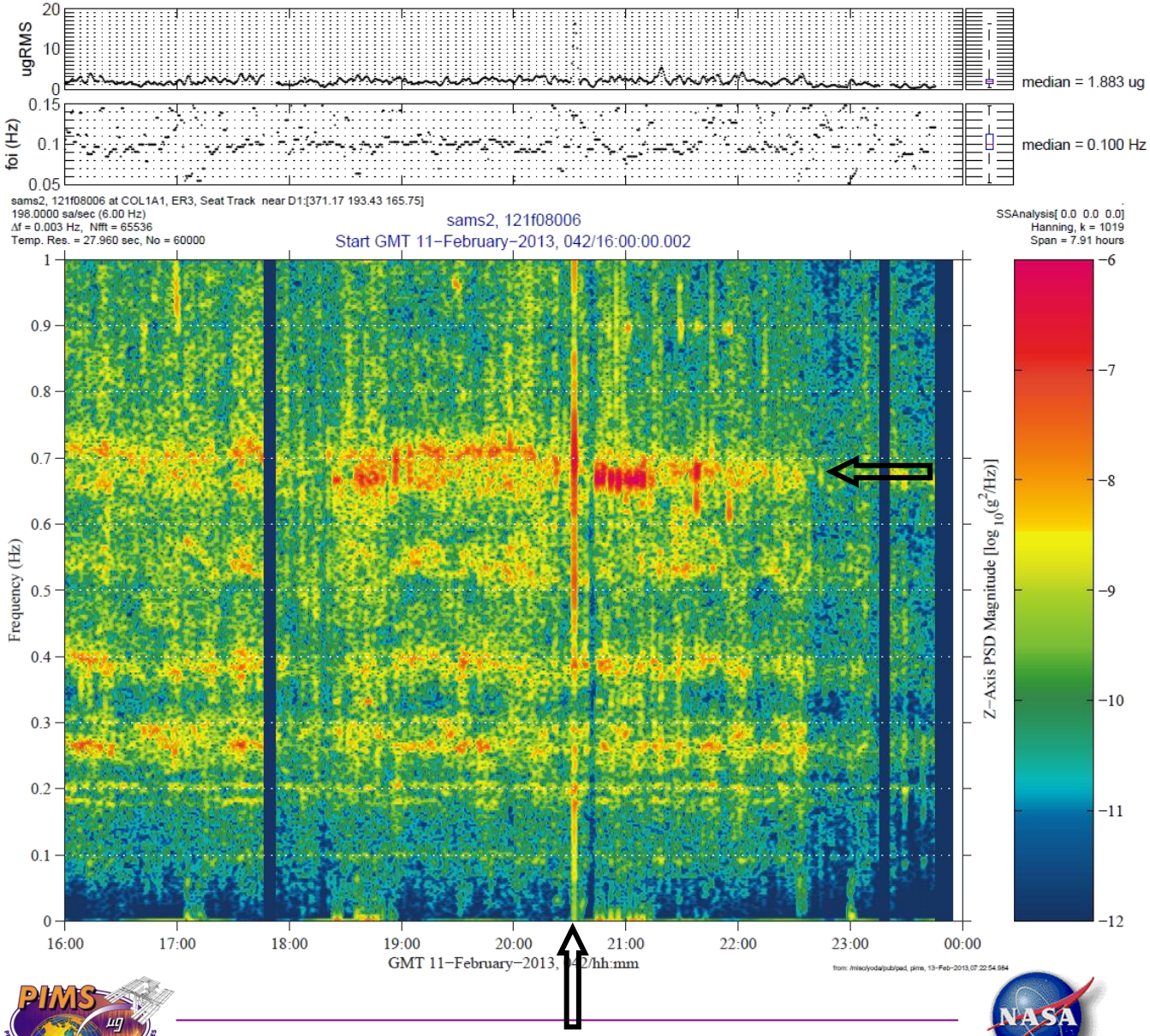
Progress 50P Docking, Qualify



Description	
Sensor	121f08 198 sa/sec (**6 Hz**)
Location	COL1A1, ER3, Seat Track
Plot Type	spectrogram

