

SYMPOSIUM ON VISIONS AND STRATEGIES FOR FAR FUTURES (D4)
Space Elevators and Tethers (4)

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FIRST SPACE ELEVATOR: ON THE MOON, MARS OR THE EARTH?

Abstract

The ability to move massive amounts of materials and people will enable space colonization. The needs of the people and their habitats will drive logistics loads to levels never achieved before in the space arena. Key to this enabling technology is the space elevator. With today's materials, space elevators can be built around the Moon and Mars because of the lesser gravity well inherent in the planets. However, the biggest issue is raising mass against Earth's gravity wells to just begin colonization. The trades are intriguing when looking at where the most value resides; and, when the technologies will enable space elevators. These engineering trades will be compared with cost and logical requirements associated with a movement of population off of Earth and toward the Moon, Mars and beyond. The concept of an infrastructure to move mass into and around space greatly simplifies [and dramatically lowers cost] the logistics tail. So the question is: Where will the first space elevator be constructed? At the Moon? At Mars? Or here on our home planet?