

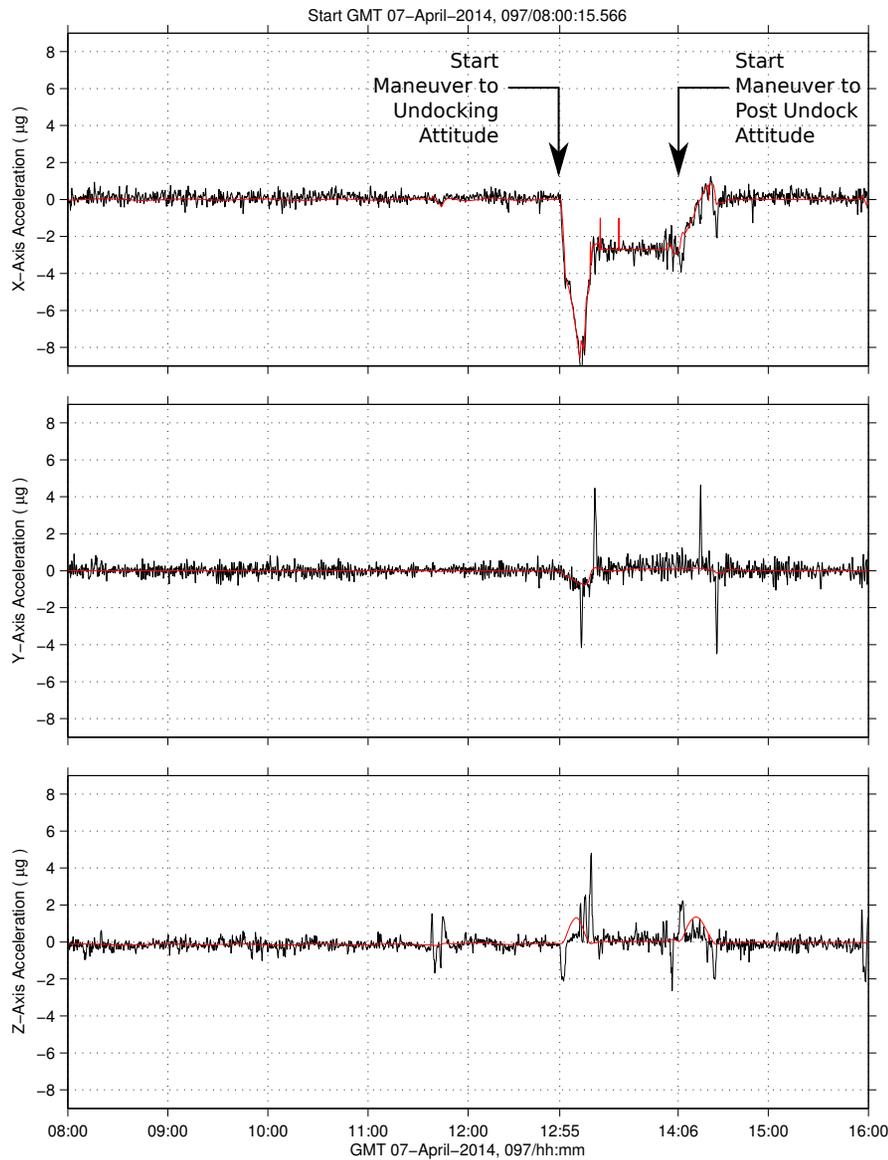
Progress 54P Undocking Events Quality

mams_ossbtmf at LAB1O2, ER1, Lockers 3,4 [135.28 -10.68 132.12]
0.0625 sa/sec (0.01 Hz)

Quasi-steady Roadmap
RED LINE IS RADGSE

SSAnalysis[0.0 0.0 0.0]

DELTA (ossbtmf - radgse): X = 0.0547, Y = 0.0305, Z = -0.0505 (μ g)



Description

Sensor	MAMS ossbtmf 0.0625 sa/sec, 0.01 Hz
Location	LAB1O2, ER1, Lockers 3,4
Plot Type	Acceleration vs. Time

Notes:

- This 3-panel plot of acceleration vs. time shows a relatively long time span around the time of events related to the Soyuz 54P cargo vehicle undocking.
- These data show the very low-frequency acceleration environment around these events.
- Most noticeable in the low-frequency environment, especially on the x-axis, are the 2 maneuvers, one before and one after the docking event.

