

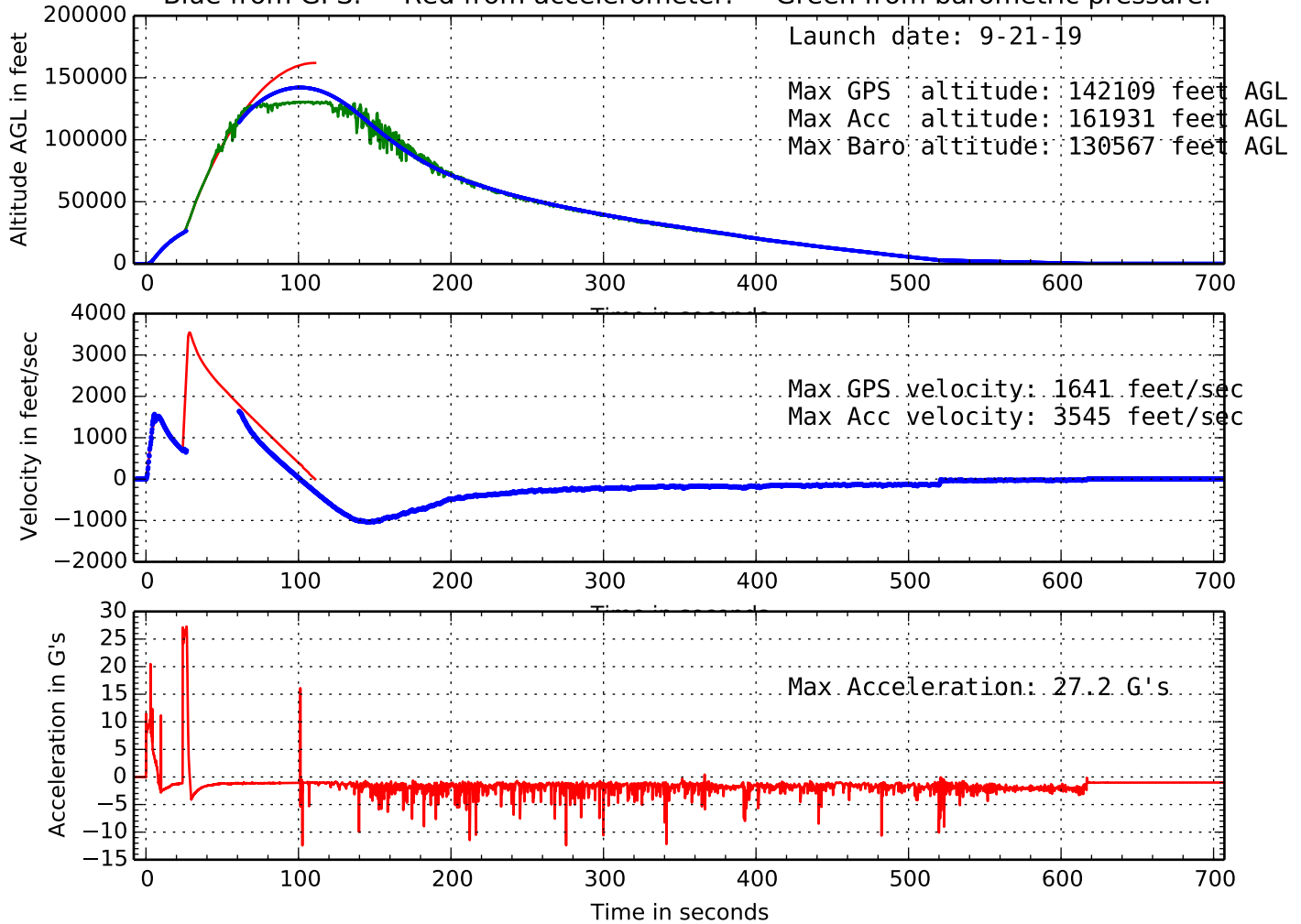
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|           Flight Card           |
-----|
Launch date:  Sat Sep 21 2019
Launch site:
Flyer's name:  Jim Jarvis
Rocket name:
Motor:
Expected alt:  ? feet
Dual deploy:  Yes, main parachute set at ? feet
Comments:  Balls 2019 on-board data
-----|
|           Flight Results         |
-----|
Max GPS altitude:  142109 feet AGL
Max Acc altitude:  161931 feet AGL
Max Baro altitude: 130567 feet AGL
Altitude at max vel: 36314 feet AGL
NOTE: Flight exceeded GPS velocity limit!
Max GPS velocity:  1641 feet/sec  1118.9 mph  1.612 Mach
Max Acc velocity:  3545 feet/sec  2417.0 mph  3.662 Mach
Max Acceleration:  27.2 G's  873.9 feet/sec/sec
Booster           Sustainer
=====
Delay time:       0.0 sec      16.2 sec
Burn time:        7.9 sec      4.7 sec
Max acceleration: 13.0 G's      27.2 G's
Tilt at ignition: 0°          9.82°
Ignition altitude: 0 feet      24653 feet
Burn out altitude: 7894 feet    32369 feet
Ignition velocity: 0 ft/s      708 ft/s
Burn out velocity: 1546 ft/s    3544 ft/s
Ignition velocity: 0.00 Mach    0.70 Mach
Burn out velocity: 1.42 Mach    3.60 Mach
Apogee Deployment Event
Occurred: 101.2 sec after liftoff
Fired: 0.22 sec late
Altitude: 142108 feet
Vert vel: -7 feet/sec
Horz vel: 281 feet/sec
Ground speed at apogee: 281 feet/sec  191.6 mph
Heading at apogee: 89° from true north
Distance to apogee: 3112 feet  5.89 miles
Bearing to apogee: 88° from true north
Descent rate on drogue: 488 feet/sec  333.0 mph
Descent rate on main: 26 feet/sec  17.9 mph
Touch down velocity: 25 feet/sec  17.0 mph
Main Parachute Deployment Event
Deployed: 519.3 sec after liftoff
Altitude: 2984 feet AGL
Vert vel: -134 feet/sec
Time to max velocity: 28.6 sec
Time to apogee: 1 min 41.0 sec
Time on drogue: 6 min 58.3 sec
Time on main: 1 min 38.0 sec
Total flight time: 10 min 17.3 sec
Lift off: 12:51:06.8 MDT  18:51:06.8 UTC
Apogee: 12:52:48.0 MDT  18:52:48.0 UTC
Touch down: 13:01:24.2 MDT  19:01:24.2 UTC
Launch pad coordinates: N 40° 52.9440' W 119° 2.5740'
Landing site coordinates: N 40° 51.3151' W 118° 52.3528'
Distance to landing site: 48006 feet  9.09 miles
Bearing to landing site: 102° from true north
Ground level: 3949 feet MSL
Liftoff  Apogee  Landing
Battery: 3.99v  3.96v  3.94v
Temperature: 103°F  107°F  107°F
Transmitter: Mx150B0415  Firmware: 5.4.0.0
This data came from transmitter flash memory.

