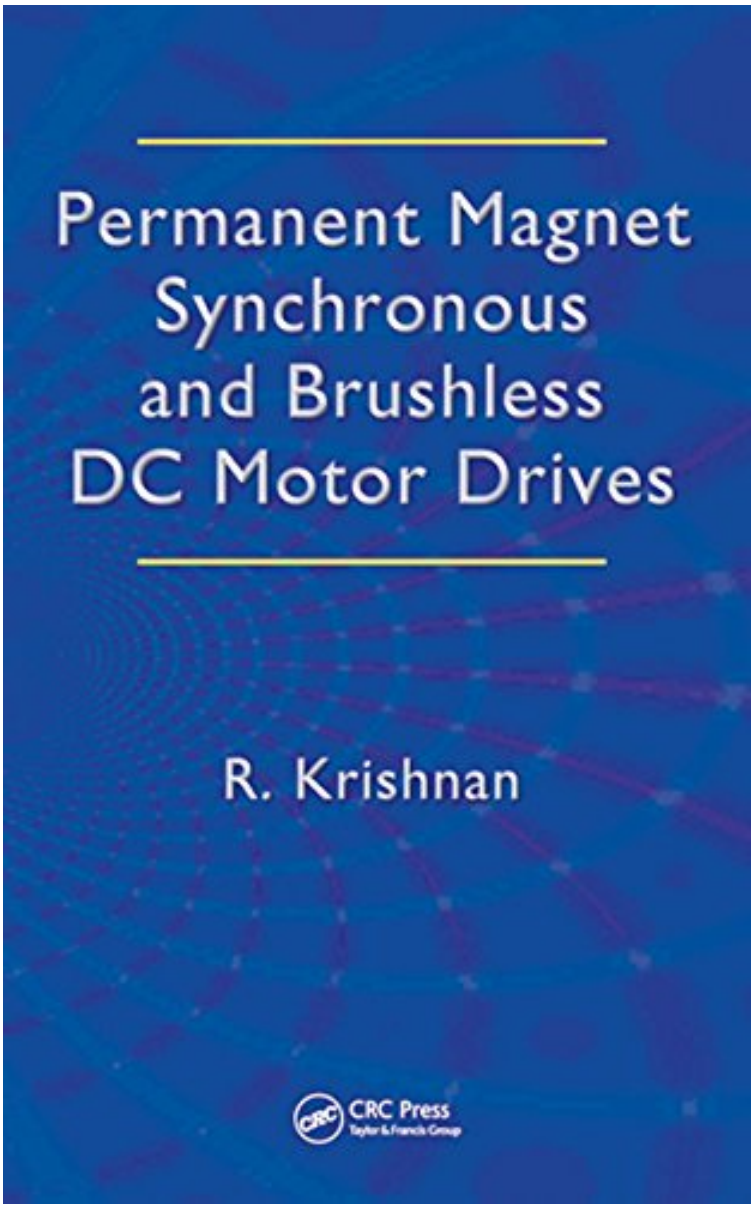
Permanent Magnet Synchronous and Brushless DC Motor Drives



Par Ramu Krishnan
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[Mobile book] Permanent Magnet Synchronous and Brushless DC Motor Drives

Par Ramu Krishnan : Permanent Magnet Synchronous and Brushless DC Motor Drives before purchasing it in order to gage whether or not it would be worth my time, and all praised Permanent Magnet Synchronous and Brushless DC Motor Drives:

Description :

Prsentation de l'diteurDespite two decades of massive strides in research and development on control strategies and their subsequent implementation, most books on permanent magnet motor drives still focus primarily on motor design, providing only elementary coverage of control and converters. Addressing that gap with information that has largely been disseminated only in journals and at conferences, Permanent Magnet Synchronous and Brushless DC Motor Drives is a long-awaited comprehensive overview of power

electronic converters for permanent magnet synchronous machines and control strategies for variable-speed operation. It introduces machines, power devices, inverters, and control, and addresses modeling, implementation, control strategies, and flux weakening operations, as well as parameter sensitivity, and rotor position sensorless control. Suitable for both industrial and academic audiences, this book also covers the simulation, low cost inverter topologies, and commutation torque ripple of PM brushless DC motor drives. Simulation of the motor drives system is illustrated with MATLAB codes in the text. This book is divided into three partsfundamentals of PM synchronous and brushless dc machines, power devices, inverters; PM synchronous motor drives, and brushless dc motor drives. With regard to the power electronics associated with these drive systems, the author:Explores use of the standard three-phase bridge inverter for driving the machine, power factor correction, and inverter control Introduces space vector modulation step by step and contrasts with PWM Details dead time effects in the inverter, and its compensation Discusses new power converter topologies being considered for low-cost drive systems in PM brushless DC motor drivesThis reference is dedicated exclusively to PM ac machines, with a timely emphasis on control and standard, and low-cost converter topologies. Widely used for teaching at the doctoral level and for industrial audiences both in the U.S. and abroad, it will be a welcome addition to any engineers library. Prsentation de l'diteurDespite two decades of massive strides in research and development on control strategies and their subsequent implementation, most books on permanent magnet motor drives still focus primarily on motor design, providing only elementary coverage of control and converters. Addressing that gap with information that has largely been disseminated only in journals and at conferences, Permanent Magnet Synchronous and Brushless DC Motor Drives is a long-awaited comprehensive overview of power electronic converters for permanent magnet synchronous machines and control strategies for variable-speed operation. It introduces machines, power devices, inverters, and control, and addresses modeling, implementation, control strategies, and flux weakening operations, as well as parameter sensitivity, and rotor position sensorless control. Suitable for both industrial and academic audiences, this book also covers the simulation, low cost inverter topologies, and commutation torque ripple of PM brushless DC motor drives. Simulation of the motor drives system is illustrated with MATLAB codes in the text. This book is divided into three partsfundamentals of PM synchronous and brushless dc machines, power devices, inverters; PM synchronous motor drives, and brushless dc motor drives. With regard to the power electronics associated with these drive systems, the author:Explores use of the standard three-phase bridge inverter for driving the machine, power factor correction, and inverter control Introduces space vector modulation step by step and contrasts with PWM Details dead time effects in the inverter, and its compensation Discusses new power converter topologies being considered for low-cost drive systems in PM brushless DC motor drivesThis reference is dedicated exclusively to PM ac machines, with a timely emphasis on control and standard, and low-cost converter topologies. Widely used for teaching at the doctoral level and for industrial audiences both in the U.S. and abroad, it will be a welcome addition to any engineers library. Biographie de l'auteurR. Krishnan is a professor of electrical and computer engineering at Virginia Tech, Blacksburg, USA, and the director of the Center for Rapid Transit Systems, specializing in linear and rotating motor drives. He is the author of Switched Reluctance Motor Drives (CRC Press), among other books, and his inventions have been prominently featured in radio, TV, and newspapers such as The Wall Street Journal. He has served as a consultant for 18 companies in the United States and has received best paper prize awards from the IEEE Industry Applications Societys Industrial Drives Committee and the Electric Machines Committee, and Industrial Electronics Society. An IEEE Fellow, Professor Krishnan was awarded the Mittelman Award for outstanding achievement in industrial electronics from that society. He is a founder of two companies involved in variable speed motor drives, and he is a co-founder of a linear motor drives company.