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Nota di contenuto	Intro -- Foreword -- Contents -- About the Editors -- Control and Automation -- Output Zeroing of the Descriptor Continuous-Time Linear Systems -- 1 Introduction -- 2 Descriptor Continuous-Time Linear Systems -- 2.1 Weierstrass-Kronecker Decomposition of the Descriptor Systems -- 2.2 Controllability and Observability of the Descriptor Systems -- 2.3 Transfer Matrices of the Descriptor Systems -- 3 Output Zeroing Problem -- 4 Numerical Example -- 5 Concluding Remarks -- References -- Numerical Estimation of the Internal Positivity of the Fractional Order Model of a Two-Dimensional Heat Transfer Process -- 1 Introduction -- 2 Preliminaries -- 2.1 Elementary Ideas -- 2.2 Positivity -- 3 The Considered Heat System and Its State-Space Model -- 4 The Algorithms of the Numerical Testing of the Internal Positivity -- 5 Simulations -- 6 Conclusions -- References -- FOPID and PID - Comparison of Control Quality and Execution Time on the Example of Two Rotor Aerodynamical System -- 1 Introduction -- 2 FOPID Controller -- 3 Grey Wolf Optimizer -- 4 Mathematical Model of the Two Rotor Aerodynamical System -- 5 Implementation of Simulation -- 6 Results of Simulation -- 7 Conclusion -- References -- Analysis of Sounding Rocket Dispersion Using Monte-Carlo Simulation -- 1 Introduction -- 2 Methods -- 2.1 Test Platform -- 2.2 Rocket

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Sommario/riassunto

This volume presents the results of recent research, which supports the postulated transformation. It contains papers written by both scientists and engineers dealing with diverse aspects of: measuring techniques, robotics, mechatronics systems, control, industrial automation, numerical modelling and simulation as well as application of artificial intelligence techniques required by the transformation of the industry towards the Industry 4.0. We strongly believe that the solutions and guidelines presented in this volume will be useful for both researchers and engineers solving problems that have emerged during the recent crisis.