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# Altitude, Velocity, and Acceleration

Blue from GPS. Red from accelerometer. Green from barometric pressure.

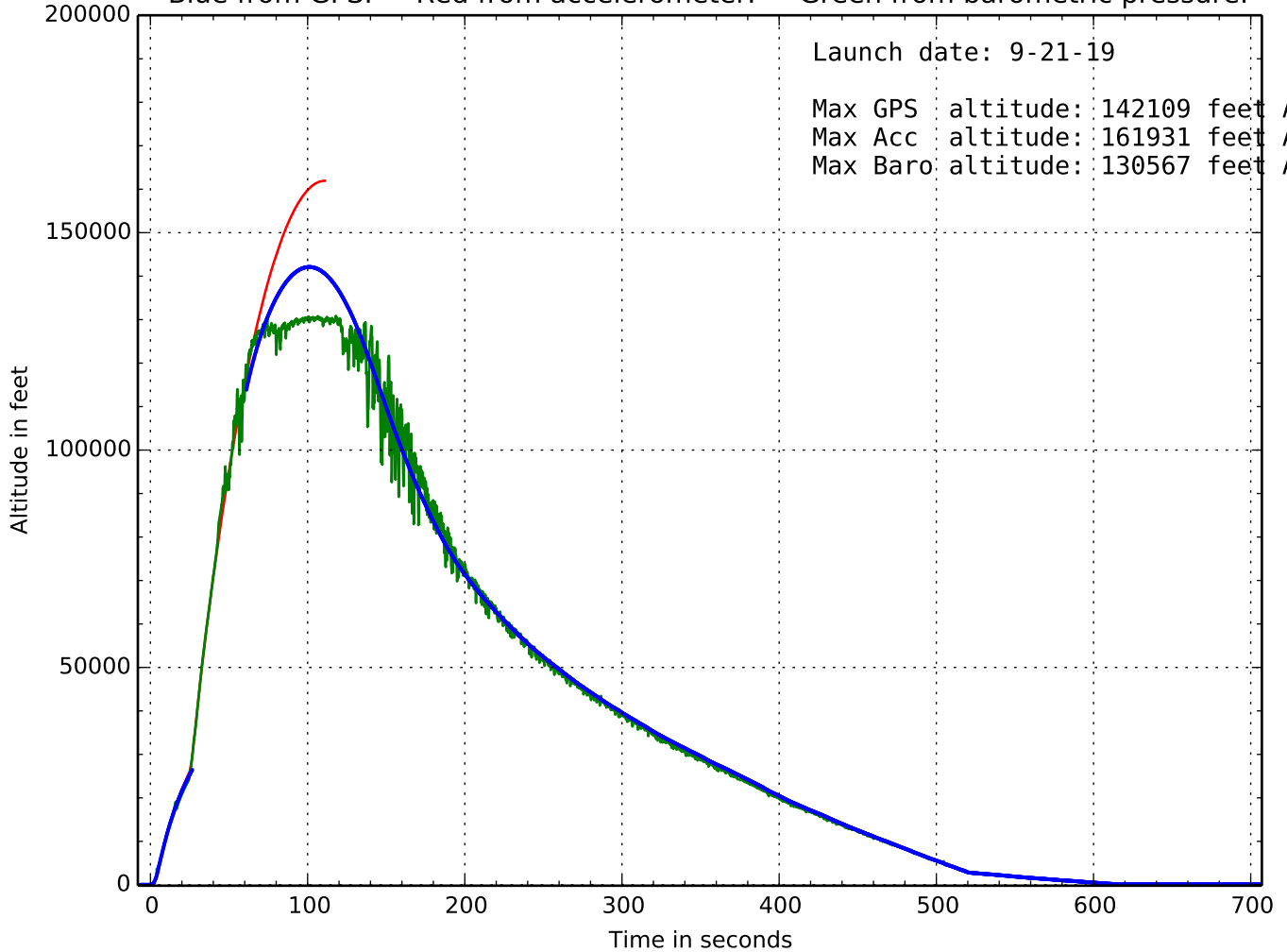


