Vector Control of an Induction Motor Based on A DSP

High Performance A.C. Drives

Vector control of Induction motors Considering Magnetic Saturation Modeling and Vector Control of Three-phase Induction Motor when Two Phases of the Stator are Open Circuit

Vector Control of Induction Machines Consideration the Stray Load analysis and Simulation of Vector Control Induction Motor Drive by Using MATLAB

State Space Vector Control of Three-phase Induction Motor

Sensorless Vector Control for Induction Motors

Sensorless Vector Control for Current-Mode Induction Motors Based on Fuzzy Approach

Vector Control of A.C. Drives

High Performance Sensorless Vector Control of Induction Motor Drives

Vector Control of Induction Motor Using MATLAB

Field-oriented control (vector control) for A.C. induction motor drive using state feedback linearization

A practical approach towards the development of an induction motor drive which employs field-oriented control. This book offers a step-by-step guide to the design and implementation of field-oriented control systems for induction motor drives. It covers the fundamental concepts of field-oriented control, including vector control, direct torque control, and sensorless control, and provides practical examples and case studies. The book is suitable for engineers and researchers in the field of electrical drives, as well as for students studying electrical engineering.
Vector Control of Induction Motors

Use of High Level Languages in Modelling Induction Machines Under Vector Control

Vector Control of Three-Phase AC Machines

Variable speed is one of the important requirements in most of the electric drives. Earlier dc motors were the only drives that were used in industries requiring - variation over a wide range of speed with drop less variation, or requiring fine ac- curacy of speed control. Such drives are known as high performance drives. AC - DC because of being highly coupled non-linear devices can not provide fast dynamic response with normal controls. However, recently, because of ready availability of power electronic devices, the digital signal processors ac motors are beginning to be used for high performance drives. If field oriented control or vector control has made a fundamental change with regard to dynamic perfor- mance of ac machines, vector control makes it possible to control induction or s- quinage motor in a manner similar to control scheme used for the separately - cited dc motor. Recent advances in artificial intelligence techniques have also contributed in the improvement in performance of electric drives. This book presents a comprehensive view of high performance ac drives. It may be considered as a text book for graduate students and as an up-to-date monograph. It may also be used by A. G. D. professionals involved in the impro- vement of performance of drives in the industries. The book will also be beneficial to the researchers pursuing work on sensorless and direct torque control of electric drives as up-to-date references in these topics are provided.

Vector Control Modelling For Vector Control Purposes

Vector Control of Induction Motor Based on DSP

Vector Control of an Induction Machine

A brief introduction to the main laws of physics and fundamental concepts inherent in electromechanical conversion, Vector Control of Induction Machines introduces the standard mathematical models for induction machines - which covers motor technology is used - as well as several optimal cage induction machine vector-control strategies. The use of causal ordering graphs allows systematization of the design stage, as well as standardization of the structure of control devices. Vector Control of Induction Machines suggests a unique approach aimed at reducing parameter sensitivity for vector controls based on a theoretical analysis of this sensitivity. This analysis naturally leads to the introduction of control strategies that are based on different optimal strategies for different machines. The model can be used to provide a number of possible applications and experiments confirm the validity of this simple solution, which is both reproducible and applicable to other complex systems. Vector Control of Induction Machines is written for researchers and postgraduate students in electrical engineering and motor drive design.

Vector Control of Induction Motor Using Fuzzy-neural Network

Vector Control and Direct Torque Control of Induction Motors, IEE Colloquium on

Vector Control of Three-Phase AC Machines

Use of High Level Languages in Modelling Induction Machines Under Vector Control

Attitude Orientation Principle have appeared every year in the technical literature, and numerous commercial high-performance a. c. drives based on this principle have been developed. The term “vector control” is often used with regard to these systems. Today, it seems certain that almost all a. c. industrial drives will be evolved in the foreseeable future, to be, in major part, superseded by a. c. drive systems with vector controlled induction motors. This transition has already been taking place in industries of developed countries. Vector control of a. c. drives has been proven capable of even better dynamic performance than d. c. drive systems, because of higher allowable speeds and shorter time constants of a. c. motors. It should be mentioned that the Field Orientation Principle can be used in control not only of induction (asynchronous) motors, but of all kinds of synchronous motors as well. Vector controlled drive systems with the so-called brushless d. c. motors have found many applications in high performance drive systems, such as machine tools and industrial robots.

Vector Control and Dynamics of AC Drives

Vector Control of Induction Motor Using Genetic Algorithms

Vector Control of Induction Motor Using MATLAB

Simplified Fuzzy Logic Controller Based on Indirect Vector Control of an Induction Motor Drive

Simplified Fuzzy Logic Controller Based On Indirect Vector Control of an Induction Motor Drive

Nowadays, vector control of induction motor drive are increasingly employed in industrial drive systems, motor works on best performance at certain voltage and frequency for certain loads. This project describes a generalized model of the three-phase induction motor by using vector control and its computer simulation using MATLAB/SIMULINK, it presents the advances made in vector control as applied to high performance a. c. drives. By using this application, it can achieve speed control by controlling the reference speed value and torque value to keep the electromagnetic torque at a constant value. Machine models in d-q representation, implementation issues with AC induction motor, inverters and converters, parameter effects for induction motor vector control are dealt with and simulation results from the project are presented and discussed by computational calculation and graphs to support this theory. The large scope in this model can lead the algorithm designers to direct their efforts to the promising areas and avoid impossible tasks. From this project, the readers can approximately understand the principles of vector control in three-phase AC induction motor drive.

Modelling and Vector Control of a Three-phase Induction Motor Under Open-phase Fault

Sensorless Vector Control of Induction Motor Drive - A Model Based Approach