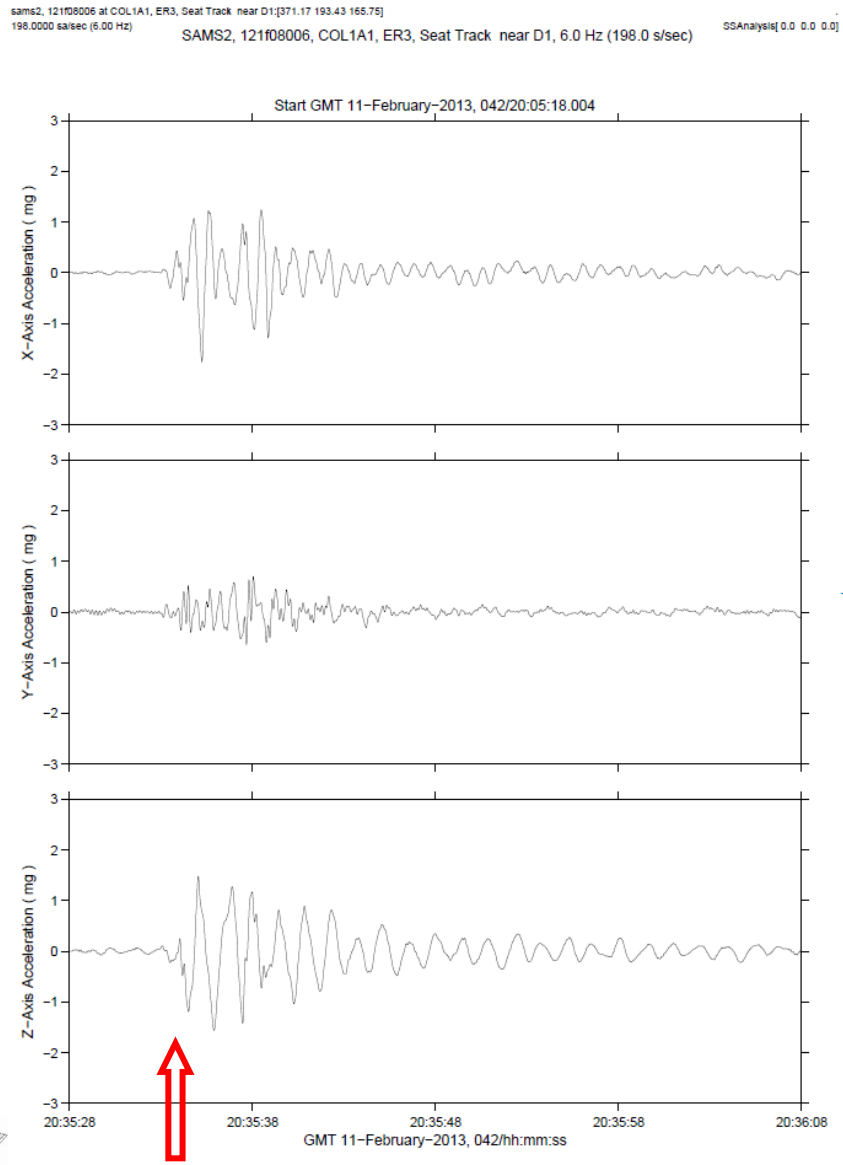
Notes:

- The MER console log shows “the Progress 50P successfully arrived at the ISS Russian Segment Service Module (SM) Docking Compartment 1 (DC1) nadir port with contact and capture at approximately GMT 042/20:35:18. This was followed by docking probe retraction and Progress hook closure at approximately GMT 042/20:45. Automated Rendezvous started at about GMT 042/18:15:32, through Progress Kurs-A activation, station keeping, final approach, Kurs antennae retraction, and the subsequent docking capture and rigidization (hook closure)". **Note**: the MER console log's docking time was about 14 seconds before SAMS recorded an impulse event in both the USL and the COL, these acceleration measurements show that the event actually took place closer to about GMT 20:35:32.
- Note from the black arrows on this spectrogram that the docking event caused a noticeable impulse at dock time with ringing at about 0.7 Hz after the event.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress Docking