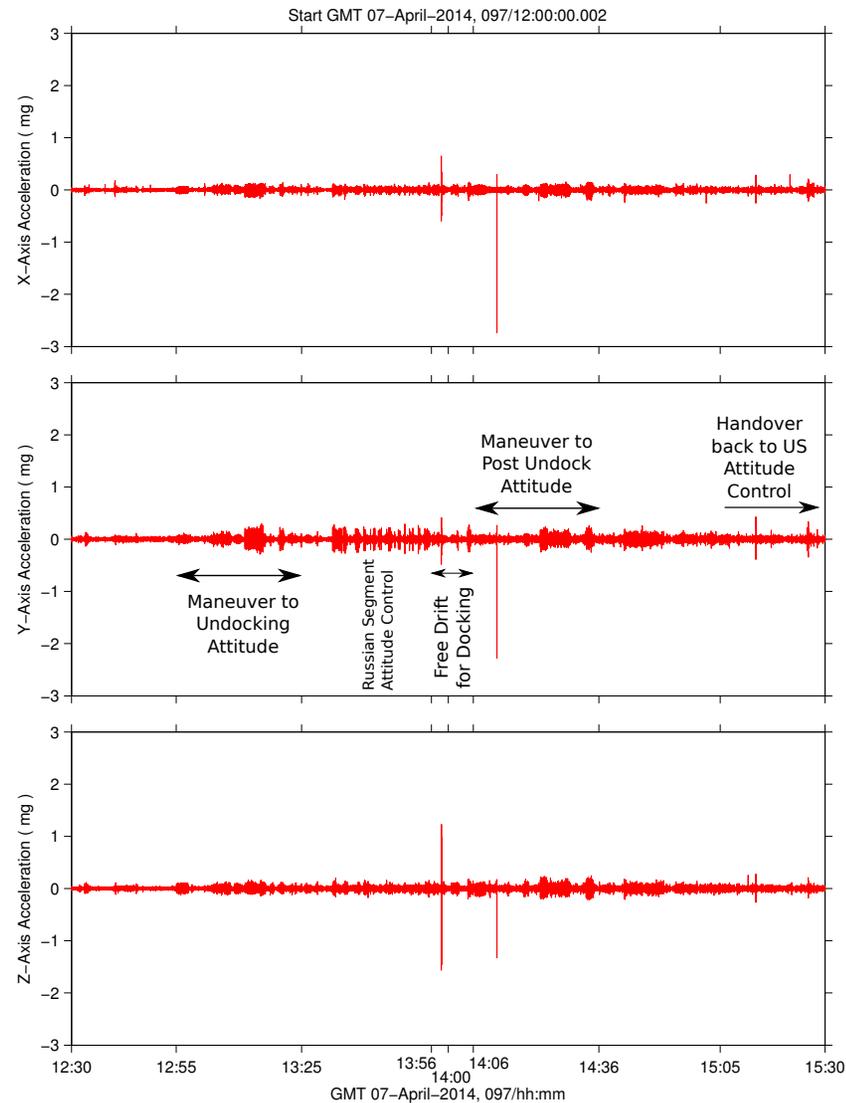
Regime:	Quasi-Steady
Category:	Vehicle
Source:	Progress 54P Undocking Events



Progress 54P Undocking Events Quantify

sams2, 121f03 at LAB101, ER2, Lower Z Panel[191.54 -40.54 135.25]
500.0000 sa/sec (200.00 Hz) SAMS2, 121f03, LAB101, ER2, Lower Z Panel, 200.0 Hz (500.0 s/sec) SSAnalysis[0.0 0.0 0.0]

SUPERIMPOSED RED TRACES SHOW 6 Hz LOW-PASS FILTERED DATA



Description

Sensor	SAMS 121f03 500.0 sa/sec, 200.0 Hz
Location	LAB101, ER2, Lower Z Panel
Plot Type	Acceleration vs. Time

Notes:

- This 3-panel plot shows SAMS vibratory acceleration vs. time for a 3-hour span around the time of notable events related to the Soyuz 54P cargo vehicle undocking.
- Analysis of these 6 Hz low-pass filtered SAMS data measured in the USL shows that the undock event itself (during free drift period) introduced a 1.57 mg acceleration vector magnitude spike at GMT 07-Apr-2014 13:58:22.
- Note that many details here would be obscured if we looked at data up to the sensor cut-off frequency of 200 Hz, hence the low-pass filtered analysis.

Regime:	Quasi-Steady
Category:	Vehicle
Source:	Progress 54P Undocking Events



Progress 54P Undocking Events Ancillary Notes

Russia's Progress 54 cargo vehicle carried out a successful undocking from the DC1 port of the International Space Station on GMT 07-Apr-2014 at about 13:58.

Event on 07-Apr-2014	GMT from ATL*
Handover US to RS	12:50
Maneuver to 54P Undock Attitude	12:55-13:25
Free Drift for Undocking	13:56-14:00
RS Snap and Hold	14:00
Maneuver to Post Undock Attitude	14:06-14:36
Handover RS to US Momentum Management Attitude Control	15:05

* GMT from the As-Flown Timeline (ATL)

