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TEST COVERAGE ANALYSIS METHOD FOR LARGE HUMAN SPACECRAFT

Abstract

Test Coverage analysis of spacecraft, that is, the analysis of coverage degree of spacecraft design by carrying out test items, is a crucial link in the stage of spacecraft development .A test coverage analysis method for large human spacecraft is present in this paper. This method carries out the test coverage analysis of large human spacecraft from the four dimensions of analysis hierarchy, characteristic analysis, work mode and mission stage, the technical requirements of the overall project to the large human spacecraft, the requirements of large system interface control, the functional requirements of each module of the large human spacecraft, flight event planning and so on, and decomposes them into details step by step. According to the technical requirements, the key design at the system or subsystem level is carried out, and then according to the analysis of the design elements, the test verification items and the verification contents of the test items need to be carried out are obtained. Through the application of multi-dimensional and multi-level test coverage analysis method, not only the comprehensive coverage and effectiveness of the test verification project for large human spacecraft design can be realized, but also the comprehensive review of the design work at the present stage can be carried out.Through the iteration of test coverage and design review, the large human spacecraft can be ensured, The design and test coverage of celestial instruments are comprehensive.