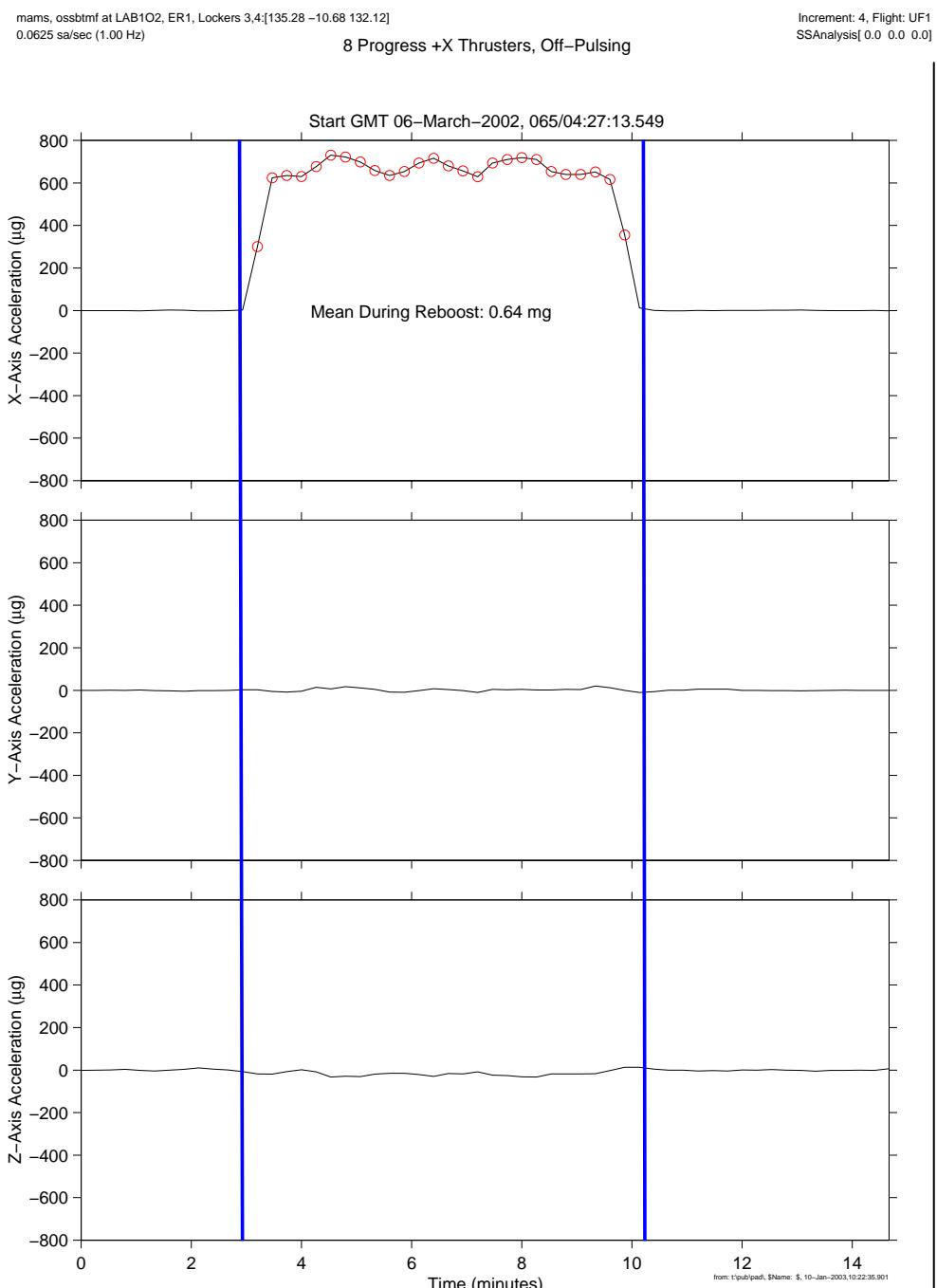


Progress Reboost



Description

Sensor	MAMS,ossbtmf 0.0625 sa/sec (0.01 Hz)
Location	LAB1O2, ER1, Lockers 3,4
Orientation	Space Station Analysis (SSA)
Inc/Flight	Increment: 4, Flight: UF1
Plot Type	Time Series

NOTES:

- Periodic reboosts of the ISS are necessary due to orbital decay.
- The primary method for conducting a reboost is using the aft facing attitude control thrusters of a docked cargo vehicle, typically a Progress.
- Station reboosts are open loop burns, where the firing is initiated at a prescribed time and place in orbit. Reboosts usually take two burns
- Data shown was for Burn #2 and lasted 401 seconds using 143.8 kg of propellant.



