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THE DEVELOPMENT OF WIRELESS COMMUNICATION TECHNOLOGY IN THE AEROCRAFT
APPLICATION

Abstract

article With the rapid development of the variety wireless communication technologies, which have the great attractive characteristics such as free cable, easy maintenance, rapid networking and so on, the wireless communication technologies are very suitable to complement the technical advantages of the current wired communication technologies, enabling the aircraft to improve the effective payload, to expand the communication range, and to achieve rapid test and launch process. As well as we known, the wireless communication technologies have been widely used in many other fields, however, the space environment is extremely harsh. The wireless communication systems must withstand both the extremely high temperature and the extremely low temperature, to resist the strong impact of the separation, to be able to maintain a stable working state in a very complex electromagnetic environment. Therefore, the reliability and security requirements for the wireless communication systems are quite rigorous. Aiming at the background of the aircraft baseband communication application, this paper introduces the experiences and achievements for the cableless and intelligent aircraft design in recent years, including wireless sensor network, baseband high speed wireless communication network, laser communication and wireless energy transportation technology. The intersection and integration of many different specialties such as structure and safety are comprehensively considered, so as to realize the engineering landing of aircraft baseband wireless communication technology.