

Abstract Submitted
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Small Satellites for Secondary Students¹ KEVIN ZACK, LYNN COMINSKY, NASA E/PO SSU — Small Satellites for Secondary Students is a program funded by a three-year grant from NASA to bridge the gap in STEM education for secondary-school students. This is accomplished by creating the educational resources that are needed to support the development of a small scientific payload in alignment with scientific and technological education standards. The prototype payloads are flexible multi-experiment platforms designed to accommodate a wide range of student abilities with minimal resource requirements. The heart of each payload is an Arduino microcontroller which communicates with components that provide sensor data, Global Positioning System information, and which offer on-board data storage. The payload is built with off-the-shelf components and a pre-etched, custom-designed connector board. The platform also supports real-time telemetry updates through the use of Wi-Fi. To date, the prototype payloads have been tested on both high-powered rockets reaching over 3km and weather balloons tethered at 300m. Multiple successful rocket test runs reaching 1km have been conducted in partnership with amateur rocket clubs including the Association of Experimental Rocketry of the Pacific. From these flights, we are continuing to improve the payload design in order to increase the likelihood of student success.

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