Last Launch of the Semester is a Success!

What a beautiful landing! For the first time in balloon history, the balloongineers of the NearSpace Program hoped to land in a tree. Why? The balloon payloads fell at speeds greater than 20 miles per hour! No worries; the tree softened the fall and provided for a lovely photo of the payloads in the tree, shown on the right.

In terms of statistics, the 51st Flight of the MdSGC NearSpace Balloon Payload Program lifted off at 8:52 AM on Saturday, November 14th, with seven payloads - five of them new and created by freshmen teams - reaching a maximum altitude of 87'000 feet.

Following the predictions, the balloon entered

a jet stream of winds ranging from 50 to 108 mph in an eastward direction, landing slightly north of Reisterstown, MD. After locating the payloads, the NearSpace team retrieved all payloads with little difficulty and started preliminary data analysis the in the lab.

Pictures/Videos

Pictures, videos, and data retrieved from the duration of the launch can be found on our **server**.
A video of the launch sequence can be found **here**.

Guests and team members holding down the Balloon Launch Tube (BLT) and the tarp.

Clouds from above.
Photo courtesy of Bach's Box.

The view nearby the launch site with horses and forests.

Payloads Results

HELIOS

The Helium Exhaust Liberation Inflation Optimization System (HELIOS) was successfully able to release helium from the

balloon at an altitude of about 17'000 feet. The data showed changes in speed when the valve was open, indicating that the payload successfully vented helium. In future flights, this payload will allow the balloon to reach higher maximum heights.

Command Module

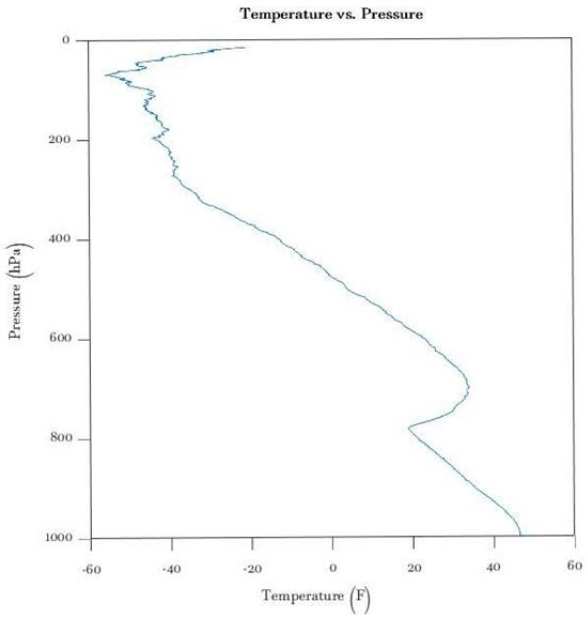
Command Module, our main tracking and telemetry system, was altogether successful. Radio performance and battery protection circuits performed as expected. There was a small issue with cellular transmissions due to a configuration issue, but it has been resolved for future flights.

Stress Eaters

Stress Eaters collected temperature, pressure, and humidity data via sensors. Video of the polycarbonate during the flight was captured successfully and can be found **here**.

MASIV

MASIV (Measuring Atmospheric Spectrum Infrared to Visible light wavelengths) used light and pressure sensors to measure infrared to visible light wavelengths. The team used a collimator to narrow the light that entered the payload and through the diffraction grating.

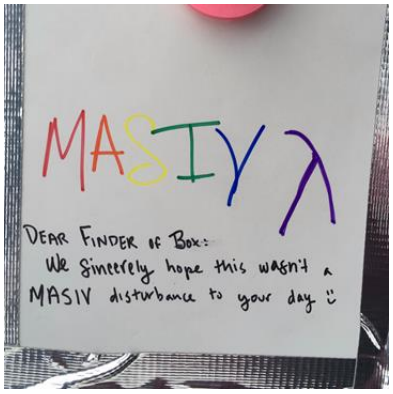


Bach's Box

Bach's Box successfully logged pressure, temperature, and humidity, while calculating dew point and other meteorological factors. The graph included on the left is a vertical temperature profile as a function of pressure. At around 100 hPa, the payloads flew into the stratosphere, as shown by the increasing temperature.

IRIS

IRIS (InfraRed Imaging System) captured infrared photos during the flight and hopes to fly an addition GoPro to capture regular photos for comparison.



The outside of MASIV.

We're ready to launch!

A view of Earth from an infrared camera.
Photo courtesy of IRIS.

Email Update

As I will be studying abroad next semester, the PR Manager position is transitioning into new hands. All future balloon launch announcements and updates will be sent by **Ji Min Chang** (**ji.phs2014@gmail.com**). This transition will be implemented in January.

*The NearSpace High Altitude Balloon Team thanks the **Maryland Space Grant** for its continued support and effort to make our program possible.*

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