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Nota di contenuto	Front Cover -- Recent Developments in Automatic Control Systems -- Contents -- Preface -- List of Figures -- List of Tables -- List of Contributors -- List of Notations and Abbreviations -- Part I Advances in Theoretical Research of Control Systems -- 1 Control of Moving Object Groups in a Conflict Situation -- 1.1 Introduction -- 1.2 Function w(n, v), Encirclement by Pshenihnyi, Scheme of the Method of Resolving Functions -- 1.3 Group Pursuit of a Moving Object -- 1.4 Non-fixed Time of Game Termination -- 1.5 The Group Pursuit. Linear State Constraints -- 1.6 Principle of Shortest Broken Line in Successive Pursuit -- 1.7 Conclusion -- References -- 2 Applications of Variational Analysis to Controlled Sweeping Processes -- 2.1 Introduction and Discussions -- 2.2 Generalized Differentiation of Variational Analysis -- 2.3 Dynamic Optimization via Controlled Moving Sets -- 2.4 Sweeping Processes with Controlled Dynamics -- 2.5 Some Applications -- 2.6 Conclusion -- Acknowledgments -- References -- 3 Robust and Robustly-Adaptive Control of Some Noninvertible Memoryless Systems -- 3.1 Introduction -- 3.2 Problem Statement -- 3.3 Preliminaries -- 3.4 Robust Nonadaptive Control -- 3.5 Robustly-

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Sommario/riassunto

This monograph provides an overview of the recent developments in modern control systems including new theoretical findings and successful examples of practical implementation of the control theory in different areas of industrial and special applications. Recent Developments in Automatic Control Systems consists of extended versions of selected papers presented at the XXVI International Conference on Automatic Control "Automation 2020" (October 13-15, 2020, Kyiv, Ukraine) which is the main Ukrainian Control Conference organized by the Ukrainian Association on Automatic Control (national member organization of IFAC) and the National Technical University of

Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". This is the third monograph in the River Publishers series in Automation, Control and Robotics based on the selected papers of the Ukrainian Control Conferences "Automation", in particular, the first monograph Control Systems: Theory and Applications (2018) was published based on "Automation - 2017" and the second monograph Advanced Control Systems: Theory and Applications was based on "Automation - 2018". The monograph is divided into three main parts: (a) Advances in Theoretical Research of Control Systems; (b) Advances in Control Systems Application; (c) Recent Developments in Collaborative Automation. The chapters have been structured to provide an easy-to-follow introduction to the topics that are addressed, including the most relevant references, so that anyone interested in this field can get started in the area. This book may be useful for researchers and students who are interesting in recent developments in modern control systems, robust adaptive systems, optimal control, fuzzy control, motion control, identification, modelling, differential games, evolutionary optimization, reliability control, security control, intelligent robotics and cyber-physical systems.