Problem Statement For RockSat-X Payload - Hephaestus

Helena Bales, Amber Horvath, and Michael Humphrey

CS461 - Fall 2016

October 27, 2016

Abstract

The Oregon State University RockSat-X team will demonstrate that an autonomous robotic arm can locate predetermined targets around the payload under microgravity conditions by using precise movements. The technical actions performed by this demonstration will illustrate a proof of concept for creating assemblies, autonomous repairs, and performing experiments in space. In order to accomplish the Hephaestus mission, the software team shall collect telemetry data and develop the arm control software. The telemetry shall be sent to the ground station in real time in order to monitor the progress of the flight. The software shall be responsible for deploying and moving the arm assembly body. Hephaestus will be successful if the arm performs the given motions and if the motions are recorded by the on-board video camera and telemetry data.