Record Nr. UNINA9910633930903321 Autore Liao Wenhe **Titolo** Error Compensation for Industrial Robots / / by Wenhe Liao, Bo Li, Wei Tian, Pengcheng Li Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-19-6168-9 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (247 pages) Collana Intelligent Technologies and Robotics Series Disciplina 629.8 Soggetti Automatic control Robotics Automation **Physics** Industrial engineering Production engineering Measurement Measuring instruments Control, Robotics, Automation Robotic Engineering Applied and Technical Physics Industrial and Production Engineering Measurement Science and Instrumentation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Part 1 Theories -- Chapter 1 Introduction -- Chapter 2 Kinematic Nota di contenuto modeling -- Chapter 3 Positioning error compensation using kinematic calibration -- Chapter 4 Error-similarity-based positioning error compensation -- Chapter 5 Joint space closed-loop feedback --Chapter 6 Cartesian space closed-loop feedback -- Part 2 Chapter 7 Applications in robotic drilling -- Chapter 8 Applications in robotic milling. Sommario/riassunto This book highlights the basic theories and key technologies of error

compensation for industrial robots. The chapters are arranged in the order of actual applications: establishing the robot kinematic models,

conducting error analysis, conducting kinematic and non-kinematic calibrations, and planning optimal sampling points. To help readers effectively apply the technologies, the book elaborates the experiments and applications in robotic drilling and milling, which further verifies the effectiveness of the technologies. This book presents the authors' research achievements in the past decade in improving robot accuracy. It is straightforwardly applicable for technical personnel in the aviation field, and provides valuable reference for researchers and engineers in various robotic applications.