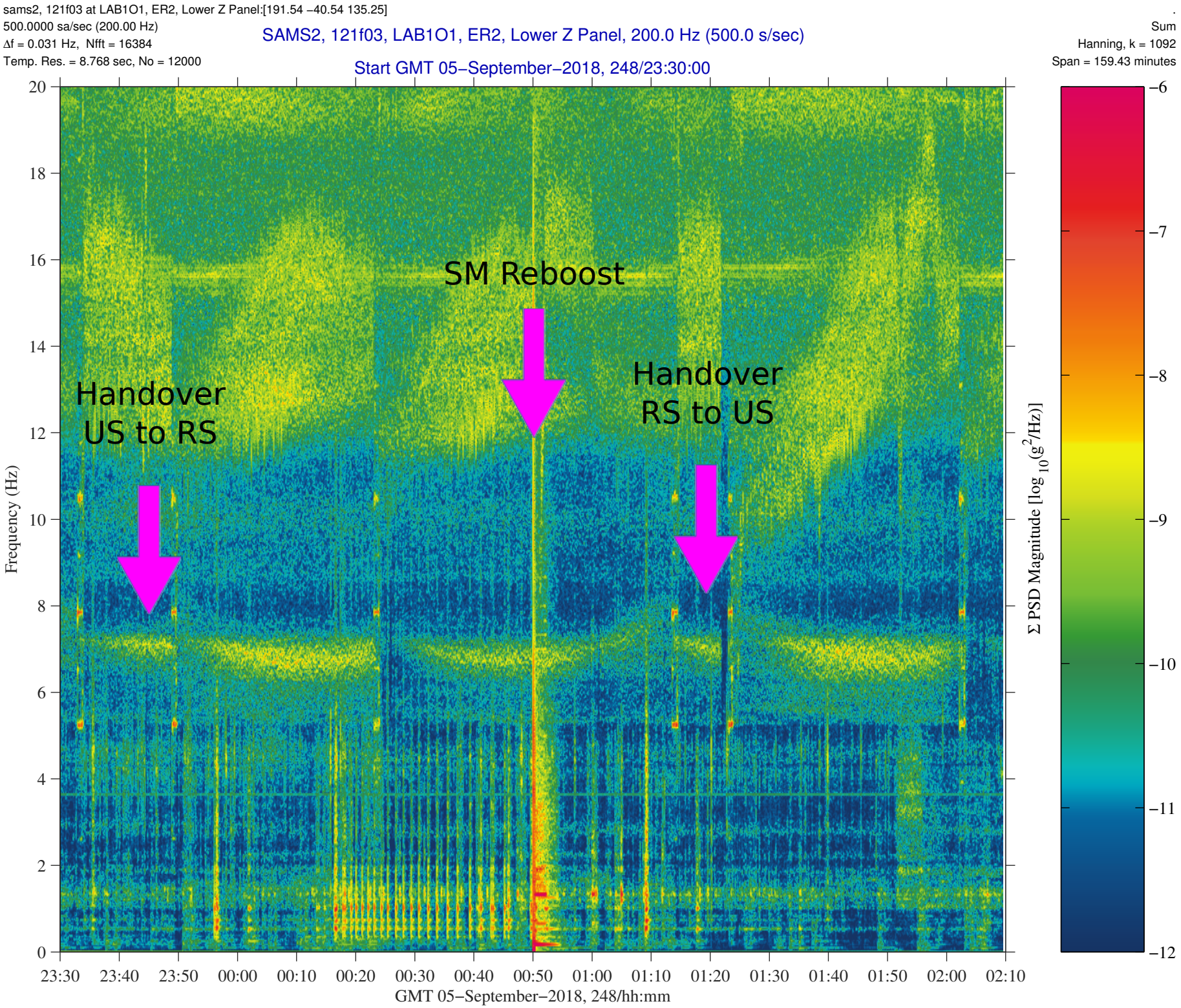
Zvezda Service Module (SM) Reboost

GMT 2018/249

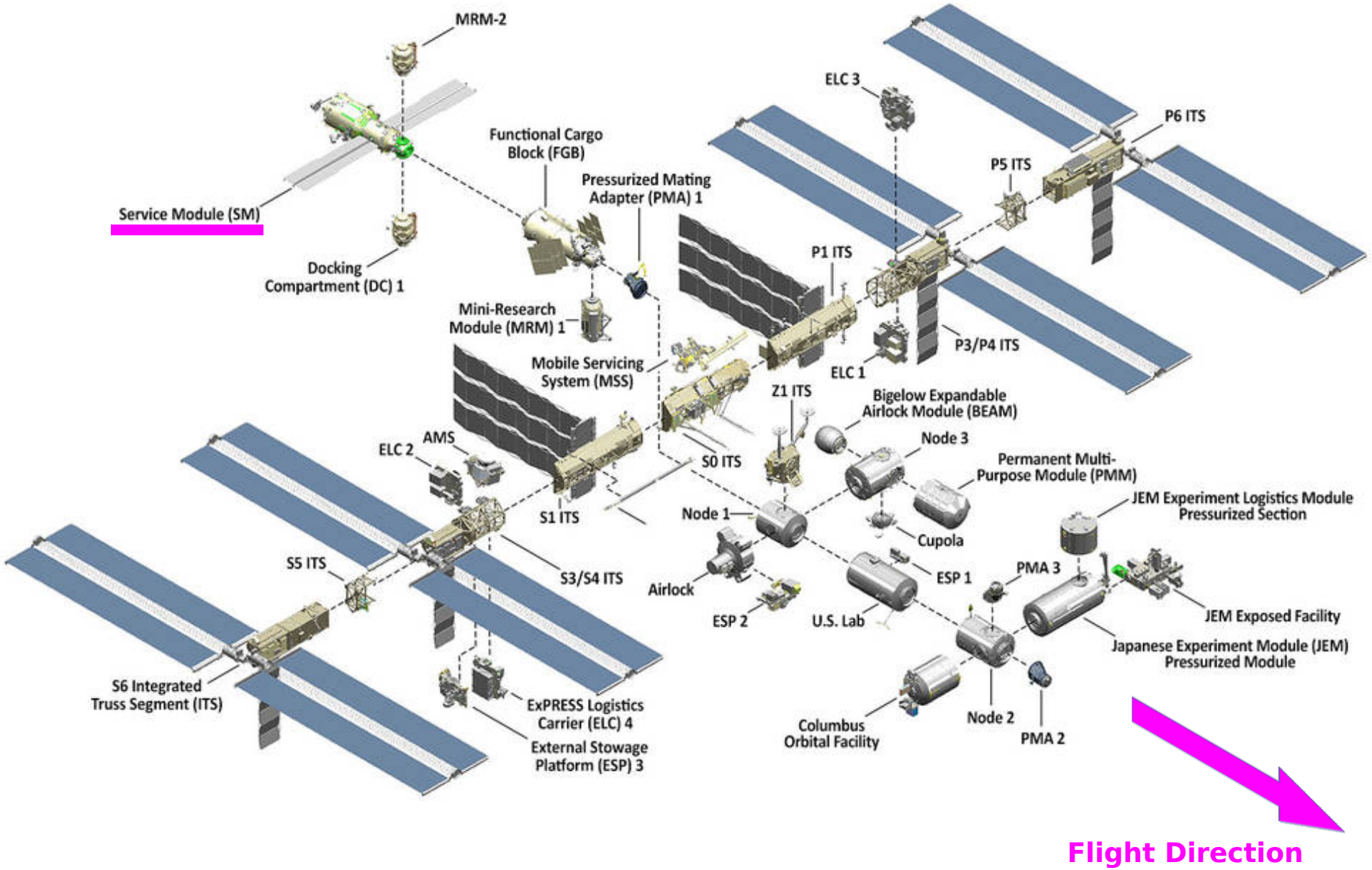
Thursday, Sept. 6, 2018

At GMT 249/00:50, it was time of ignition (TIG), for a Service Module reboost of the ISS. The event lasted just about 13 seconds and was recorded by 4 SAMS sensors simultaneously (3 in the US LAB and 1 in the Columbus Module).

