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Conceptualizing Space Elevators and Tethered Satellites (3)

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SPACE ELEVATOR GEO NODE, APEX ANCHOR, AND COMMUNICATIONS ARCHITECTURE

Abstract

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The Geosynchronous Earth Orbit (GEO) Node and Apex Anchor of the Space Elevator (SE) have been discussed in general terms since the beginning of the concept. The need for an SE Communications Architecture has also been discussed but without much depth. This led the International Space Elevator Consortium (ISEC) to the selection of the GEO Node, Apex Anchor, and Communications Architecture as the 2016 yearly topic. The ISEC focus enabled the community to contribute towards a designated goal of describing the requirements for building and operating these entities. This paper presents the functional requirements for the GEO Node, Apex Anchor, and Communications Architecture as components of a Space Elevator at Initial Operational Capability (IOC).