DESIGNING A SIMULATION MODEL OF PHASOR MEASUREMENT UNIT (PMU) USING MATLAB/SIMULINK

BY

ZEESHAN KHURSHID

01-244152-037

SUPERVISED BY

DR. ASAD WAQAR

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CERTIFICATE

We accept the work contained in this report as a confirmation to the required standard for the partial fulfilment of the degree of MS(EE).

_____ _____

Head of Department Supervisor

_____ _____

Internal Examiner External Examiner

DEDICATION

I dedicate this small piece of effort to my parents & supervisor as well as my colleagues, who encouraged and supported me during whole tenure. Without their support and sincere advises, it could not possible to complete within given time period.

DECLARATION OF AUTHORSHIP

I **Engr. Zeeshan Khurshid # 01-244152-037** hereby declare that content of this thesis is my own work and that it is the result of work done during the period of registration. To the best of my knowledge, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

Signature of student:

Date: _____ _____

Zeeshan Khurshid
01-244152-037

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ABSTRACT

The electrical power system is becoming more and more complex with the increasing demand of the electricity across the world, as the world is becoming the global village. The electrical power system must be reliable and safe enough to fulfil the energy requirements with the continuous supply of energy. The chances of power system's blackouts and outages are increasing with its increased complexity. So, there is a need of an efficient control system to make the power system more safe, efficient and reliable. Wide area monitoring, protection and control (WAMPAC) system is becoming an emerging technology for an efficient monitoring, protection and control of power system. Phasor measurement unit (PMU) is an integrated part of WAMPAC system, which can be used for monitoring, protection and control of complex electrical power systems. PMU gives the synchronized phasor measurements of voltage and current and can easily monitor and control even small disturbances in power system to protect the power system from any blackouts and outages before any fault occurs. In the proposed research a PMU model is designed in MATLAB/Simulink and then PMU is used for power system protection. The comparative analysis are also done with the conventional protection technique for an interconnected two-area network power system as a case study.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES