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Sommario/riassunto

This book provides a comprehensive exploration of sensorless control techniques for Permanent Magnet Synchronous Machine (PMSM) drives, a critical aspect of modern electrical engineering for improving efficiency and performance in motor control systems. Authored by experts Zi Qiang Zhu and Xi Meng Wu from the University of Sheffield, the text delves into both fundamental and advanced methods for sensorless control, including model-based and saliency-based approaches. It covers key topics such as flux-linkage methods, back-EMF models, and various signal injection techniques, addressing issues like magnetic saturation and parameter mismatches. The book targets professionals and researchers in electrical and control engineering, offering detailed methodologies, experimental results, and practical solutions for enhancing PMSM drive systems.