# Altitude AGL

Blue from GPS. Red from accelerometer. Green from barometric pressure.

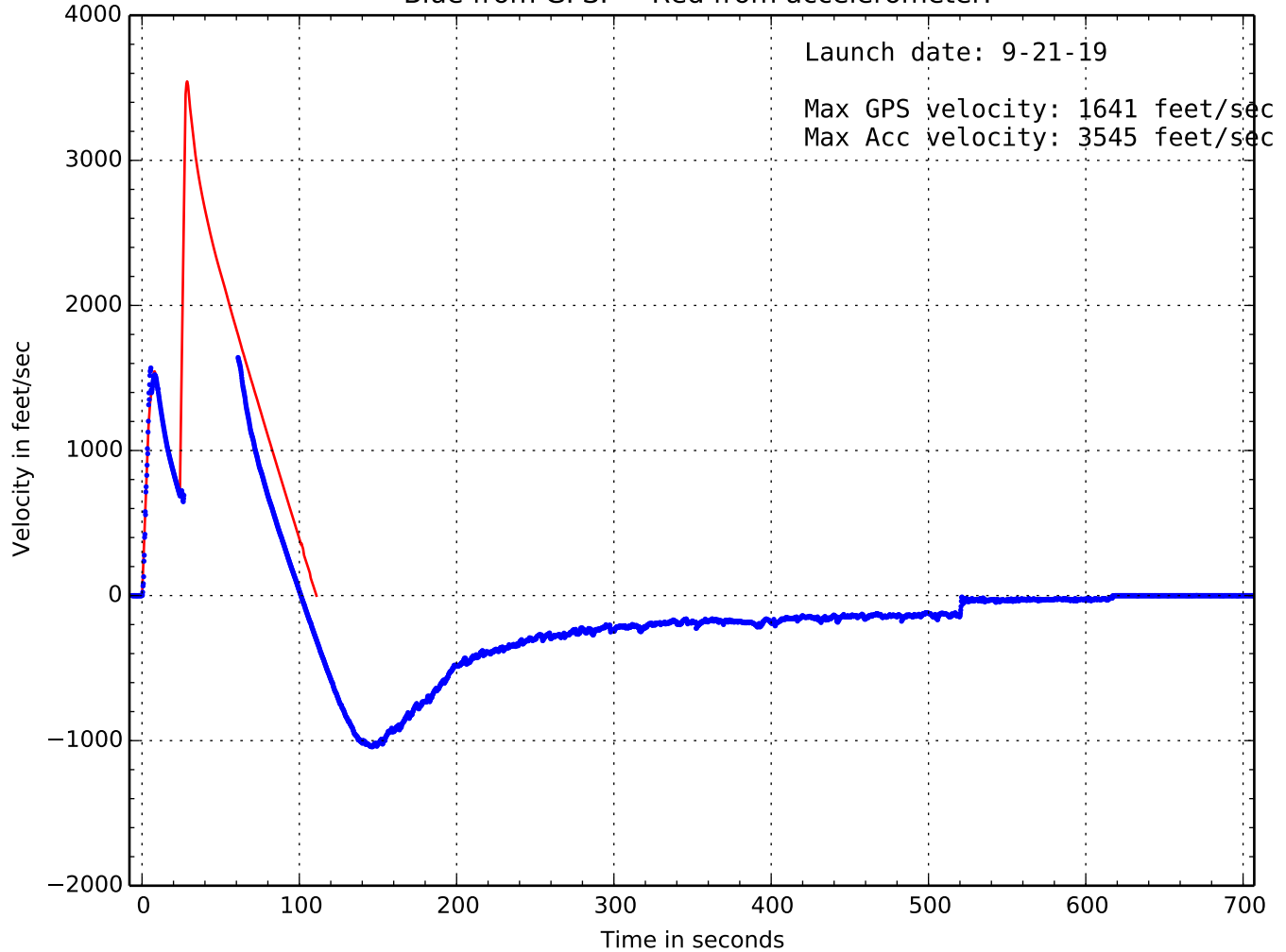
Launch date: 9-21-19

Max GPS altitude: 142109 feet AGL  
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Max Baro altitude: 130567 feet AGL