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Regime:	Quasi-steady
Category:	Vehicle
Source:	Reboost

Progress Reboost

The table below compares average acceleration from vehicle data to the average acceleration calculated from MAMS

Reboost Information					Calculations from MAMS OSS data		
Ignition (GMT)	Comments	Δ V (m/sec)	Duration (sec)	ΔV/T (mg)	Duration (sec)	ΔV (m/sec)	X-Axis Mean (mg)
11-Oct-2001, 284/10:31	4 Progress +X Thrusters	4.7	1560	0.31	1,629.30	4.63	0.29
11-Oct-2001, 284/15:54	4 Progress +X Thrusters	4.5	1560	0.29	1,623.78	4.46	0.28
10-Jan-2002, 010/01:35:15	4 Progress +X Thrusters	5.4	1877	0.29	1,863.90	5.3	0.29
10-Jan-2002, 010/03:43:26	4 Progress +X Thrusters	4.8	1654	0.30	1,643.00	4.67	0.29
21-Feb-2002, 052/08:27	8 Progress +X Thrusters, Off-Pulsing	1.35	239	0.58	237.40	1.21	0.52
21-Feb-2002, 052/09:59	8 Progress +X Thrusters, Off-Pulsing	1.35	243	0.57	238.50	1.24	0.53
06-Mar-2002, 065/03:37:12	8 Progress +X Thrusters, Off-Pulsing	1.0	158.2	0.65	157.70	0.93	0.60*
06-Mar-2002, 065/04:29:07	8 Progress +X Thrusters, Off-Pulsing	2.5	395.1	0.65	398.80	2.5	0.64*
13-Mar-2002, 072/00:04:10	8 Progress +X Thrusters, Off-Pulsing	2.2	319	0.70	300.30	1.8	0.61*
13-Mar-2002, 072/00:52:49	8 Progress +X Thrusters, Off-Pulsing	4.0	636.1	0.64	609.70	3.94	0.66*
19-Apr-2002, 109/07:59	8 Progress +X Thrusters, Off-Pulsing	0.73	118	0.63	142.70	0.6	0.43
01-Aug-2002, 213/17:24:23	8 Progress +X Thrusters, Off-Pulsing	4.3	760	0.58	761.10	4.18	0.56
11-February-2003 042/11:34:30	8 Progress +X Thrusters, Off-Pulsing	5.1	~1200	0.43	1168	4.01	0.35
12-March-2003 071/22:58	Progress Manifold 1 4 Progress +X Thrusters	1.38	597	0.24	634	1.3	0.21
12-March-2003 072/23:37	Progress Manifold 2 4 Progress +X Thrusters	0.37	198	0.19	219	0.3	0.14
04-April-2003 094/12:59:18	8 Progress +X Thrusters Off-Pulsing	1.8	N/A	N/A	835	1.83	0.23
01-Oct-2003 274/13:11	8 Progress +X Thrusters Off-Pulsing	1.7	450	0.38	469	1.72	0.36

Description	
Sensor	MAMS,ossbtmf 0.0625 sa/sec (1 Hz)
Location	LAB1O2, ER1, Lockers 3,4
Orientation	Space Station Analysis (SSA)
Inc/Flight	Increments: 3-9 Flights: Various
Plot Type	Time Series

NOTES:

- Reboost Information column contains estimates. This information was obtained from Rex Delventhal, GNC Daily Reports and/or On-Orbit Summaries.
- Values marked with an asterisk may be off by as much as 14 ug due to lack of bias compensation for OSS A-range data.



