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Nota di contenuto	Introduction -- Review of CMM Inspection Planning Methods -- Ontology Knowledge Base for Integration Geometry and Tolerance of PMPs -- The Model for Inspection Planning of PMPs on CMM -- Ants Colony Optimization of The Measuring Path of PMPs on a CMM -- Concluding Remarks and Future Research.
Sommario/riassunto	This book introduces a new generation of metrological systems and their application in a digital quality concept. It discusses the development of an optimal collision-free measuring path based on CAD geometry and tolerances defined in knowledge base and AI techniques such as engineering ontology, ACO and GA. This new approach, combining both geometric and metrological features, allows the following benefits: reduction of a preparation time based on the automatic generation of a measuring protocol; developed mathematical

model for the distribution of measuring points and collision avoidance; the optimization of a measuring probe path; the analysis of a part placement based on the accessibility analysis and automatic configuration of measuring probes. The application of this new system is particularly useful in the inspection of complex prismatic parts with a large number of tolerances, in all of type production. The implementation is demonstrated using several case studies relating to high-tech industries and advanced, non-conventional processes.