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| Titolo                  | Singular Linear-Quadratic Zero-Sum Differential Games and H Control Problems : Regularization Approach // by Valery Y. Glizer, Oleg Kelis   |
| Pubbl/distr/stampa      | Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2022   |
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| Edizione                | [1st ed. 2022.]   |
| Descrizione fisica      | 1 online resource (0 pages)   |
| Collana                 | Static & Dynamic Game Theory: Foundations & Applications, , 2363-8524   |
| Disciplina              | 629.8312<br>519.32  |
| Soggetti                | Game theory<br>System theory<br>Control theory<br>Game Theory<br>Systems Theory, Control<br>Jocs diferencials<br>Teoria de jocs<br>Teoria de control<br>Llibres electrònics   |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | Introduction -- Examples of Singular Extremal Problems and Some Basic Notions -- Preliminaries -- Singular Finite-Horizon Zero-Sum Dierential Game -- Singular Innite-Horizon Zero-Sum Dierential Game -- Singular Finite-Horizon $H_{\infty}$ Problem -- Singular Innite-Horizon $H_{\infty}$ Problem.   |
| Sommario/riassunto      | This monograph is devoted to the analysis and solution of singular differential games and singular $H_{\infty}$ control problems in both finite- and infinite-horizon settings. Expanding on the authors' previous work in this area, this novel text is the first to study the aforementioned singular problems using the regularization approach. After a brief introduction, solvability conditions are presented for the regular differential games and $H_{\infty}$ control problems. In the |

following chapter, the authors solve the singular finite-horizon linear-quadratic differential game using the regularization method. Next, they apply this method to the solution of an infinite-horizon type. The last two chapters are dedicated to the solution of singular finite-horizon and infinite-horizon linear-quadratic  $H_{\infty}$  control problems. The authors use theoretical and real-world examples to illustrate the results and their applicability throughout the text, and have carefully organized the content to be as self-contained as possible, making it possible to study each chapter independently or in succession. Each chapter includes its own introduction, list of notations, a brief literature review on the topic, and a corresponding bibliography. For easier readability, detailed proofs are presented in separate subsections. Singular Linear-Quadratic Zero-Sum Differential Games and  $H_{\infty}$  Control Problems will be of interest to researchers and engineers working in the areas of applied mathematics, dynamic games, control engineering, mechanical and aerospace engineering, electrical engineering, and biology. This book can also serve as a useful reference for graduate students in these areas.

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