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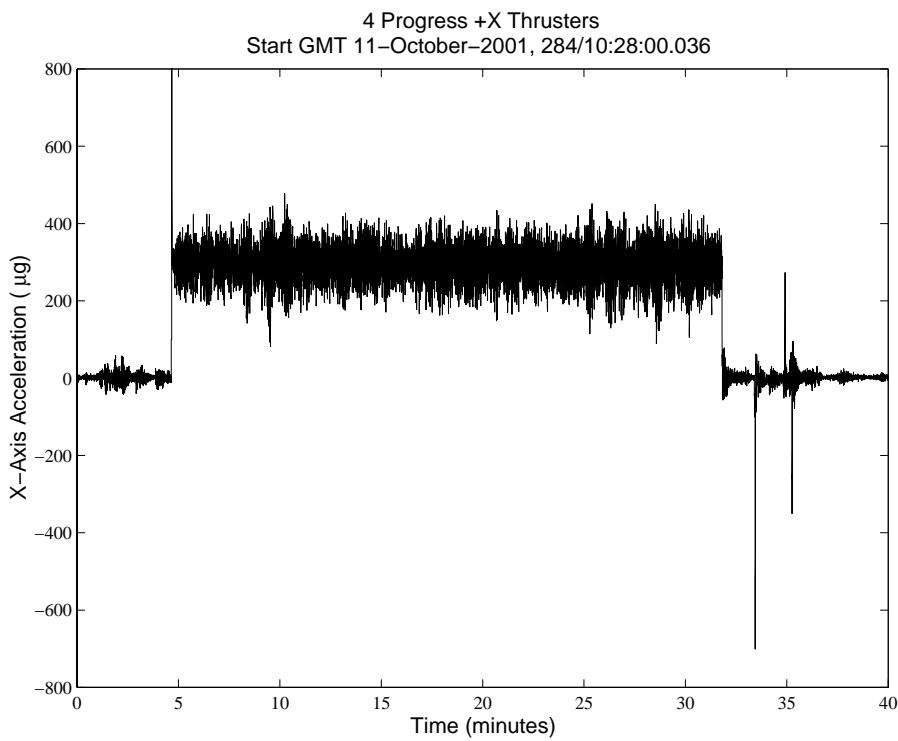
PIMS ISS Acceleration Handbook
Date last modified 8/23/04



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Regime:	Quasi-steady
Category:	Vehicle
Source:	Progress Thrusters

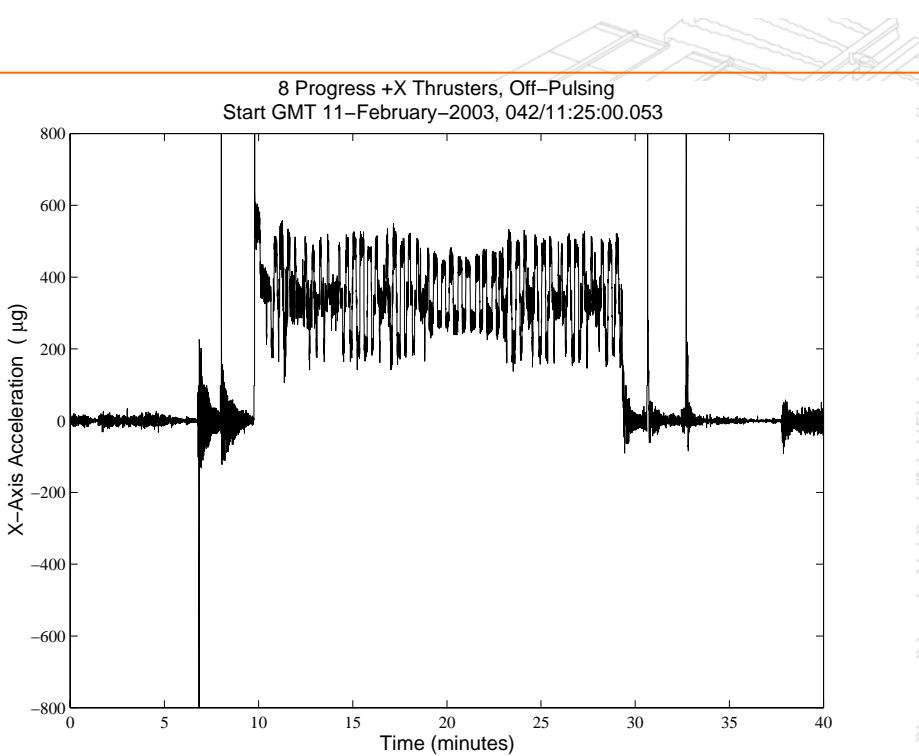
Progress Reboost



Description	
Sensor	MAMS, ossraw 10 sa/sec (1 Hz)
Location	LAB1O2, ER1, Lockers 3,4
Orientation	Space Station Analysis (SSA)
Inc/Flight	Increment: 3-9 Flight: Various
Plot Type	Time Series

NOTES:

- In the "4 Progress +X Thrusters", four thrusters are pointed in the $-X_A$ direction and four other YZ thrusters are used for attitude control.
- "8 Progress +X Thrusters, Off-Pulsing", all thrusters are $-X_A$ direction; four on continuous, other four pulse on/off.
- Bias compensated OSSRAW data is shown to highlight the different modes. The trimmed mean filtered process masks this detail.



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Regime:	Quasi-steady
Category:	Vehicle
Source:	Reboost