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Titolo	Parallel kinematics : type, kinematics, and optimal design // Xin-Jun Liu, Jinsong Wang
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Descrizione fisica	1 online resource (xiii, 309 pages) : illustrations
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I Mechanism Type -- Classification of Parallel Mechanisms -- Type Synthesis of Parallel Mechanisms -- Part II Kinematic Analysis -- Position Analysis of Parallel Mechanisms -- Velocity and Jacobian Analysis of Parallel Mechanisms -- Singularity of Parallel Mechanisms -- Workspace of Parallel Mechanisms -- Part III Optimal Kinematic Design.- Performance Evaluation of Parallel Mechanisms -- Dimensional Synthesis of Parallel Mechanisms -- Kinematic Optimal Design of A Spatial 3-Dof Parallel Manipulator.
Sommario/riassunto	Parallel Kinematics- Type, Kinematics, and Optimal Design presents the results of 15 year's research on parallel mechanisms and parallel kinematics machines. This book covers the systematic classification of parallel mechanisms (PMs) as well as providing a large number of mechanical architectures of PMs available for use in practical applications. It focuses on the kinematic design of parallel robots. One successful application of parallel mechanisms in the field of machine tools, which is also called parallel kinematics machines, has been the emerging trend in advanced machine tools. The book describes not only the main aspects and important topics in parallel kinematics, but also references novel concepts and approaches, i.e. type synthesis based on evolution, performance evaluation and optimization based on screw theory, singularity model taking into account motion and force transmissibility, and others. This book is intended for researchers, scientists, engineers and postgraduates or above with interests in

robotics and advanced machine tools technology such as parallel kinematics machines (PKMs). Xin-Jun Liu and Jinsong Wang, professors, work at The Institute of Manufacturing Engineering, Department of Mechanical Engineering, Tsinghua University.

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