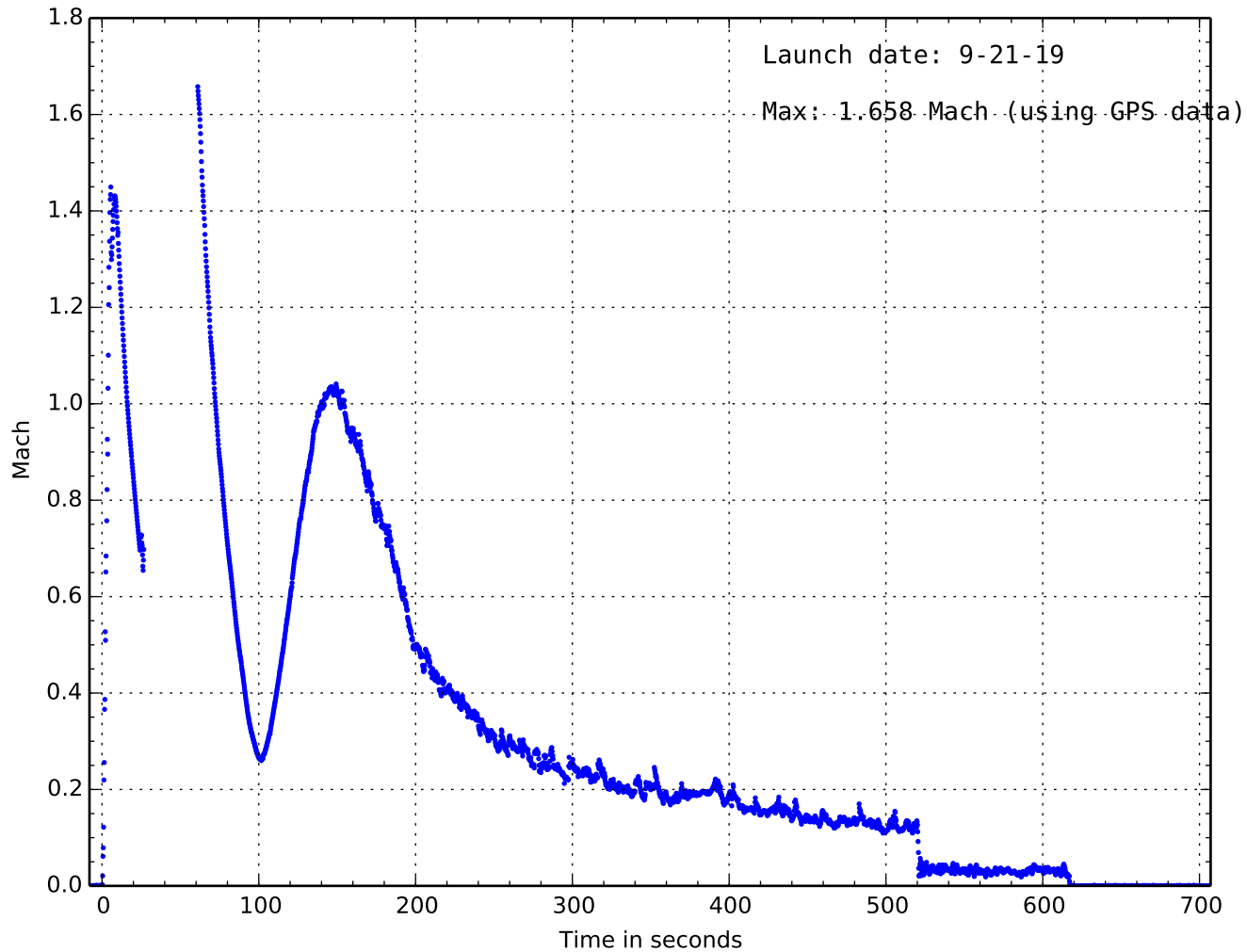


# Vertical Velocity

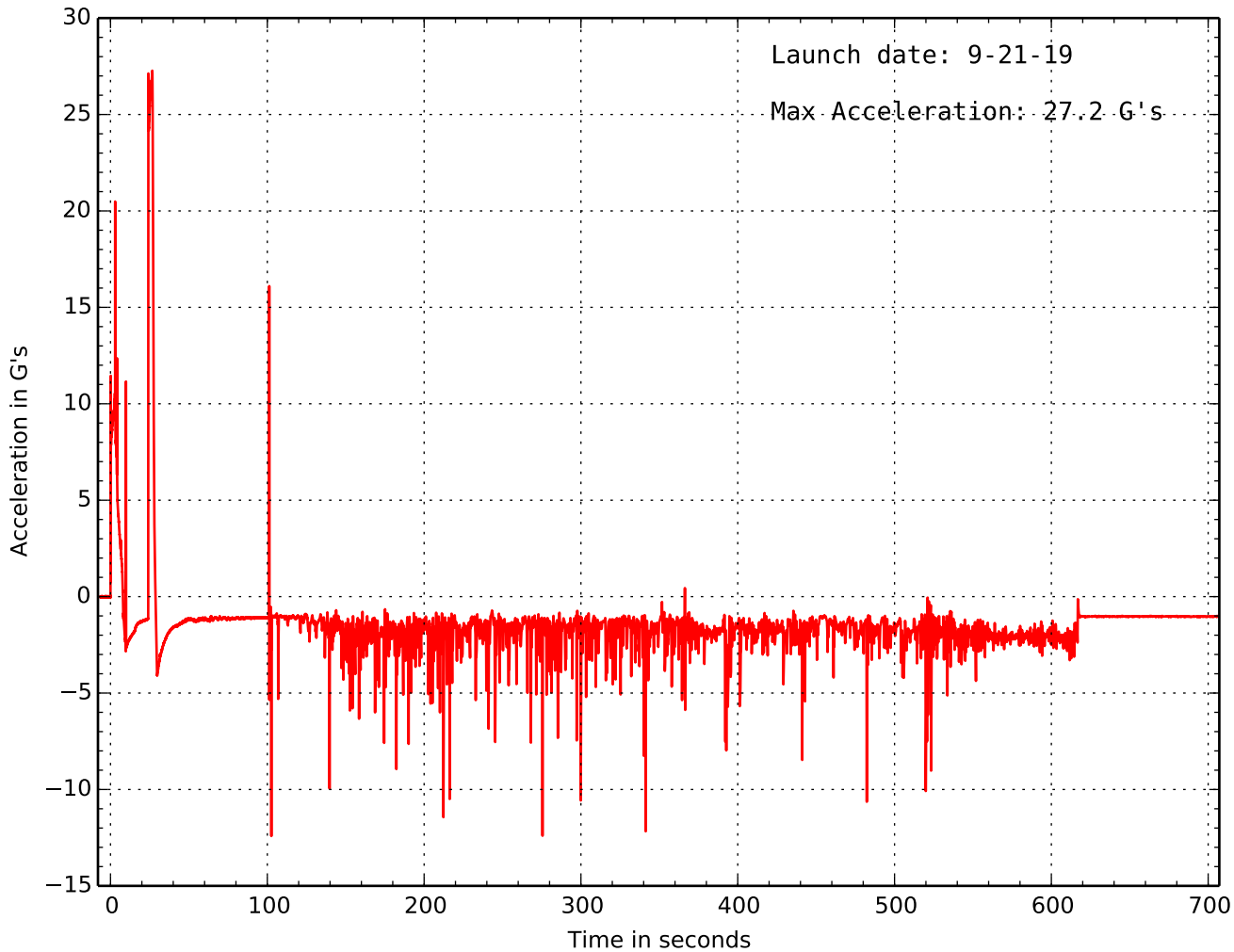
Blue from GPS. Red from accelerometer.



