Paper ID: 52215
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17th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)
Space Resources: Technologies, Systems, Missions and Policies (5)

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LUNAR SAMPLER - STUDENT DESIGN, BUILD AND TEST PROTOTYPE

Abstract

The mission challenge is to "Collect and Store samples of Lunar surface from within Permanently Dark Crater basins." As a part of a bigger team, the students at Arizona State University have designed, built, and tested the Lower Winch Station, a part of the rotating tether satellite system designed to fulfill the mission in the year 2023. The focus of ASU's eProject is to "brainstorm, plan, design, make, test, and document" a hardware/software project as a part of their required senior level engineering capstone course. These Polytechnic School students focus on the mechanical, manufacturing, robotics, automation, electrical, software and human factors studies, culminating in a design, build and test of a state of the art satellite sub-system. These engineering projects are sponsored by local industries and lead to a solid understanding of developmental processes, especially the ones unique to space activities. Zodiac Planetary Services is the supporting industry partner while the senior level students "learn by doing" in the developmental sense.