SIMULATION OF SINGLE PHASE AC INDUCTION MOTOR (CAPACITOR START) BY USING MATLAB SIMULINK

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ABSTRACT

This thesis presents a simulation of single phase ac induction motor by using Matlab Simulink. This thesis report initially will discuss the basic operation of an AC single phase induction motor and the capacitor start single phase AC induction motor. Besides that, this thesis report also will discuss about the characteristic of single phase induction motor for the capacitor start type including the torque, speed and current including the characteristic of torque and starting current at the starting of motor operation. Matlab Simulink software is used in modelling and simulating the capacitor start of single phase ac induction motor.

CONTENTS

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Nowadays, motor are used very widely in the world due to the increasing of technologies. A motor is a machine which uses electrical energy to produce motion. AC Motors are electric motors; these motors are driven by an alternating current. Motors are used worldwide in much residential, industrial, commercial and utility application.

AC induction motors have for many years been reliable workhorses in the conversion electrical energy into rotary power. The last 20 years has seen growing usage of these motor with regulating frequency controls to add variable speed capability to AC motors. While AC motors were initially applied to relatively simple variable speed applications such as changing the flow rate of a fan or pump, advances in AC motors and control technology have allowed their sue in higher performance applications.

In the market, there are several types of AC induction motors. Different motors are suitable for different application. Although AC induction motors are easier to design than DC motors, the speed and the torque control in a variety of types of AC induction motor require a greater understanding of the design and the characteristic of these motors. [6]