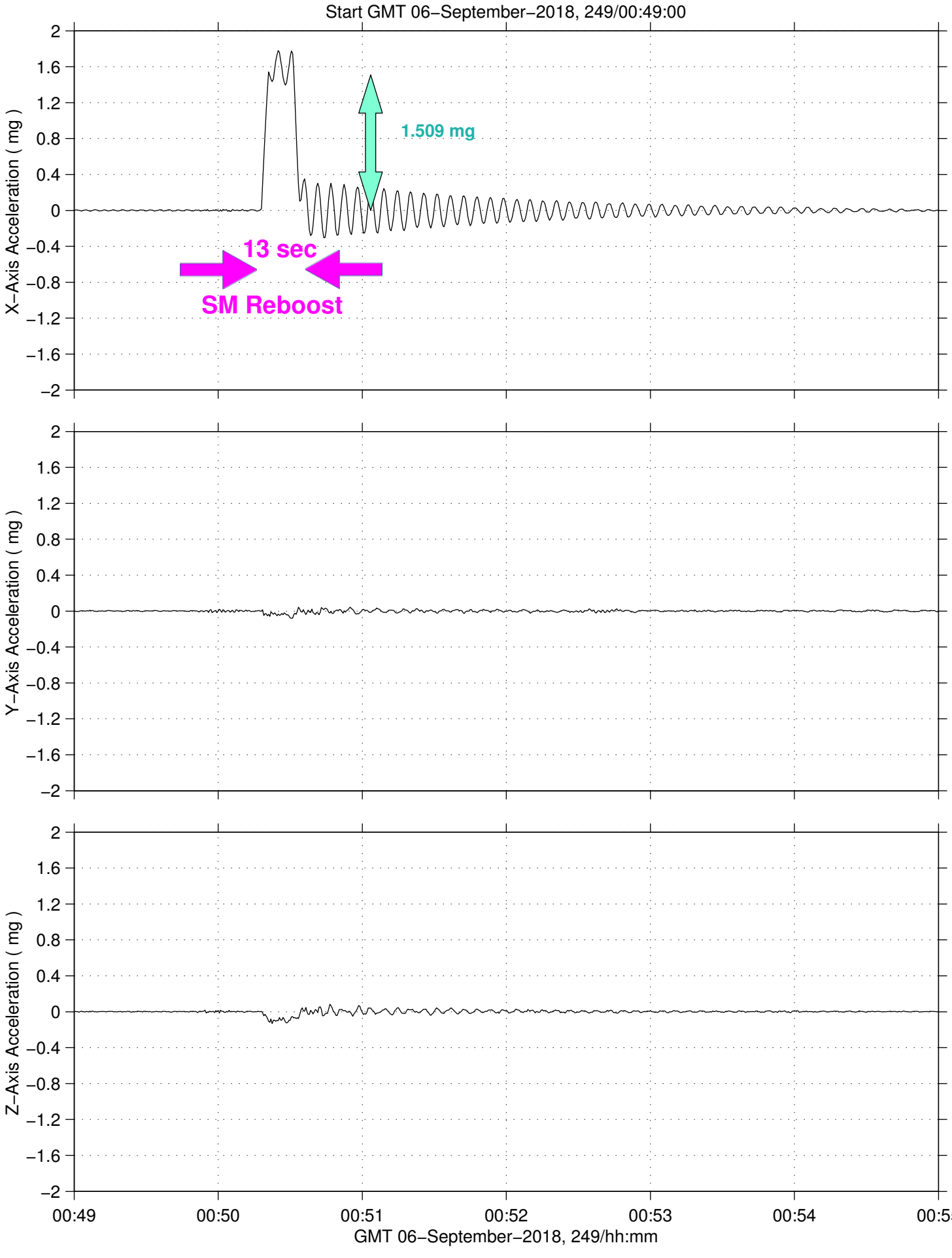
This reboost was the 2nd in a series of 3 burns to set up proper phasing for the Soyuz 54S landing to happen on October 4th and the Soyuz 56S launch on October 11th, which will be a four-orbit rendezvous. The ISS delta V was to be 0.2 meters/second as a result of this reboost.


sams2, 121f03 at LAB1O1, ER2, Lower Z Panel:[191.54 −40.54 135.25]
500.0000 sa/sec (200.00 Hz)
Δf = 0.031 Hz, Nfft = 16384
Temp. Res. = 8.768 sec, No = 12000
SAMS2, 121f03, LAB1O1, ER2, Lower Z Panel, 200.0 Hz (500.0 s/sec)
Start GMT 05−September−2018, 248/23:30:00
Sum
Hanning, k = 1092
Span = 159.43 minutes
SM Reboost
Handover
US to RS
Handover
RS to US
Frequency (Hz)
Σ PSD Magnitude [log 10(g2/Hz)]
GMT 05−September−2018, 248/hh:mm
23:30
23:40
23:50
00:00
00:10
00:20
00:30
00:40
00:50
01:00
01:10
01:20
01:30
01:40
01:50
02:00
02:10

