Record Nr. UNINA9910366599803321 Autore Bolvashenkov Igor Titolo Fault-Tolerant Traction Electric Drives: Reliability, Topologies and Components Design / / by Igor Bolvashenkov, Hans-Georg Herzog, Flyur Ismagilov, Vyacheslav Vavilov, Lev Khvatskin, Ilia Frenkel, Anatoly Lisnianski Singapore:,: Springer Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa **ISBN** 981-13-9275-7 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (IX, 108 p.) Collana SpringerBriefs in Electrical and Computer Engineering, , 2191-8112 Disciplina 621.317 Soggetti Power electronics Aerospace engineering **Astronautics** Power Electronics, Electrical Machines and Networks Aerospace Technology and Astronautics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Reliability and Fault Tolerance Assessment of Multi-Motor Electric Drives with Multi-Phase Traction Motors -- Operational Availability Investigation of Multi-Drive Electric Propulsion System of the Arctic Gas Tanker with Ice Class Arc7 -- Reliability Oriented Design of High-Speed Multi-Phase Electric Generator for the Aerospace Application -- Fault Tolerant Multi-Phase Permanent Magnet Synchronous Motor for the More Electric Aircraft. This concise book focuses on the reliability of traction electrical drives. Sommario/riassunto The first chapter presents the Lz-transform approach for the comparative analysis of the fault tolerance of multi-motor electrical drives with multi-phase traction motors. The second chapter then provides an estimate of the value of the operational availability and performance of a diesel-electric multi-drive propulsion system, while the third chapter introduces the concept of a more electric aircraft. Lastly, the fourth chapter analyzes the requirements for multi-phase

permanent-magnet motors applicable in various aircraft systems.