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| Soggetti                | Machinery<br>Industrial engineering<br>Automation<br>Manufactures<br>Automatic control<br>Robotics<br>Machinery and Machine Elements<br>Industrial Automation<br>Machines, Tools, Processes<br>Control, Robotics, Automation   |
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| Nota di contenuto       | Studies on the Coupler Curves of 4-Bar Mechanisms with One Rolling Pair Adjacent to the Ground -- Kinematic Synthesis and Design of a Five Fingered Hand Exoskeleton -- Studying the Effects of Varying Link-lengths in Double Lambda Mechanism and its Application to Rover Suspension Design -- Parametric Sensitivity Analysis of Structure Stability: Mathematical Formulation and Analysis -- A review on frequency domain analysis approach for parametric identification of nonlinear joints -- A New Method for Solving Simultaneous Impact Problems in Constrained Multibody Systems -- Modeling and Optimal Design of Bridge-type Displacement Amplifier -- Design exploration of Stewart platform -- Design and analysis of a miniaturized Atomic Force Microscope scan head -- Dynamic modelling a 6-DOF compliant |

flexure based Stewart micromanipulator -- Classification of worm gearbox fault using Dendogram Support Vector Machine -- Vibration Monitoring of Defective Shaft Bearing System -- Design and Development of Jaw Rehabilitation Device for patient with TMJ Disorder -- Optimum Blended Trajectory Generation of ABB SCARA Robot to Minimize Travel Time and Jerk with Dynamic Motion Analysis -- Tension Adjustment in Cable-Driven Robots used for MIS -- Kinematic and Dynamic Analysis of a Six-Bar Aerial Gripper Mechanism -- Fabrication and characterization of aluminum oxide based polypropylene filaments -- Ballistic impact behaviour of 3D hybrid composite laminates -- Numerical Analysis on Hexagonal Honeycomb Sandwich Structure under Air Blast Loading.

#### Sommario/riassunto

This book presents the proceedings of 5th International and 20th National Conference on Machines and Mechanisms (iNaCoMM 2021) held at PDPM IIITDM Jabalpur during 9-11 December 2021. The conference was held in collaboration with the Association of Machines and Mechanisms (AMM) India and International Federation for the Promotion of Mechanism and Machine sciences (IFToMM). Various topics covered in this book include kinematics and dynamics of machines, compliant mechanisms; gear, cams and power transmission systems; mechanisms and machines for rural, agricultural and industrial applications; mechanisms for space applications; mechanisms for energy harvesting; robotics and automation; human-centric robotics; soft robotics; man-machine system, mechatronics and micro-mechanisms; CAD and CAGD; control of machines; vibration of machines & rotor dynamics; acoustic and noise; tribology; condition monitoring and failure analysis; fault diagnosis and health monitoring; biomedical engineering; and composites and advanced materials. Given the contents, the book will be useful for researchers and professionals working in the various domains of mechanical engineering. .