

Solar Sailing Sat (S-CUBED) Missions Document Outline

Objective: This document is meant to be used as a complete guide for the S-CUBED mission. It can be referred to by RIT SPEX as they continue with a CubeSat, or by future MSD teams. This document can be a living document, where as more work is completed, future teams can add to it. At the end it will become a skeleton for another CSLI proposal.

Abstract

Table of Contents

Nomenclature

1. Background
 - a. Solar Sailing
 - b. Diffractive Elements
2. Diffractive Elements Design of Experiment (Primary Mission)
 - a. Define the objective
 - b. Quantitative calculations
3. Evaluate Mission - Overall Mission Analysis
 - a. Critical Requirements
 - b. Define potential outcomes - success/fail
 - c. System Level Requirements
4. Mission Lifetime Evaluation
 - a. Orbital Trajectories
 - b. Life Cycles
 - c. Environmental Considerations
5. Integration of Subsystems
 - a. Integration considerations
 - b. Block diagram of all subsystems together
 - c. List and briefly define each subsystem
 - d. System level designs (CAD, overall drawings, software architecture)
 - e. Budget
6. Subsystem 1
 - a. Overview
 - b. Requirements
 - c. Considerations

- d. Analysis
- e. Design Layout
- 7. Subsystem 2
 - a. Overview
 - b. Requirements
 - c. Considerations
 - d. Analysis
 - e. Design Layout
- 8. Subsystem 3
 - a. Overview
 - b. Requirements
 - c. Considerations
 - d. Analysis
 - e. Design Layout
- 9. Subsystem 4
 - a. Overview
 - b. Requirements
 - c. Considerations
 - d. Analysis
 - e. Design Layout
- 10. Subsystem 5
 - a. Overview
 - b. Requirements
 - c. Considerations
 - d. Analysis
 - e. Design Layout
- 11. Test Plans
 - a. Procedure Outlines
 - b. Recommended Tests
- 12. Available Resources
 - a. Contacts
 - b. Team Members
 - c. Useful Info

Appendix