1. Record Nr. UNINA9910629294703321

Autore	Akimov Alexander Nikolaevich
Titolo	Limiting Modes of Aircraft Flight : Methods, Algorithms and Results / / by Alexander Nikolaevich Akimov, Vadim Vadimovich Vorobyov, Dmitry Alexandrovich Zatuchny
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2022
ISBN	981-19-6329-0
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (182 pages)
Collana	Springer Aerospace Technology, , 1869-1749
Disciplina	629.135
Soggetti	Aerospace engineering Astronautics Algorithms Aerospace Technology and Astronautics Design and Analysis of Algorithms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Chapter 1. Onboard restraint systems. State of the issue. Formulation of the problem -- Chapter 2. The method of adaptive maintenance of constraints on the components of the state vector of a dynamic system -- Chapter 3. Algorithms for adaptive limitation of aircraft flight parameters -- Chapter 4. Algorithms for adaptive limitation of trajectory parameters of aircraft movement -- Chapter 5. Aircraft drift away from limiting surfaces along programmed trajectories -- Chapter 6. Method and algorithms for direct optimization of the movement of a damaged aircraft.
Sommario/riassunto	This book describes in detail a method of direct optimization, which makes it possible to choose the best trajectory of an aircraft in conditions of its limited resource. This can happen in the event of an emergency on board, associated with both a possible equipment failure and external influences, for example, when lightning strikes an aircraft or collides with a moving object. The highlight of this book is the fact that the results presented in it can be applied universally to the choice of the flight path of large and small aircraft, as well as helicopter technology. In addition, they take into account various conditions of

aircraft flight, including a possible accident. The methods and algorithms presented here can be used as the basis for the creation of automatic collision avoidance systems, as well as the choice of the best aircraft trajectory for flights in different regions and in different conditions.