

Requirements For RockSat-X Payload - Hephaestus

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Abstract

The Oregon State University RockSat-X team shall be name Hephaestus. The requirements for the hardware, software, and programmatic development of Hephaestus shall be outlined in the following document. The mission requires that the payload, an autonomous robotic arm, perform a series of motions to locate predetermined targets. The hardware shall be capable of performing the motions to reach the targets. The software shall determine the targets and send the commands to the hardware to execute the motion. The combination of the hardware controlled by the software shall demonstrate Hephaestus's ability to construct small parts on orbit.

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1 Introduction

2 Technologies

2.1 Tech 1

2.2 Tech 2

2.3 Tech 3

2.4 Tech 4

2.5 Tech 5

2.6 Tech 6

2.7 Telemetry

The three options being considered for transmitting telemetry are 1. a custom-built solution for our own needs, 2. Open MCT developed by NASA for space-specific missions, and 3.

2.8 Video Handling

2.9 Data Visualization

3 Conclusion