



Eggsploration – Launch Debriefing

Agenda

- Pictures/Movies from Launch
- Round Table:
 - What happened during your Launch
 - Comments
- What Went wrong
 - Parachutes
 - Trajectory
 - Egg Packing
- Lessons learned – What should be done differently
- Module Evaluation



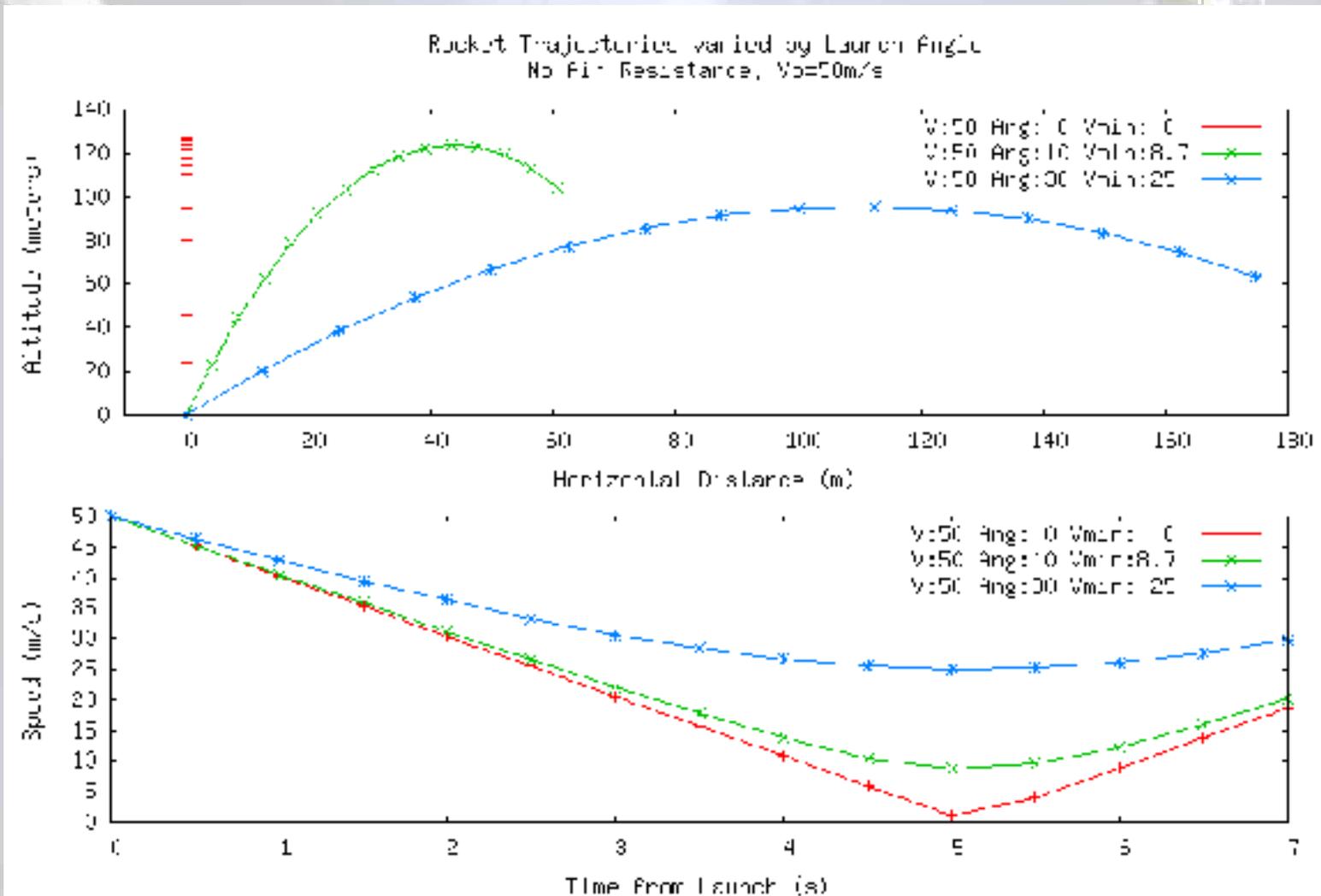


Debriefing

- Purpose
 - Create a record of peoples recollections
 - Supplement data acquisition
 - Provide a opportunity for questions, to supplement and stimulate memories.
- Questions (not limited to)
 - How did you pack your egg?
 - How fast did your rocket liftoff?
 - What direction did it go?
 - How did the parachute deployment go?
 - Was recovery successful?
 - How did the egg do?
 - What oddball memory did you get at the event?
 - Other comments?



Rocket Trajectory and Launch Angle



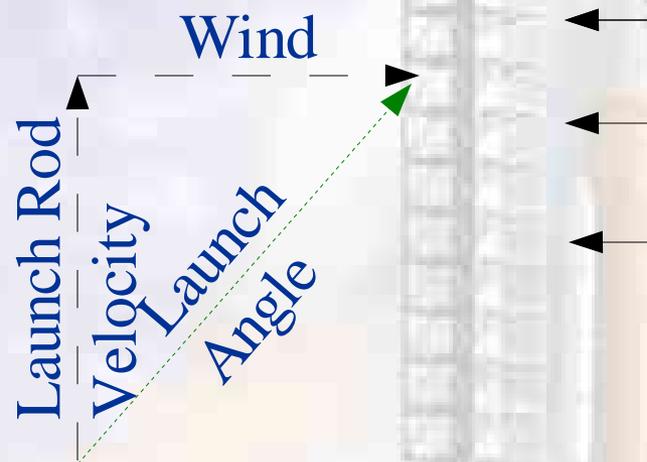


Launch Rod

- Wind estimated at 7MPH
 - 15 m/s
- Launch rod, 4 ft (about 3.5 ft)
- Based on wRASP

Launch Rod (ft)	V (m/s)	Launch Angle w/wind
3.5	11.5	53
6	13.4	48

- Rule of thumb
 - Want Ave Thrust to Weight Ratio 5:1
 - 6 N to $0.132 \cdot 9.8 = 4.6$





Egg Packing

- **Successful**
Peanuts with egg carton pieces
- **Egg cracked but did not break**
peanuts with small cup bottoms
peanuts and bubble wrap
- **Egg leaked/Broke**
Parachute failures



Lessons Learned

- Should measure rocket mass and wind speed
- Higher thrust engine?
 - Straighter flight, less wind influence
 - May break egg on launch
- Less Wind, longer rod?
- Angle Launch rod away from the wind
 - For straighter flight
- Run simulations for end of rod velocity
- Stronger Parachutes?



Questions?