

14th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)  
Space Elevator and Tethers (3)

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CRITICAL TECHNOLOGIES FOR SPACE ELEVATOR - STATUS REPORT OF IAA SG3.24

**Abstract**

In 2014, a new study group, SG3.24 "Road to Space Elevator Era", was established in IAA as the follow-up of the SG3.13 "Assessment of the Technological Feasibility and Challenges of the Space Elevator Concept" with the same baseline design assumptions. As the final products of the study group, Space Elevator Mission Definition Document (SEMDD) and Space Elevator System Requirement Document (SESRD) will be released along with Space Elevator Prediction Feasibility Index (SEPMFI). A summary chart was drafted to show the relationship of "Mission Definition", "System Requirement", "Critical Technologies", and "Verification". This chart is used to identify critical technologies required to implement the Space Elevator so that the study group can propose ideas of practical verification projects. There are several ongoing experiments utilizing the ISS and other possibilities of verification experiments shall be examined and planned.