Glenn Research Center

Progress 50P Docking, Quantify in COL



X-Axis

Y- Axis

Z-Axis

Description	
Sensor	121f08 198 sa/sec (**6 Hz**)
Location	COL1A1, ER3, Seat Track
Plot Type	acceleration vs. time

Notes:

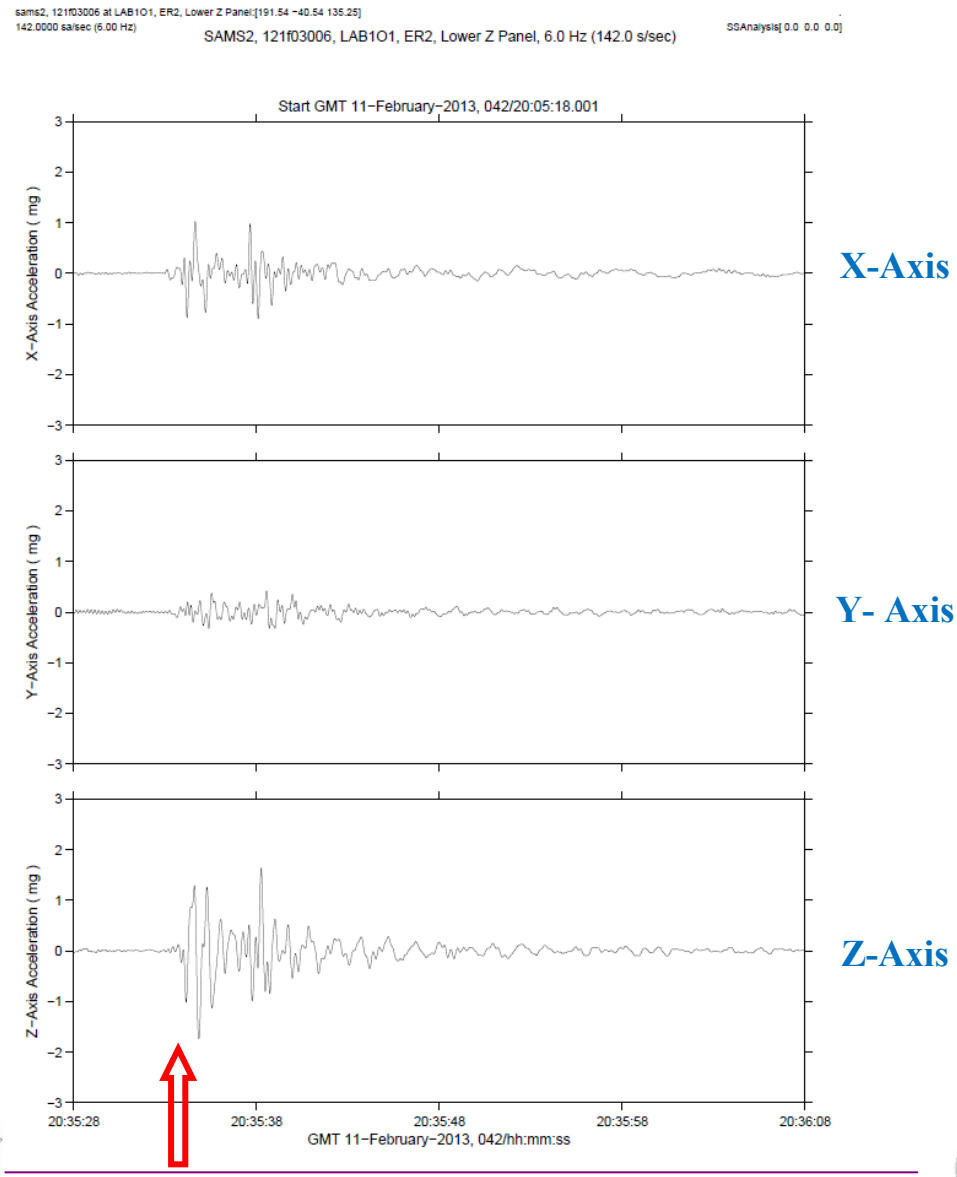
- The impulsive disturbance from the docking event was registered with vector magnitude acceleration as follows (**up to 6 Hz**):

