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INTERPLANETARY ARCHITECTURE: CRAFTING SUSTAINABLE HABITATS FOR FUTURE SPACE COLONIES

Abstract

This paper introduces an 'architectural solution' to the challenges of sustainable interplanetary living through the design of a space habitat prototype. Emphasizing principles of sustainable architecture, our prototype integrates innovative solutions to address critical issues such as 'energy efficiency', "waste management", and 'life support systems'. Through a meticulous design process, we optimize spatial layout and resource utilization to ensure the habitat's self-sufficiency and resilience in extraterrestrial environments.

Our research aims to revolutionize space habitat design by offering a blueprint for sustainable structures capable of supporting long-term human habitation beyond Earth. By prioritizing adaptability and scalability, our prototype not only meets the immediate needs of space exploration but also lays the groundwork for the establishment of thriving interplanetary settlements.