

Space Stations & Challenges (12)
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IndiaMr. Mourya Vadera
India

SPACE STATIONS AND CHALLENGES

Abstract

A space station is a spacecraft that remains in orbit and hosts humans for extended periods of time and it gives facilities of habitation. Currently there are two spacestation, (1) the International Space Station (ISS) which is co-operative program between Europe, the United States, Russia, Canada and Japan which is launched in 1998 and is 400 kilometers above the Earth. (2) Tiangong Space Station (TSS) by China was launched on 29 April 2021 which is on orbit of Earth and 340 to 450 kilometers above the earth. The challenges faced in spacestation are Space radiation, Microgravity Effects, Psychological Challenges, Orbital Debris, Aging Infrastructure, Supply and Resupply Challenges, Environmental Control, Health Risks, International collaboration, Technological limitations. The overcome to challenges by using shielding and monitoring for Radiation, prepare astronauts with training for technical issues, pre-mission helps to manage crew rotations effectively, tracking orbital debris for collision avoidance, implementing nutrition plans and exercise for microgravity effects. The Indian Space Research Organisation (ISRO) is working on plans to establish its own Space Station named as the Bharatiya Antariksha Station (BAS). The goal is to make it operational by 2035 and the first module is expected to be launched in 2028.