شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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يجب أن

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HANAA ALY

ENERGY HARVISTING MAXIMIZATION BY INTEGRATION OF DG BASED ON ECONOMIC BENEFITS

By

Eng. Samar Gamal Abd El-Nasser

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE
in
Electrical Power and Machines Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Prof.Dr. Essam El-Din Aboul Zahab

……..

Professor
Electrical Power Engineering
Department Faculty of Engineering,
Cairo University

Dr. Tarek Abdelbadea Boghdady

……..

Assistant Professor
Electrical Power Engineering
Department Faculty of Engineering,
Cairo University

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Approved by the
Examining Committee

Prof. Dr. Essam El-Din Aboul Zahab Thesis Main Advisor

Prof. Dr. Ahmed Mohamed Ibrahim Internal Examiner

Prof. Dr. Said Abd El Monem Wahsh External Examiner
Professor of electronics and control
at the Electronic Research Institute

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2021

Engineer's Name:	Samar Gamal Abd El-Nasser
Date of Birth:	10/3/1993
Nationality:	Egyptian
E-mail:	samar.gamal@iaet.edu.eg
Phone:	01157390873
Address:	14th AL-Naser street, Al-mariotaya fiasl, Giza, Egypt.
Registration Date:	1/3/2017
Awarding Date:	…./…./2021
Degree:	Master of Science
Department:	Electrical Power and Machines Engineering
Supervisors:	Prof. Dr. Essam El-Din Aboul Zahab Dr. Tarek Abdelbadea Boghdady

Examiners:	Prof. Dr. Essam El-Din Aboul Zahab (Thesis Main Advisor) Prof. Dr. Ahmed Mohamed Ibrahim (Internal Examiner) Prof. Dr. Said Abd El Monem Wahsh (External Examiner) Professor of electronics and control at the Electronic Research Institute

Title of Thesis:

ENERGY HARVISTING MAXIMIZATION BY INTEGRATION OF DG BASED ON ECONOMIC BENEFITS

Key Words:
Distributed Generation, Genetic Algorithm, Grey Wolf Optimizer, Particle Swarm Optimization, Whale Optimization Algorithm.

Summary:

In this thesis, the purpose of Distributed Generation systems (DGs) is to enhance the Distribution System (DS) performance to be better known with its benefits in the power sector as installing Distributed Generation (DG) units into the DS can introduce finical and technical benefits. Those benefits can be obtained, if the DG units' site and size is properly determined. The aim of this thesis is studying and reviewing the effect of connecting DG units in the DS on Transmission Efficiency (TE), reactive power loss and voltage deviation in addition to the economical point of view with considering the interest and inflation rate. Genetic Algorithm (GA) is introduced to find the best solution to the distributed generation penetration problem in the DS. The result of GA is compared with Whale Optimization Algorithm (WOA), Particle Swarm Optimization (PSO), and Grey Wolf Optimizer (GWO). The Proposed solutions methodologies have been tested using MATLAB software on IEEE 33 standard bus system.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Samar Gamal Abd El-Nasser Date:

Signature:

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