

Abstract Submitted
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Dartmouth GreenCube: Undergraduate Physics Balloon Research SABA NEJAD, Dartmouth — GreenCube is a scientifically motivated, student-driven CubeSat development and flight program in Dartmouth Physics. With each balloon flight we try to incorporate new design features into potentially small payloads for Low Cost Access to Space (LCAS) aurora sounding rocket proposals by Professor Lynch. We've had balloon launches every year for the past few years. We used the data collected in the previous balloon flight to compare the accuracy of different pressure and temperature sensors which led to us eliminating one for this coming balloon flight. We are also adding a light detecting sensor and scintillator block in this coming balloon flight in order to be able to detect muons. GreenCube also participated in Dartmouth's 2015 Digital Arts Expo with a project called Interactive Vector Field Visualization. We created an array of Arduino-powered sensors which measured wind speed and direction and mapped the data in real time to create an interactive display. It's important to note that every aspect of the balloon launches, starting from the ideas and design to implementation and building the different parts is done by the students themselves.

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