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3.12 Other Issues on Sensing3.13 Classification of References by Section; References List for Chapter 3; Chapter 4. GMAW: Automatic Control; 4.1 Automatic Welding; 4.2 Control of Process Variables; 4.3 Classical Control: PI, PID and Others; 4.4 Multivariable Control; 4.5 Optimization and Optimal Control; 4.6 Adaptive Control; 4.7 Intelligent Control; 4.8 Statistical Process Control and Quality Control; 4.9 Other Control Methodologies and Issues; 4.10 Safety and Environmental Issues; 4.11 Classification of References by Section; References List for Chapter 4

Chapter 5. Control of GMAW: A Case Study5.1 Introduction; 5.2 Empirical Modeling of a GMAW Process; 5.3 SISO Current Control Using PI Controller; 5.4 Multi-Loop Control of the GMAW Process; 5.5 Adaptive Control of GMAW Process; 5.6 Control Strategy; 5.7 Summary; 5.8 Classification of References by Section; References List for Chapter 5; Chapter 6. Conclusions; 6.1 Control Technology and Automation in Welding; 6.2 Main Issues and Outlook; 6.3 Classification of References by Section; References List for Chapter 6; Bibliography; Index

Sommario/riassunto

Arc welding is one of the key processes in industrial manufacturing, with welders using two types of processes - gas metal arc welding (GMAW) and gas tungsten arc welding (GTAW). This new book provides a survey-oriented account of the modeling, sensing, and automatic control of the GMAW process. Researchers are presented with the most recent information in the areas of modeling, sensing and automatic control of the GMAW process, collecting a number of original research results on the topic from the authors and colleagues. Providing an overview of a variety of topics, this boo