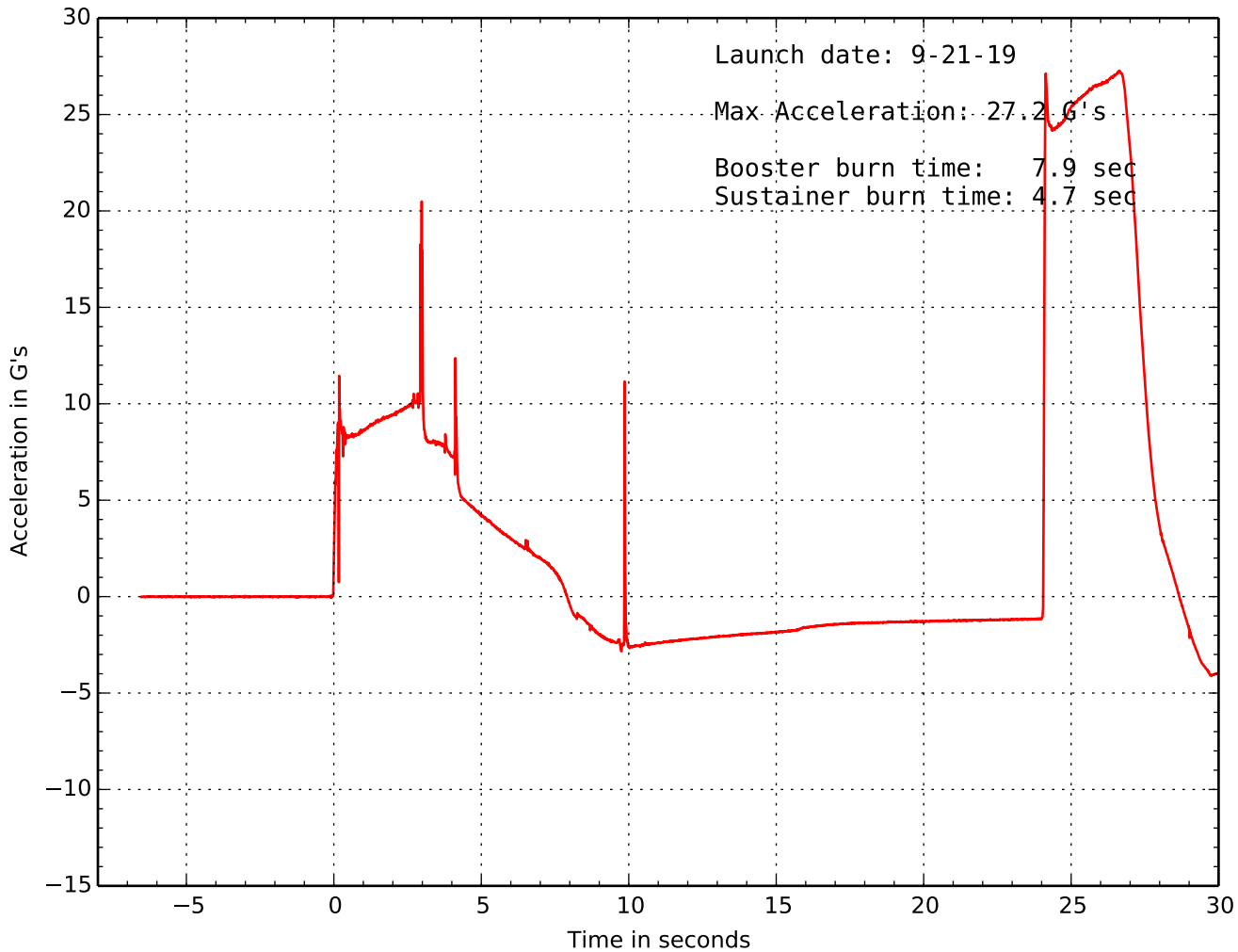
# 3D Velocity in Mach



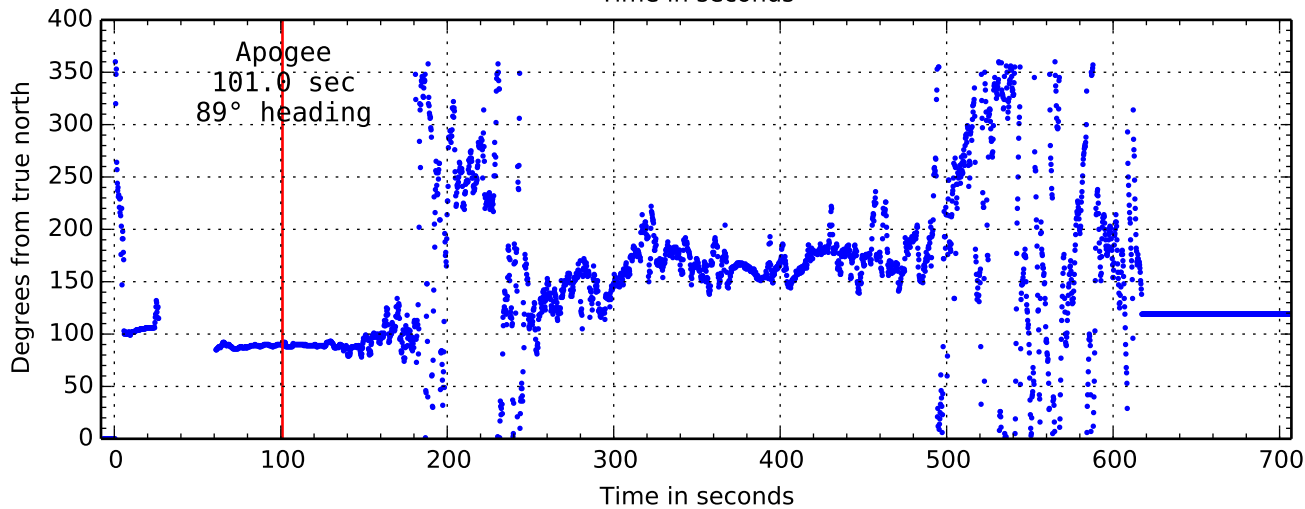
