

Ground-Based Preparatory Activities (11)  
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STUDY AND DESIGN FOR DISTRIBUTED ON-ORBIT MONITORING SYSTEM OF MANNED  
SPACECRAFT

**Abstract**

A distributed on-orbit monitoring system is proposed to solve the problem of ground testers unable to study and test other spacecraft when the manned spacecraft running on the track. Based on the system, interconnection between some remote monitoring places and flight control center is realized. Researchers are arranged to interpret flexibly according to the flight mission. The commute times between institute and flight control center are reduced. The skill and experience of aerospace experts are used fully to ensure the spacecraft is running stably and the efficiency of multi spacecraft collaborative development is improved. The overall architecture design of the distributed on-orbit monitoring system is given. The network topology of the system is researched. The data forwarding platform and monitoring terminal are developed for researchers to realize spacecraft distributed interpretation based on C/S architecture. The audio and video cooperative system is designed to support flight control center and distributed nodes interworking, and make sure the implementation of multiparty consultation and decision successfully. The distributed on-orbit monitoring system will support manned spacecraft in orbit construction and operation effectively. It has good engineering and popularization value.