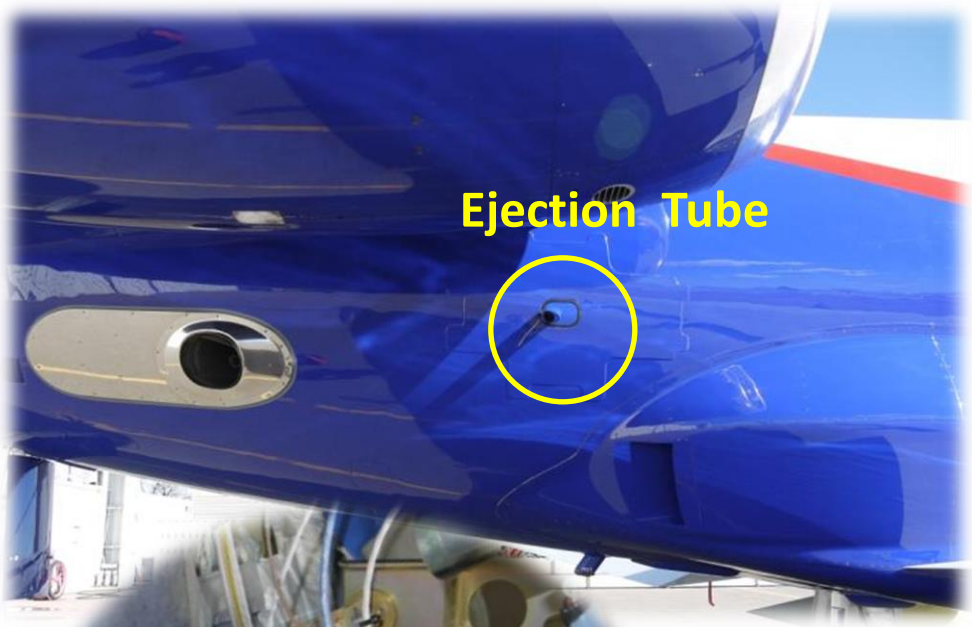
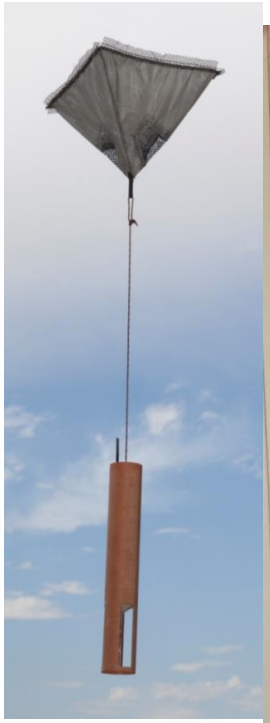
G-V Automatic Dropsonde Launcher





