بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سامية زكى يوسف

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

UNCERTAINTY ASSESSMENT OF AQUIFER HYDRAULIC PARAMETERS FROM PUMPING TEST DATA

By

Azza Mohammed Bshandy Said

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
Irrigation and Hydraulics Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

UNCERTAINTY ASSESSMENT OF AQUIFER HYDRAULIC PARAMETERS FROM PUMPING TEST DATA

Key Words:
MCMC; Uncertainty; Pumping test data; Aquifer parameters

Summary:

A new analytical tool is progressing using Markov Chain Monte Carlo method to quantify uncertainty in the estimate of aquifer characteristics from pumping test results. The new tool is applied on hypothetical cases for confined /semi-confined aquifers with good results. The new tool gives a reliable range with high level of confidence instead of using one single numbers for aquifer parameters that are traditionally used which could lead to significant error that affect the results on which the decision-makers rely.

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: Azza Mohamed Bshandy Said **Date**: / /

Signature

Dedication

I would like to dedicate this thesis with heartfelt gratitude to my parents for their love, support, and encouragement throughout my life. Also, I would like to dedicate this thesis to my beloved sisters "Ahlam and Amira" and to my beloved roommate "Rehab Nassar" who always stand by me and support me.

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I am using this opportunity to express my gratitude to my friends and everyone who supported me throughout the research. I am thankful for their aspiring guidance, invaluably constructive criticism and friendly advice during this research work.

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