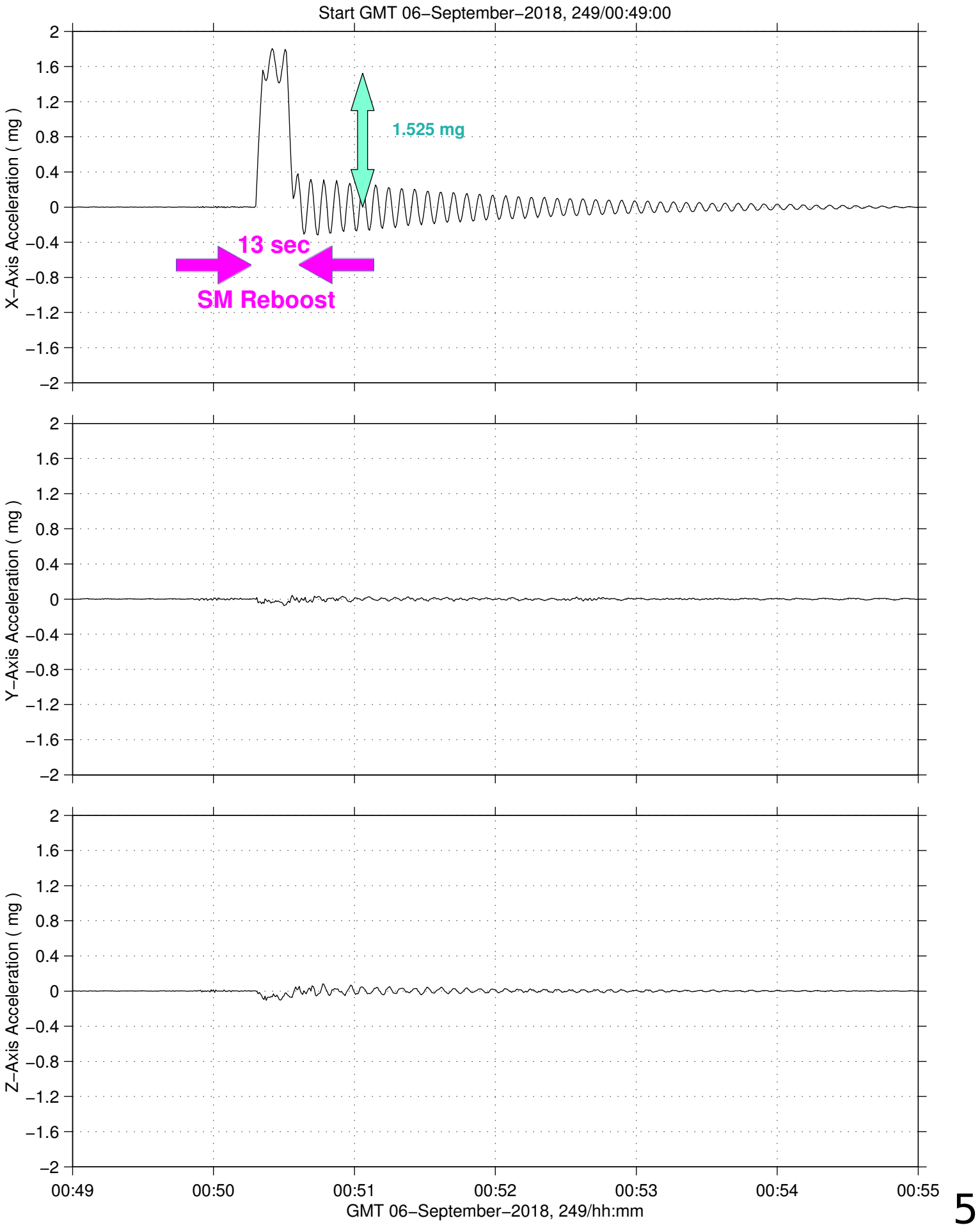
Zvezda Service Module (SM)