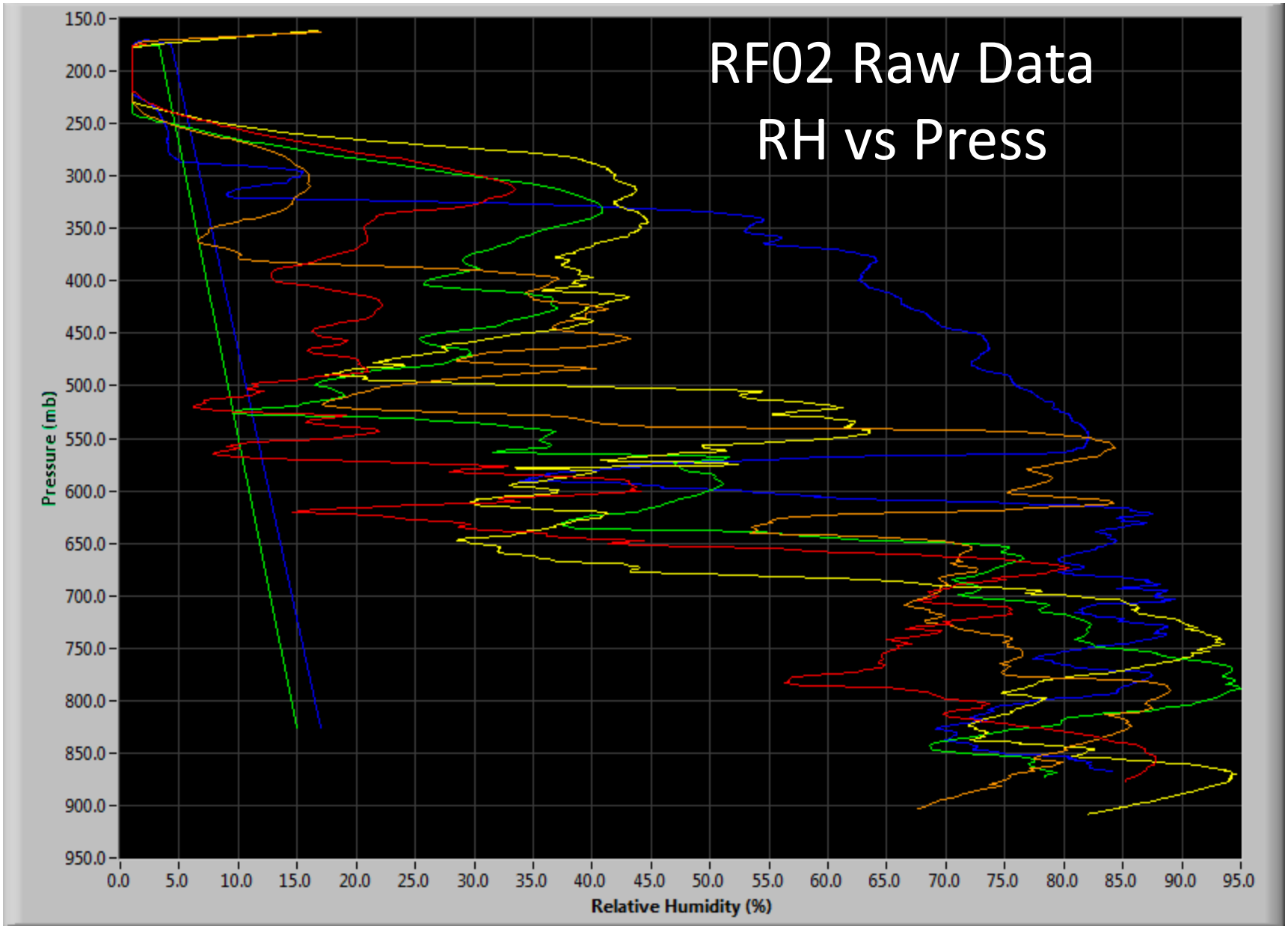
MPEX Drop Summary

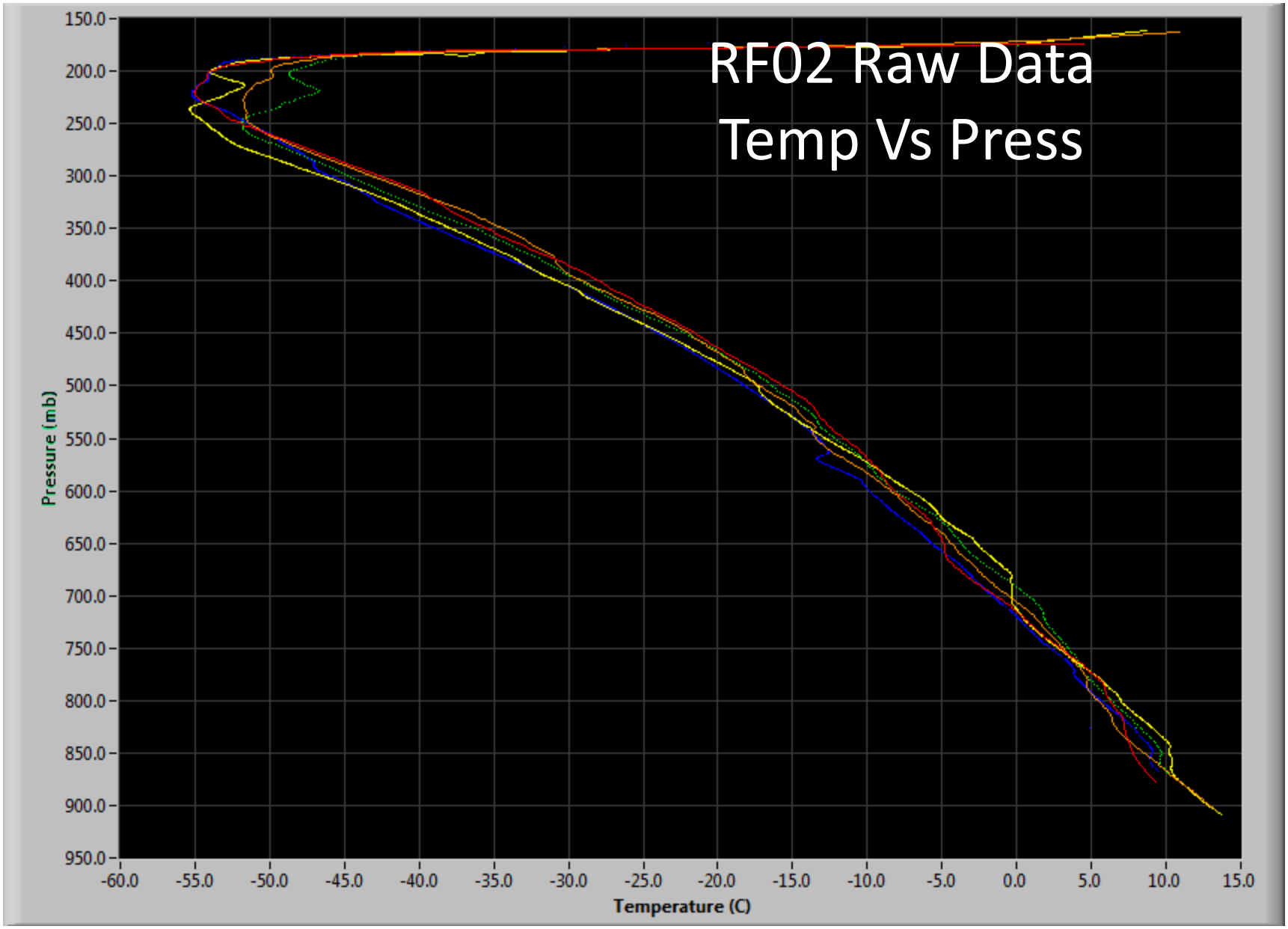
Date	Flight	Sondes Dropped	Sonde Notes	Launcher Notes
5/15	RF01	27	1-Broken T/RH sensor at launch	
5/16	RF02	31	3- Fast Falls at surface	
5/18	RF03	17	3- Fast Falls, 1-Broken T/RH sensor at launch	Sonde stuck in external launch tube
5/19	RF04	29	3- Fast Falls at surface	
5/21	RF05	27	1-Fast Fall at surface	
5/23	RF06	29	3-Fast Falls at surface	
5/27	RF07	29	6-Fast Falls at surface	
5/28	RF08	21		Removed Pressure relief valve from Launcher
5/30	RF09	27	6-Fast Falls	Removed plexiglass window cover on the Safety Gate Valve
5/31	RF10	29	1-Fast Fall at surface	Applied sandpaper on the leading edge of the launch tube port.
6/3	RF11	32		
6/8	RF12	31	7-Fast Falls at surface	
6/11	RF13	33	1-Fast Fall at surface	
6/12	RF14	33	3-Fast Falls at surface	Exit tube fairing removed
6/15	RF15	33	2-Fast Falls at surface	

