

19th IAA SYMPOSIUM ON SPACE DEBRIS (A6)
Mitigation - Tools, Techniques and Challenges - SEM (4)

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CNES SPACE SUSTAINABILITY INDEX

Abstract

The evolution of the Space environment situation within the context of growing Launches of any type of satellites (mega-constellations, cubesats and nanosats for example) have led CNES to adopt new methods to offer monitoring, control and / or regulation in the various settings in which it operates. Thus, within the framework of the IADC, CNES and its partners have for several years been investigating the possibility to characterize the space environment by one or more indices, making it possible to assess both the situation at a given moment, and its evolution with time.

The specific CNES approach with the proposed tool INDIGENE, is to offer the possibility to compare the Space environment impact (footprint) of a dedicated situation (for example a mission) to a reference model, within a very friendly and intuitive graphic form, and using a wide range of indicators. This, in addition to the pure indexes calculation.

Relying on preexisting indices, with inherent pros and cons, the CNES index aims at taking into account - in particular - the constraints related to the Space Operations Law (LOS), with the ambition of being used for mission and / or space situation assessments for surveillance purposes, control and regulation. A specific application case will be given in the frame of the current work on the FSOA Technical Regulation update and its future application to space operators.