

FAR FUTURE (D4)
Space Elevators and Tethers (2)

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JAPANESE SPACE TRAIN CONCEPT

Abstract

The first Space Elevator will probably be the simplest designed structure, taking advantage of the strength of materials such as carbon nanotubes. However, in an effort to replace chemical rockets that are currently in the mainstream, and enable the space elevator to be the safe and low-cost transportation to space, it is necessary to take “commercial operation” into consideration from the phase of its concept design. This presentation will introduce about Japanese Space Train system, which is modified version of the current Space Elevator mainstream design and present feature, major components and the current status on many challenges such as the power supply system for operational stability, the utilization of linear motor technology to prevent friction of the wheels and cable abrasion by the friction, the construction of “Earth-View-Station” for the expected demand of day-trip passengers and the express train “Earth Express” bound for the station, the concept on the commercial service of the sleeper train “Galaxy Express” bound for “Geosynchronous Station” targeting the base of customers who want to enjoy zero-gravity at an easy pace, and the safety measures when the space elevator passes through Van Allen belt at slow speed. Also this presentation will talk about some candidate locations of Sea Port Station in Asia.