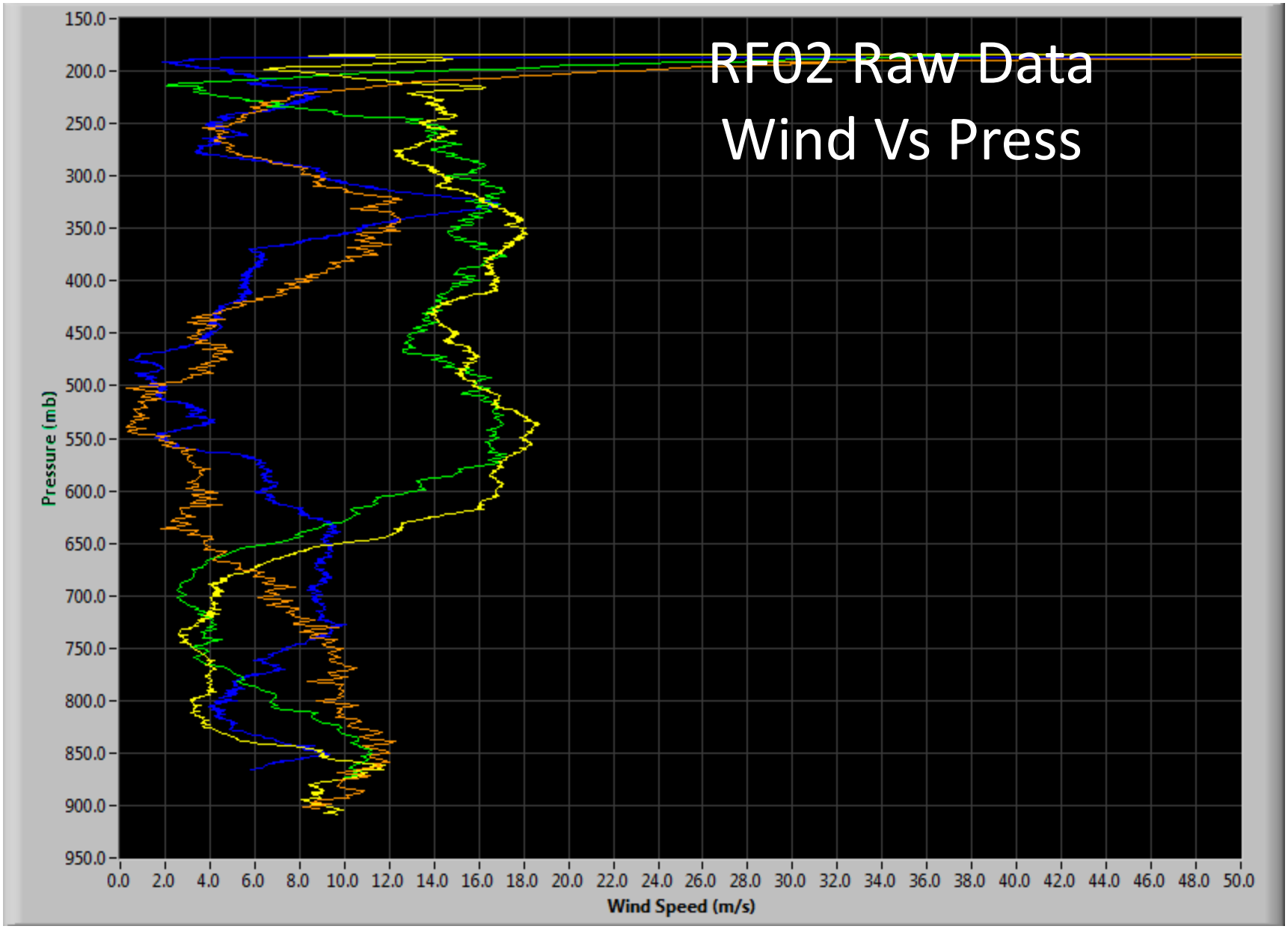
Overall Dropsonde MPEX Performance

- 426 Sondes Release
- 37 Fast falls at surface (8.6%) *
- 14 Fast falls at beginning od drop (3.3%) *
- 2 Broken T/RH sensors at launch 0.5%
- RF03 Sonde stuck in launcher impacted remainder of flight, no sondes released
- Aircraft Dropsonde systems below worked with no issues
  - Sonde storage/carriage unit
  - Sonde ejection mechanics
  - Launcher control electronics
  - AVAPS software
  - AGS software
  - RIC software
  - New UHF antenna location, Excellent Sonde Telemetry
- Issues
  - Sonde ejection from aircraft
    - Sonde hesitation at launch, slow ejection velocity, possible impact of sonde to G-V, possible damage to T/RH sensors
    - Sonde stuck in external launch tube
  - Sonde Fast Falls
    - Impacted safety on ground and vertical resolution of data

* Degraded vertical Velocity resolution


RF02 Raw Data
RH vs Press
Pressure (mb)
150.0
200.0
250.0
300.0
350.0
400.0
450.0
500.0
550.0
600.0
650.0
700.0
750.0
800.0
850.0
900.0
950.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
65.0
70.0
75.0
80.0
85.0
90.0
95.0
Relative Humidity (%)


RF02 Raw Data
Temp Vs Press
Pressure (mb)
150.0
200.0
250.0
300.0
350.0
400.0
450.0
500.0
550.0
600.0
650.0
700.0
750.0
800.0
850.0
900.0
950.0
-60.0
-55.0
-50.0
-45.0
-40.0
-35.0
-30.0
-25.0
-20.0
-15.0
-10.0
-5.0
0.0
5.0
10.0
15.0
Temperature (C)


RF02 Raw Data
Wind Vs Press
Pressure (mb)
150.0
200.0
250.0
300.0
350.0
400.0
450.0
500.0
550.0
600.0
650.0
700.0
750.0
800.0
850.0
900.0
950.0
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 34.0 36.0 38.0 40.0 42.0 44.0 46.0 48.0 50.0
Wind Speed (m/s)