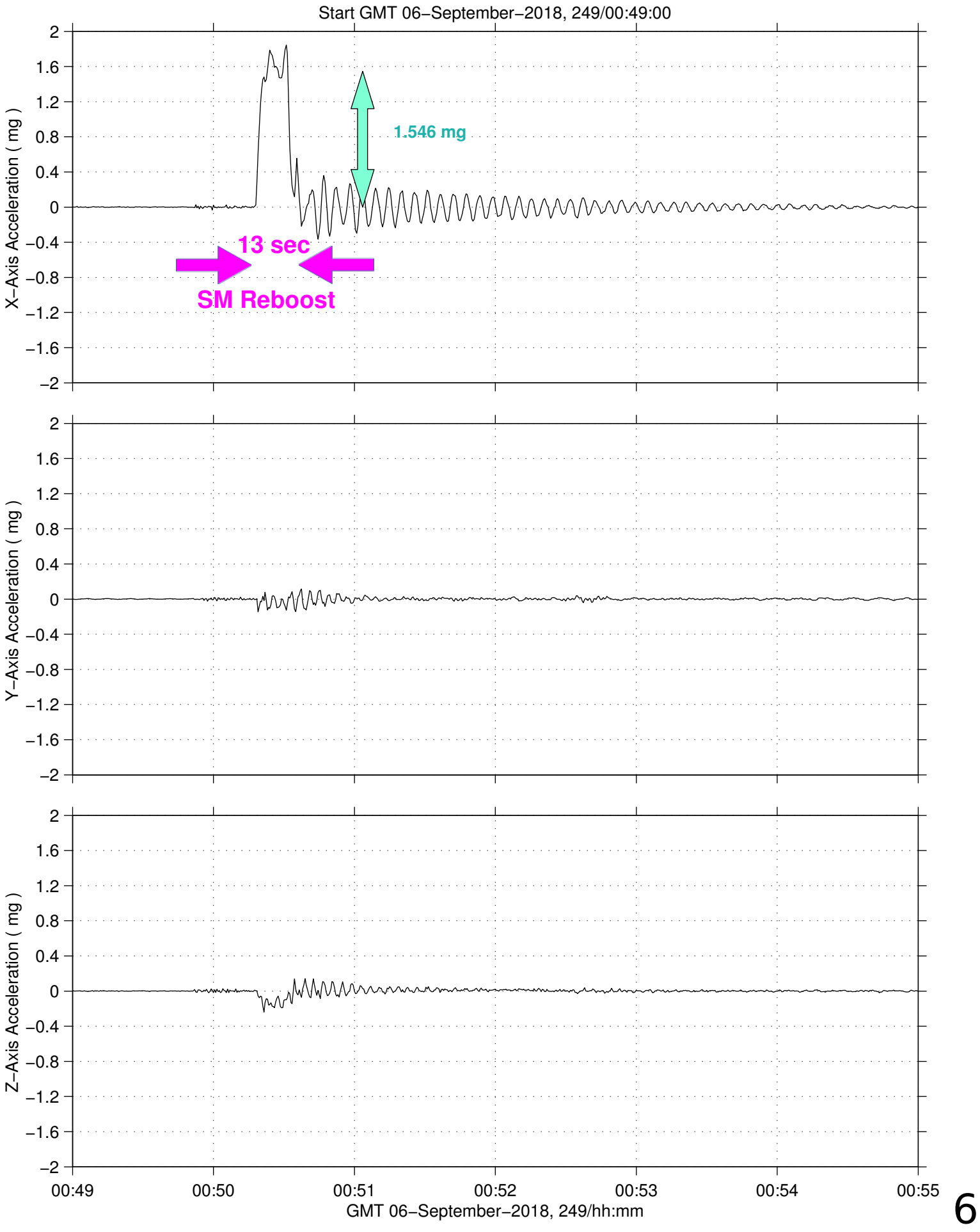
SAMS2, 121f03, LAB1O1, ER2, Lower Z Panel, 200.0 Hz (500.0 s/sec)



