

## Research and Application of Consultative Committee for Space Data Systems Wireless Communications Standards for Spacecraft

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**Abstract :** According to the new requirements of the future spacecraft, such as networking, modularization and non-cable, this paper studies the CCSDS wireless communications standards, and focuses on the low data-rate wireless communications for spacecraft monitoring and control. The application fields and advantages of wireless communications are analyzed. Wireless communications technology has significant advantages in reducing the weight of the spacecraft, saving time in spacecraft integration, etc. Based on this technology, a scheme for spacecraft data system is put forward. The corresponding block diagram and key wireless interface design of the spacecraft data system are given. The design proposal of the wireless node and information flow of the spacecraft are also analyzed. The results show that the wireless communications scheme is reasonable and feasible. The wireless communications technology can meet the future spacecraft demands in networking, modularization and non-cable.

**Keywords :** Consultative Committee for Space Data Systems (CCSDS) standards, information flow, non-cable, spacecraft, wireless communications

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