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SPACE SUSTAINABILITY: OVERCOMING FUTURE SPACE CHALLENGES

**Abstract**

With the developing science and latest researches one of the most authentic field for any researches is space. For many decades scientists had done vast amount of precise and justifiable researches which helped mankind to know more about Space . Sometimes these researches resulted in failures with variety of negative outcomes. These unintentional action not only disappoint the human on earth but proved very harmful and indifferent for the space itself. With increasing researches the amount of unwanted elements are also increasing which are dangerous for the working of the already existing satellites. For resisting the threat, sustainability is necessary i.e. Space Sustainability, which is basically the ability of all humanity to continue to use space for peaceful purposes and economic benefits over long terms. Outer space is being used for an increasing variety of socioeconomic and national security benefits, these activities use the same orbital regions of the blue planet which leads to long term consequences because of crowding and potential physical and electromagnetic interference. There will a great economic change due to the increased expense in using for Space National International Security, telecommunication, satellite navigation, scientific exploration, and much more. A large number of debris due to collisions and explosions along with the radio frequency of various satellites interfere the space. Here after going through the facts and noticing all the threats to space, this paper will focus on overcoming all these challenges. The research will include methods of space debris removal, technology to counter negative impact of space weather and ways to avoid radio interferences. The research will also enlighten the future endeavour of the success of the space sustainability. The success of this target will not only be economical but will allow the scientist to comprehend the universe and solar system more precisely.