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Titolo	Analysis and Mathematical Models of Canned Electrical Machine Drives [[electronic resource] ] : In Particular a Canned Switched Reluctance Machine // by Qiang Yu, Xuesong Wang, Yuhu Cheng, Lisi Tian
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Soggetti	Production of electric energy or Microwaves Engineering Engineering mathematics Power Electronics, Electrical Machines and Networks Microwaves, RF and Optical Engineering Engineering Thermodynamics, Heat and Mass Transfer Engineering Mathematics Control and Systems Theory
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Nota di contenuto	Introduction -- Electromagnetic Analysis of the Saliency and Can Effect by Network Models -- Electromagnetic Analysis of Can Effect of a Canned Switched Reluctance Machine by FE Method -- An Analytical Model of Concentric Layer Structure for Canned Machines, Part I: Modeling of Armature Coils -- An Analytical Model of Concentric Layer Structure for Canned Machines, Part II: Modeling of Magnetic Field -- An Improved Thermal Network and Electro-thermal Coupled Analysis for Canned Electrical Machines -- Conclusions and Future Work -- Appendix.
Sommario/riassunto	This book focuses on the electromagnetic and thermal modeling and analysis of electrical machines, especially canned electrical machines for hydraulic pump applications. It addresses both the principles and engineering practice, with more weight placed on mathematical

modeling and theoretical analysis. This is achieved by providing in-depth studies on a number of major topics such as: can shield effect analysis, machine geometry optimization, control analysis, thermal and electromagnetic network models, magneto motive force modeling, and spatial magnetic field modeling. For the can shield effect analysis, several cases are studied in detail, including classical canned induction machines, as well as state-of-the-art canned permanent magnet machines and switched reluctance machines. The comprehensive and systematic treatment of the can effect for canned electrical machines is one of the major features of this book, which is particularly suited for readers who are interested in learning about electrical machines, especially for hydraulic pumping, deep-sea exploration, mining and the nuclear power industry. The book offers a valuable resource for researchers, engineers, and graduate students in the fields of electrical machines, magnetic and thermal engineering, etc. .

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