1. Record Nr. UNINA9910500586803321

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| Autore | Sause Markus G. R |
| Titolo | Structural Health Monitoring Damage Detection Systems for Aerospace |
| Pubbl/distr/stampa | Cham, : Springer International Publishing AG, 2021 |
| ISBN | 3-030-72192-2 |
| Descrizione fisica | 1 online resource (292 p.) |
| Collana | Springer Aerospace Technology |
| Altri autori (Persone) | JasinienElena |
| Soggetti | Materials science<br>Aerospace & aviation technology<br>Circuits & components<br>Mensuration & systems of measurement<br>Imaging systems & technology<br>Mechanics of solids |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di contenuto | Intro -- Preface -- Acknowledgment -- Contents -- Contributors -- Chapter 1: Introduction -- Chapter 2: Monitoring Tasks in Aerospace -- 2.1 Condition Monitoring -- 2.2 Operation Monitoring (OM) -- 2.3 Damage Monitoring (DM) -- 2.4 Challenges -- References -- Chapter 3: Defect Types -- 3.1 Metallic Materials -- 3.1.1 Defects During the Manufacturing Process -- 3.1.2 Defects During In-service Conditions -- 3.1.2.1 Fatigue -- 3.1.2.2 Corrosion -- 3.1.2.3 Creep -- 3.1.2.4 Operational Overload -- 3.1.2.5 Wear -- 3.1.2.6 Extreme Weather Conditions -- 3.1.2.7 Miscellaneous Defect Types in Metals<br>3.2 Composite Materials -- 3.2.1 Disbonds -- 3.2.2 Delamination -- 3.2.3 Foreign Inclusion -- 3.2.4 Matrix Cracking -- 3.2.5 Porosity -- 3.2.6 Fibre Breakage -- 3.2.7 Other Composite Laminate Typical Defects -- 3.2.8 Typical Honeycomb Core Defects -- 3.2.9 Typical Foam Core Defects -- 3.2.10 Ingress of Moisture and Temperature -- 3.2.11 Fatigue -- 3.3 Defects in Coatings -- 3.3.1 Defects During the Manufacturing Process -- 3.3.2 Defects During In-service Conditions -- 3.4 Defects in Joints -- 3.4.1 Adhesively Bonded Joints -- 3.4.2 Friction Stir-Welded Joints -- 3.5 Concluding Remarks<br>References -- Chapter 4: Aerospace Requirements -- 4.1 Power |

Sommario/riassunto

This open access book presents established methods of structural health monitoring (SHM) and discusses their technological merit in the current aerospace environment. While the aerospace industry aims for weight reduction to improve fuel efficiency, reduce environmental impact, and to decrease maintenance time and operating costs, aircraft structures are often designed and built heavier than required in order to accommodate unpredictable failure. A way to overcome this approach is the use of SHM systems to detect the presence of defects. This book covers all major contemporary aerospace-relevant SHM methods, from the basics of each method to the various defect types that SHM is required to detect to discussion of signal processing developments alongside considerations of aerospace safety requirements. It will be of interest to professionals in industry and academic researchers alike, as well as engineering students. This article/publication is based upon work from COST Action CA18203 (ODIN - http://odin-cost.com/), supported by COST (European Cooperation in Science and Technology). COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.