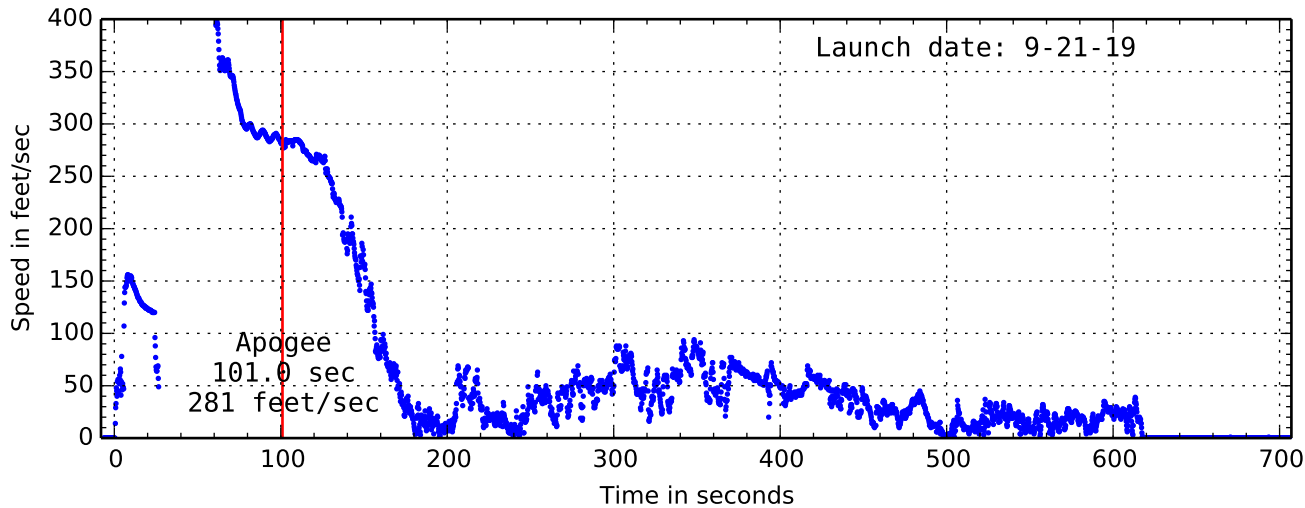
# Acceleration -- Full Flight



