Record Nr. UNINA9910855383803321 Autore Yang Hui Titolo Reliability Engineering of BeiDou Navigation Satellite / / by Hui Yang. Haitao Zhao Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 9789819991303 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (464 pages) Collana Satellite Navigation Technology, , 2948-2275 Altri autori (Persone) ZhaoHaitao 629.1 Disciplina Soggetti Aerospace engineering **Astronautics** Automatic control Robotics Automation Aerospace Technology and Astronautics Control, Robotics, Automation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1. introduction -- 2. reliability requirements -- 3. reliability modeling Nota di contenuto and prediction -- 4. availability design, outage analysis -- 5. availability analysis -- 6. reliability design -- 7. reliability analysis -- 8. reliability assurance of batch production -- 9. reliability test -- 10. reliability management. Sommario/riassunto This book describes the reliability research results and experience of BeiDou navigation satellite in engineering development. According to the characteristics of high reliability and high availability, this book discusses the reliability requirements, reliability design, reliability modeling, and reliability analysis of navigation satellite and constellation, focusing on the demonstration and decomposition of reliability requirements, constellation availability design, satellite availability design, and availability analysis. Based on the characteristics of batch production of navigation satellites, the particularity of reliability work is analyzed, and the batch production reliability assurance works such as process reliability, data consistency

comparison, storage reliability, and satellite redundancy demonstration

are introduced. This book is suitable for engineering developers of aerospace product manufacturers and postgraduates majoring in spacecraft engineering and reliability.