Sensor (LAB)	| a | (mg)
121f03 (USL)	1.74
121f08 (COL)	**1.94**

- Note from the 3 subplots on this page (one each for the X-, Y-, and Z-axis) that the Y-axis registered as the smallest component. This was true to varying degrees for both the USL and the COL.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress Docking

Progress 50P Docking, Quantify in USL



Description	
Sensor	121f03 142 sa/sec (**6 Hz**)
Location	LAB1O1, ER2, Lower Z Panel
Plot Type	acceleration vs. time

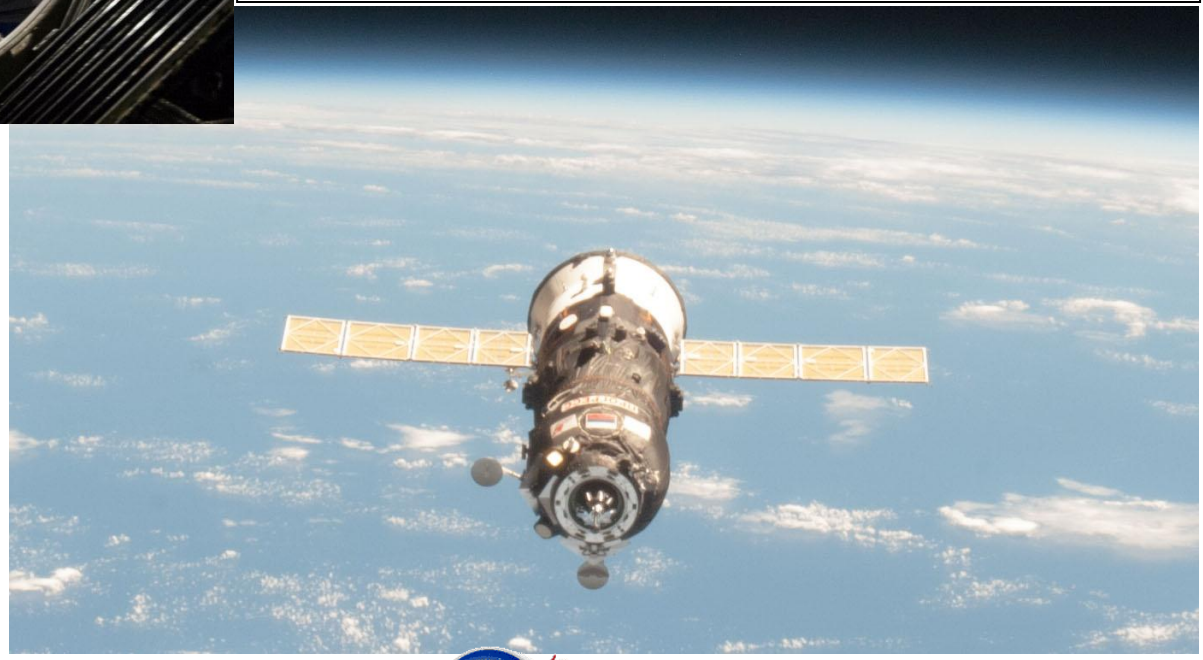
Notes:

- The impulsive disturbance from the docking event was registered with vector magnitude acceleration as follows (**up to 6 Hz**):

Sensor (LAB)	| a | (mg)
121f03 (USL)	**1.74**
121f08 (COL)	1.94

- Note from the 3 subplots on this page (one each for the X-, Y-, and Z-axis) that the Y-axis registered as the smallest component. This was true to varying degrees for both the USL and the COL.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress Docking

Progress 50P Docking
Ancillary Info

- Progress is an unmanned Russian re-supply vehicle. The Progress 50P docked with the Pirs Docking Compartment less than six hours after the launch! This marked the third successful Same-Day-Rendezvous in the International Space Station history.
- This vehicle delivered about 764 pounds (346 kilograms) of propellant, 110 pounds (50 kg) of oxygen and air, 926 pounds (420 kg) of water and about 3,000 pounds (1,360 kg) of spare parts, science equipment and other supplies to the space station.
- The image at the left shows the crew aboard the ISS monitoring as the Progress 50P approaches, which is shown the image below.