# Acceleration -- Boost Phase



# Ground Speed and Heading

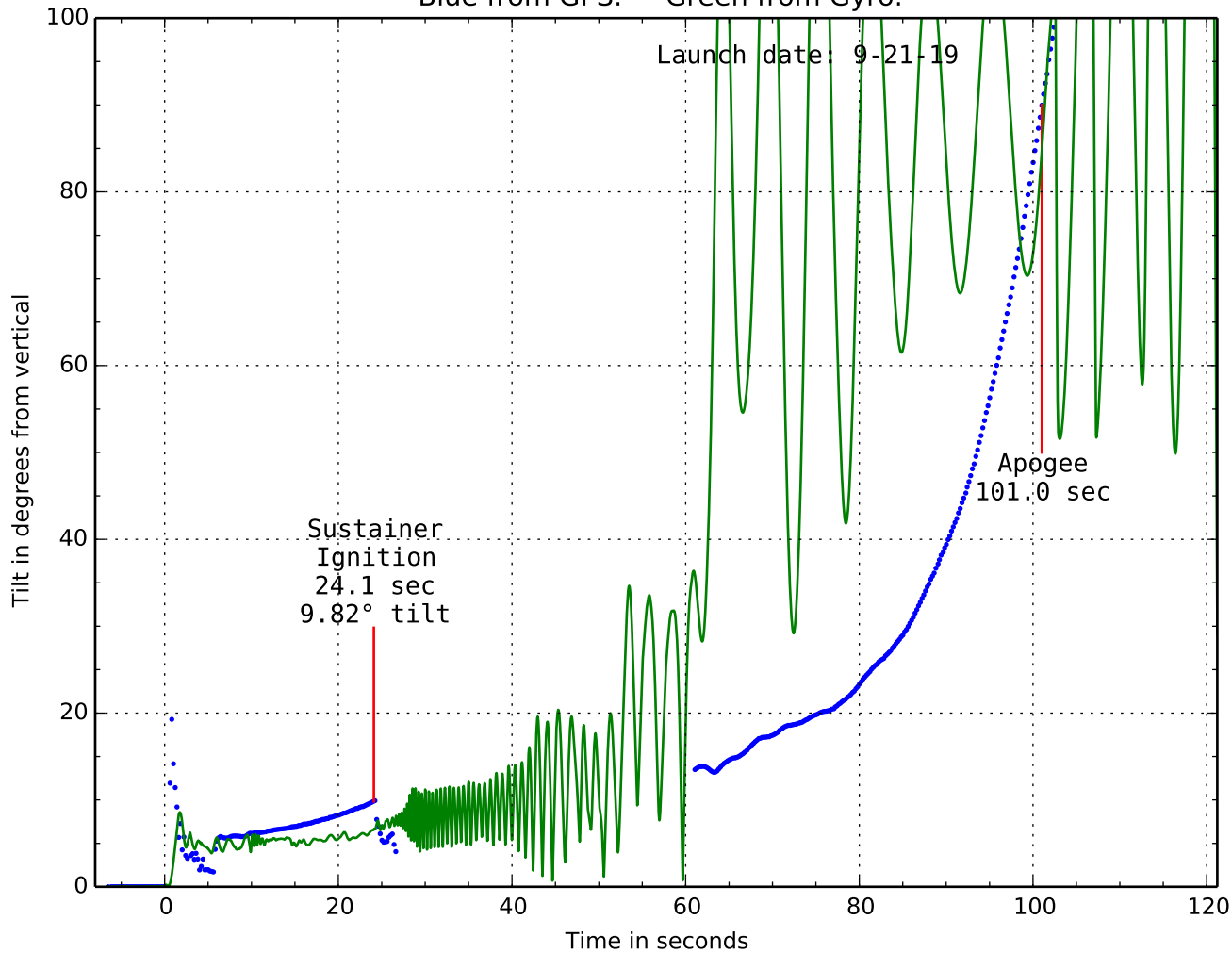




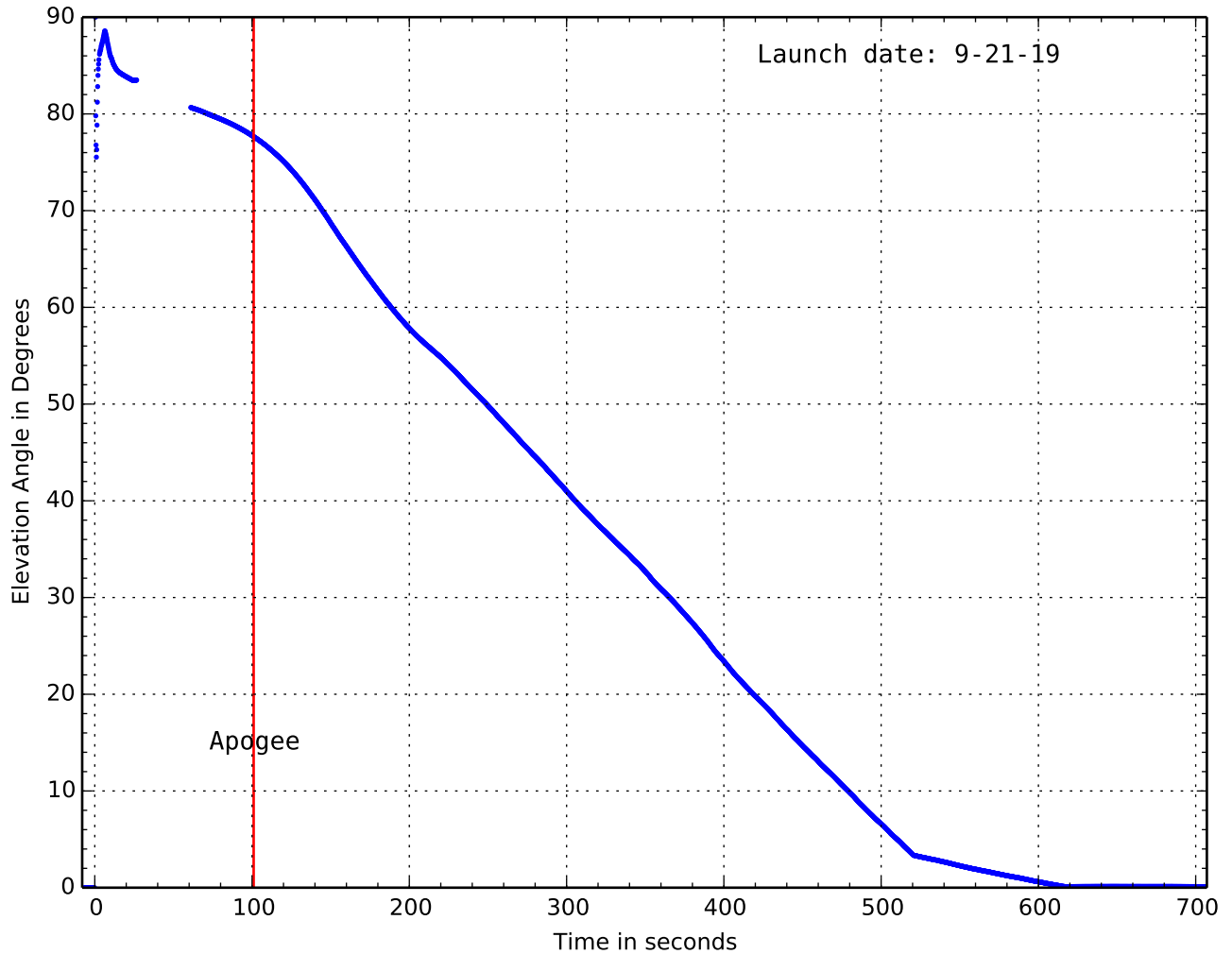
# Tilt Angle

Blue from GPS. Green from Gyro.

Launch date: 9-21-19



# Elevation Angle from launch pad



# Number of Satellites and GPS Status

