

High Altitude Balloon Project successfully launches and retrieves payload

8/04/2014

Hi Folks,

On Saturday, August 2nd physics and engineering students successfully launched and retrieved a high altitude balloon payload. The launch took place from the Lucerne Dry Lake bed at 06:36 where it ascended at an average velocity of 6.3 m/s for 54 minutes to an altitude of just under 18 km. At this point the primary attachment point of the payload to the parachute train failed due to extremes of temperature and stress. The payload re-entered ballistically in just over 7 minutes impacting the ground at 07:47 at nearly 90mph. The payload was found at 10:44 based on satellite data broadcast from the payload after impact and the 106dB audio siren. The payload with all experiments were determined to be intact with the exception of one camera that was ejected about 3 m. Usable data was extracted from the payload and an overall analysis of the flight trajectory, temperature and pressure profiles was completed. Additional analysis is currently underway to determine the effectiveness of the stabilization techniques developed by the students.

The experiment involved more than 33 students enrolled in physics 99 and engineering 99 courses. Faculty members Martin Mason, Phil Wolf, Daniel Anderson and Malcolm Rickard mentored the different student teams required to bring the project to its successful completion. The department looks forward to another launch this winter with the goal of reaching near space conditions and eventually staging a rocket from the balloon platform to take data from the thermosphere.

Cheers,
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