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ARTIFICIAL GRAVITY SPACE STATION: BENEFITS, DESIGN AND THEORISATION TOWARDS DEEP SPACE EXPLORATION

Abstract

Over the past years, humanity has explored and experienced the properties of space by being in orbit. Throughout this paper we will take a clear view into the benefits that an Artificial Gravity Space Station can bring to deep space exploration endeavours, in contrast to those offered by the International Space Station (ISS), under micro gravitational effects, this can be done by using centrifuge force acting on the diverse modules of the space station. As a result, we propose a design based on structural analysis and materials' behaviour to gain optimisation on spaceflight for human and infrastructure safety during space voyages towards the upcoming humanity's evolution in the cosmos.