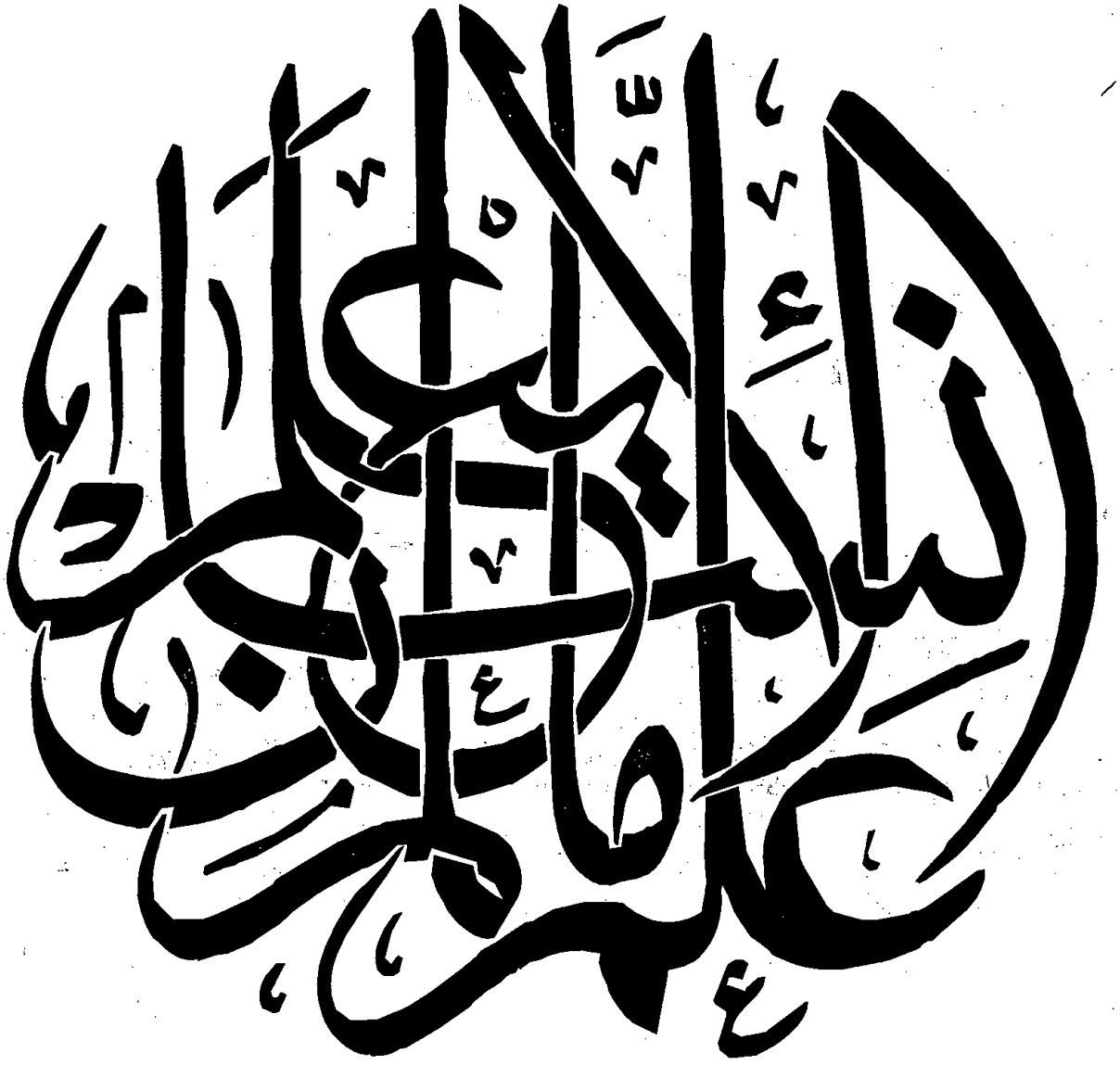

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# Dedication

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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