1 Flight Statistics and Information

Launch Location: Ovid-Elsie High School
Launch Time: ∼1:45pm
Ground Conditions: Windy, sunny and warm. Wind was shielded by a building
Balloon Size: 1500g
Total Mass: 5193g
Launch Notes: Launch was performed in conjunction with a SEDS outreach event. Issues with wind were significantly abated by using MBurst’s tarp to cover/contain the balloon

Experiment 1: FTU Pressure Cut
Result: Failed, the FTU never triggered, reason is currently unknown

Experiment 2: Live Streaming Video
Result: Partial success, live stream was recorded until power was lost

Landing Location: Cornfield near the intersection of HW52 and Juddville road
Landing Time: ∼3:15pm
Retrieval Notes: The payload landed in a deep cornfield which made retrieval difficult. Permission to enter the field was obtained by the land owner. The recovery team commented on the situation, “500 ft in every direction, all I could see was corn. It was hot, it was humid, it was awfully green, but we found it.”

Max Altitude: at least 26,814m (87,973ft)
Target Ascent Rate: 6 m/s
Average Ascent Rate: 7.89 m/s
Average Descent Rate: 16.7 m/s

Additional Media: http://exploration.engin.umich.edu/blog/?page_id=2416

Other notes: On descent, the parachute became tangled in the shredded balloon which led to a higher descent rate than anticipated. Also, it was noticed that one of the swivels nearly broke at the mounting ring in flight. The component will need to be replaced with something more durable.

Figure 1: Predicted vs. actual flight path (black = predicted). Since the FTU failed, the actual max altitude is nearly 6000m higher than expected.
Figure 2: Flight 15 elevation plot; note that no data was recorded above 18,200m (60,000ft)

Figure 3: Flight 15 vertical velocity plot
Figure 4: Special thanks to the Hirose Corporation for donating specialty tools to the lab!