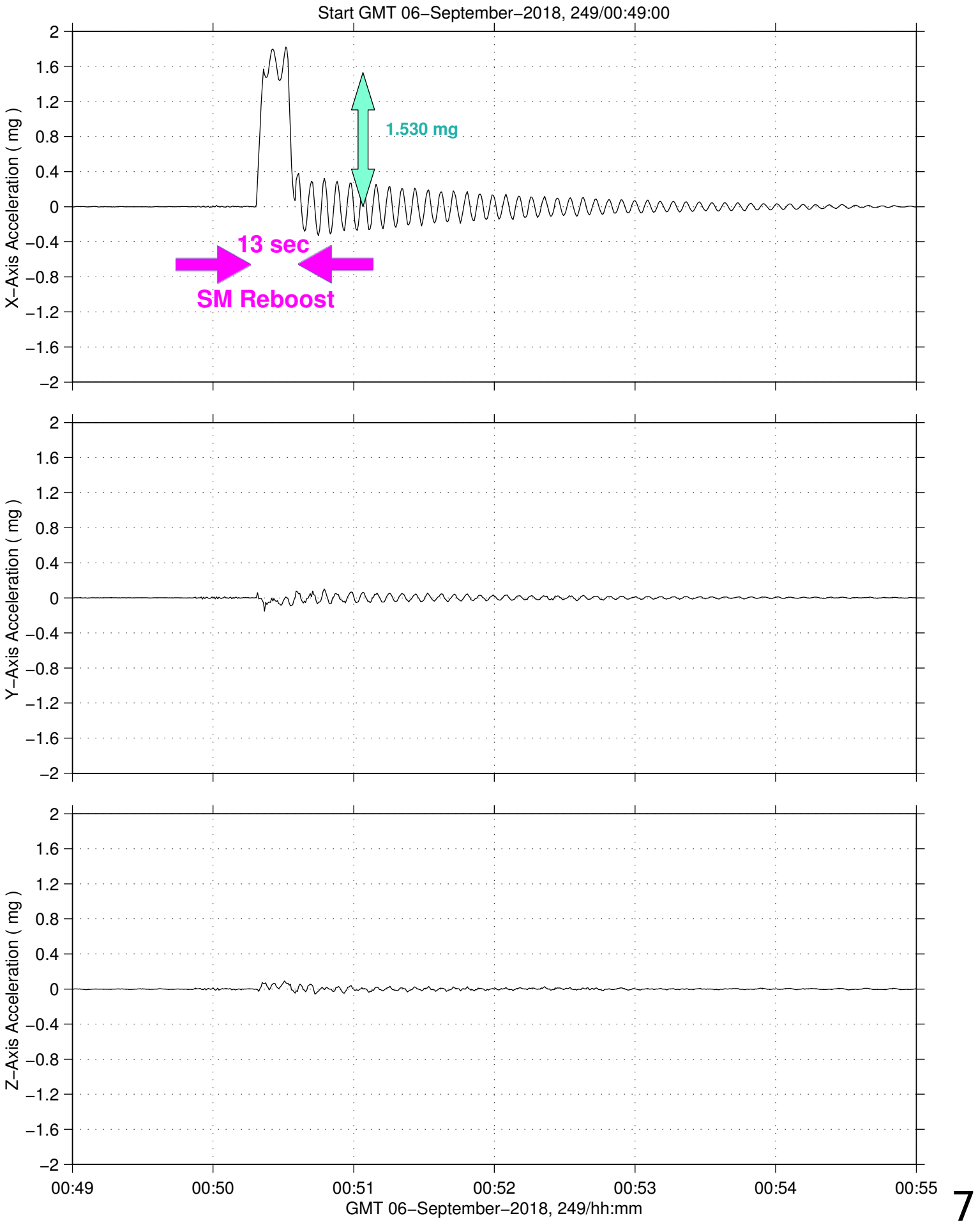
SAMS2, 121f04, LAB1P2, ER7, Cold Atom Lab Front Panel, 200.0 Hz (500.0 s/sec)



SAMS2, 121f08, COL1A3, EPM, near PK−4, 200.0 Hz (500.0 s/sec)



SAMSES, es06, LAB1S4, FIR, , 204.2 Hz (500.0 s/sec)



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Calculations based on measurements made by the SAMS sensor (121f03) mounted on EXPRESS Rack 2 in the US LAB indicate a **delta V of 0.21 meters/second** was achieved.

Representative acceleration values during the reboost step from each SAMS sensor's X-axis are reported below:

121f03	1.51 mg	LAB1O1 (ER2)
121f04	1.53 mg	LAB1P2 (ER7)
121f08	1.55 mg	COL1A3 (EPM)
es06	1.53 mg	LAB1S4 (FIR)