Space Debris: Prevention Enhancement of Space Objects Collision to Protect Future Space Travel

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Abstract

The emergence of new concepts to the propagation of emerging technologies of space system could be enhancing the capabilities to detect new space debris. Debris objects can be determined and predictions of awareness with collision risks between space debris and outer space asteroid. During launching a satellite in orbit nearly a huge number of percent of the satellite masses inject into orbit which had no useful function there and creating harmful movements for active satellites without any ground station control. These objects have very distinctive characteristics are in orbit which generally remains around for a long time. The observation of orbital objects is mainly conducted by the searching system to increase the surveillance forecasts of LEO, MEO and GEO objects or orbital junks. The collisions among the satellites are not only destruction or termination of mission early but also it leads to create large number of orbital junk or space debris that can hazards with other active satellites. In term of collision risk, operating communication satellites and earth observatory satellite may collide with space objects. They are scattering their internal particles velocity abnormally due to uncontrolled movement over the time and inducing a substantial collision threats. Any object retained into lower orbit sometimes fall back to Earth surface and potentially causing hazards to the human. Collisions between objects are no longer a problem of safety but a commercial threat related to the active satellites. We will figure out the probable way of debris mitigations and their different potential risks on active particles in space. From this research we can find some schematics approaches of orbital debris amendment and their threats prediction level over the coming decades. The significance of the defensibility of outer space will be ensured that the space atmosphere becoming well preserved for current and upcoming generations for technical and legal perspectives of safe and comprehensive control.

Recent Publications

[1] **Uttam Banik**, "Interstellar Motion: High Energy Radiation of Electromagnetic Spectrum Creating Hazards for Propulsion of Signal Propagation," Global Meet on Condensed Matter Physics and Materials, October 25-26, 2019, Paris, France.

[2] **Uttam Banik**, "Orbital Space: Probable Systematic Approach of Satellite Signal Barriers," 5th EuroSciCon Conference on Quantum and Plasma Physics, May 2019, Volume 8, Page no. 48, May 9-10, 2019, Stockholm, Sweden.

[3] **Uttam Banik, Shaikh Muhammad Rizwan Ali and Md. Mahbubur Rahman**, "Orbital Debris: Threat Analysis and Satellite Security Compliances," IEEE Sponsored 2nd International Conference for Convergence in Technology (I2CT) 2017, Page 1-5, Paper no. 814, Apr 7-9, 2017, Pune, India.

[4] **Uttam Banik, Chinmoy Bhattacharjee**, "Design and Testing of the Performance of Corrugated Paper Air Tunnels on Generation of Electricity by Wind Generators," National Conference on Advances in Physics 2012 (NCAP2012), Renewable Energy Paper no. RE 02, 28-29 February 2012, SUST, Bangladesh.



Biography

Uttam Banik is a Broadcast Engineer in Duronto Television at Dhaka, Bangladesh. His recent research paper has been presented in "Global Meet on Condensed Matter Physics and Materials" from October 25-26, 2019 at Paris, France. He attended as a researcher in "5th EuroSciCon Conference on Quantum & Plasma Physics" from May 09-10, 2019 at Stockholm, Sweden. He also presented his research on "IEEE Sponsored 2nd International Conference for Convergence of Technology 2017 (I2CT)", Pune, India. He did his M.Sc. in Engg. in Information Systems Security (ISS) from Bangladesh University of Professionals (BUP), Mirpur Cantonment, Dhaka, Bangladesh. His areas of research interest in Orbital Debris, Astrophysics, Digital Signal Processing, Plasma Physics, Satellite Signal Communication, Cosmic Radiation, Electromagnetic Wave Propagation, Radar and Optical Communication, Information Systems Security, Satellite and Space Technology. He attended a course for Certification of Achievement on Modern Broadcast Technology from Bangladesh National Institute of Mass Communication (NIMC) at 2018. He is attending different international technology conferences and getting resources for his higher research.

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