شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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شبكة المعلومات الجامعية

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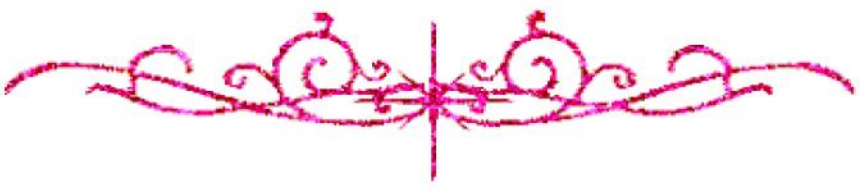

بالرسالة صفحات
لم ترد بالأصل

ACCURATE TECHNIQUE BASED ON GEOMETRIC PROGRAMMING FOR ANALOG CIRCUIT SIZING

By

Abdelrahman Sayed Fathy

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
Electronics and Communication Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

Prof. Dr. Ahmed Nader Mohieldin

.....

Professor of Electronics
Electronics and Communication Engineering Department
Faculty of Engineering, Cairo University

Dr. Mohsen Mohammad Mahroos

.....

Assistant Professor
Electronics and Communication Engineering Department
Faculty of Engineering, Cairo University

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Approved by the
Examining Committee

Prof. Dr. Ahmed Nader Mohieldin	**Thesis Main Advisor**
Prof. Dr. Hassan Mostafa Hassan	**Internal Examiner**
Prof. Dr. Mohamed Amin Dessouky Ain Shams University	**External Examiner**

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2020

Engineer's Name:	Abdelrahman Sayed Fathy
Date of Birth:	5/5/1991
Nationality:	Egyptian
E-mail:	AbdelrahmanSF@yahoo.com
Phone:	01099658190
Address:	Haram, Giza
Registration Date:	1/10/2014
Awarding Date:	.../.../2020
Degree:	Master of Science
Department:	Electronics and Communication Engineering

Supervisors:

Prof. Dr. Ahmed Nader Mohieldin
Dr. Mohsen Mohammad Mahroos

Examiners:

Prof. Dr. Ahmed Nader Mohieldin	(Thesis main advisor)
Prof. Dr. Hassan Mostafa Hassan	(Internal examiner)
Prof. Dr. Mohamed Amin Dessouky Ain Shams University	(External examiner)

Title of Thesis:
Accurate Technique Based On Geometric Programming For Analog Circuit Sizing

Key Words:
Analog Circuits, Design Optimization, Geometric Programming, Look-up Table, Data Fitting

Summary:
In this thesis, a new method for optimization of analog circuit is presented. It is based on the method of geometric programming for convex optimization. It uses a look-up table that holds the characteristics of MOS devices to speed up the optimization. A generic optimization system is implemented in C++ that utilizes the proposed method. The implemented system is described thoroughly. The method is proved to be very efficient as well as accurate in meeting the required circuit specifications. A novel method to optimize the circuit across PVT corners is also introduced. The results of a two-stage op-amp optimization are shown and appear to be superior to results of previous optimization methods.

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: Abdelrahman Sayed Fathy Date: .../.../2020

Signature:

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All praise is due to Allah, the Lord of the Worlds, Who taught man what he knew not. It is He who granted me the chance, strength, and ability to complete this work.

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