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التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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HANAA ALY

EVALUATION OF ADAPTIVE CONTROL TECHNIQUES IN POWER SYSTEM STABILIZATION

By

Mahmoud Abdallah Osman Ahmed Azouz

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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EVALUATION OF ADAPTIVE CONTROL TECHNIQUES IN POWER SYSTEM STABILIZATION

Key Words:
Power System Stabilizer – Model reference adaptive control – Parameter estimation - Self tuning regulator – Adaptive control system

Summary:

In this thesis, two adaptive control techniques are presented and their feasibilities in power system applications are investigated. Design of a novel fixed parameters Power system stabilizer (PSS), an online parameter estimator, and Model Reference Adaptive Control (MRAC) with Augmented error system are discussed in detail. A comparative study between the proposed adaptive PSSs and two widely used PSSs shows a competitive performance as well as improvements in many performance aspects obtained by the adaptive PSSs

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.

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