

SPACE SYSTEMS SYMPOSIUM (D1)  
Innovative and Visionary Space Systems Concepts (1)

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PRELIMINARY PLAN AND ANALYSIS FOR HUMAN FACTORS OF A SPACE STATION WITH  
TEN THOUSAND INHABITANTS

**Abstract**

Space exploration has already displayed an extraordinary power to alter our viewpoints and stretch our minds. Mankind longs to find another planet or build space stations to promote human civilization. This paper proposes a space station program and the corresponding configuration design. The novel space station will be located at Lagrangian point L4, and should be able to hold 10,000 residents while 300 tourists are visiting. The requirements and important factors of human inhabitation, such as artificial gravity, air, water, food, infrastructure, have been analyzed. Especially with a new method, a new exhaust gas treatment was formed, which has relatively high efficiency. The Preliminary plan and analysis for human factors of the space station will promote sustainable development of mankind.