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Chapter 5. Application to Multilevel Converters 5.1. Multilevel converters; 5.2. Application of the decomposition procedure; 5.2.1. Five-level converter; 5.2.2. Seven-level converter; 5.3. Physical experimentations; 5.4. Notes; Chapter 6. Other Issues: Reachability, Sensitivity, Robustness and Nonlinearity; 6.1. Reachability control; 6.2. Sensitivity; 6.3. Robust safety control; 6.4. Nonlinearity; 6.5. Notes; Conclusions and Perspectives; Appendix 1. Sufficient Condition of Decomposition; Appendix 2. Applications of the Enhanced Decomposition Procedure; Appendix 3. Proof of Theorem 4.3

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Sommario/riassunto

This book presents correct-by-design control techniques for switching systems, using different methods of stability analysis. Switching systems are increasingly used in the electronics and mechanical industries; in power electronics and the automotive industry, for example. This is due to their flexibility and simplicity in accurately controlling industrial mechanisms. By adopting appropriate control rules, we can steer a switching system to a region centered at a desired equilibrium point, while avoiding "unsafe" regions of parameter saturation. The authors explain various correct-by-

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