

Poster Session (P)

Poster Lunch (1)

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DESIGN AND DEVELOPMENT OF MANNED SPACECRAFT INTERACTIVE SIMULATION SYSTEM BASED ON UNITY3D

Abstract

As a kind of manned spacecraft flying on low earth orbit, space station has the characteristics of diverse missions, great technical difficulty and complex user interface. The space station operation process include rendezvous and docking, assembly, propellant refueling and other flight tasks. During the operation of the station, astronauts need to carry out equipment maintenance, station operation, housekeeping, rest, dining, training, health care and other activities. In order to demonstrate and validate the design of the space station, an interactive simulation system was developed based on Unity3D. In this paper, the system framework, function levels and simulation contents were proposed. A typical assembled manned spacecraft was used to introduce the realization process of simulation system. The application example indicates that the system can be used to visualize the mission plan, and verify the crew activities on orbit, so as to optimize the system design.