

12th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)  
Global Strategy for Space Elevators (3)

Author: Dr. Peter Swan  
SouthWest Analytic Network, United States, dr-swan@cox.net

## SPACE ELEVATOR TETHER CLIMBERS – NORMAL SPACECRAFT?

**Abstract**

This paper will provide a comprehensive look at a key element of the space elevator infrastructure, the tether climber. They have the attributes of normal spacecraft while demanding some special characteristics in operations and design. Some of the basic questions being addressed inside this paper are:

- Is the projected design achievable within the next 15 years?
- Do we know enough to design a basic tether climber?
- What are the special design characteristics needed to meet the needs?
- How will the tether climber interact with the tether?
- What are the demands the tether will put on the tether climber?
- Can we meet the needs of the developer/owner/operator? 6 Metric Ton climbers, 14 MT payloads, One launch per day? One week trip to GEO? 7.5 years of life for single tether? 10 year MTBF?
- Which power source? solar? laser? Hybrid?

These questions, and many more, will be addressed. The purpose is to provide a summary that will enable the space elevator community to have a common starting point for further designs and projections of capability for tether climbers.