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## B o o k

Title

**Sensorless vector and direct torque control**

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Abstract

This is the first comprehensive book on sensorless high performance a.c. drives. It is essential reading for anyone interested in acquiring a solid background on sensorless torque-controlled drives. It presents a detailed and unified treatment of sensorless vector-controlled and direct-torque controlled drive systems. It also discusses the applications of artificial intelligence to drives. Where possible, space vector theory is used and emphasis is laid on detailed mathematical and physical analysis. Sensorless drive schemes for different types of permanent magnet synchronous motors, synchronous reluctance motors, and induction motors are also presented. These include more than twenty vector drives e.g. five types of MRAS-based vector drives, and eleven types of direct-torque-controlled (DTC) drives, e.g. the ABB DTC drive. However, torque-controlled switched reluctance motor drives are also discussed due to their emerging importance. The book also covers various drive applications using artificial intelligence (fuzzy logic, neural networks, fuzzy-neural networks) and AI-based modelling of electrical machines. Finally,

self-commissioning techniques are also discussed. This is a comprehensive thoroughly up-to-date, and self-contained book suitable for students at various levels, teachers, and industrial readership. Peter Vas is a Professor at the Department of Engineering at the University of Aberdeen, UK, where he is also the Head of the Intelligent Motion Control Group. His previous books published by Oxford University Press are extensively used worldwide.

ISBN

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