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Note generali	Includes author index.
Nota di contenuto	Developing a Leader-Follower Kinematic-Based Control System for a Cable-Driven Hyper-Redundant Serial Manipulator -- Adapting Multi-Agent Swarm Robotics to Achieve Synchronised Behaviour from Production Line Automata -- Synthesis of Planar Stiffness -- Using Monodromy to Statistically Estimate the Number of Solutions -- On Orientation, Position, and Attitude Singularities of General 3R Chains -- Combinatorics of a Discrete Trajectory Space for Robot Motion Planning -- Active Matter as a Path Planning Interpreter -- Linear registration and robot motion planning.
Sommario/riassunto	This book highlights the mathematical depth and sophistication of techniques used in different areas of robotics. Each chapter is a peer-reviewed version of a paper presented during the 2021 IMA Conference on the Mathematics of Robotics, held online September 8-10, 2021. The conference gave a platform to researchers with fundamental contributions and for academic and to share new ideas. The book illustrates some of the current interest in advanced mathematics and robotics such as algebraic geometry, tropical geometry, monodromy and homotopy continuation methods applied to areas such as kinematics, path planning, swam robotics, dynamics and control. It is hoped that the conference and this publications will stimulate further related mathematical research in robotics.