

Summary of DRS Experiment Timeline

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This page has a summary of the DRS Experiment Timeline, starting on the first week of operations, July 10, 2016.

Other pages in this section:

- [DRS Experiment Timeline \(Print Version\)](#)
- [Current Experiment Plan Tasks and Status](#)
- [Experiment Development Calendar](#)
- [Weekly Planning and Review Schedule](#)

High Level Summary of Experiment Plan Schedule

Week Number	DOYs	Sun	Mon	Tues	Wed	Thur	Fri	Sat	Initial Exp Plan Review	Final Exp Plan Review	Final Activity Timeline	POR/DOR File Delivery Dates	
(Sunday Start Date)				DRS Tag-ups		DRS Working Meetings			Draft Activity Timeline & Sequence Design		Sequence V&V Review		
Comm 1 (27) June 26	178 - 184	Experiment Phase Commissioning (Instrument Check-Out) See Instrument Checkout and Experiment Commissioning (June 2016) for daily reports and Experiment Phase Commissioning Analysis for analysis work.							SKM				
Comm 2 (28) July 3	185 - 190							SKM; DRS Thruster Anomaly					
July 9 - 15	191 - 197	DRS Colloid Thruster Processor Anomaly Investigation See Cluster 2 Disable DOY190 Anomaly Documentation for a description of events and analysis during the anomaly investigation.							SKM				
July 16 - Aug 7	198 - 220	DRS Colloid Thruster Processor Anomaly Recovery Thrusters OnEnabled in diagnostic mode with default voltages. See 2016-198 to 220 Post-Commissioning Operations (July 2016) for daily reports.							SKM				
Aug 8 - 13	221 - 226	Experiment Phase Re-Commissioning Plan See Re-Commissioning Operations (August 2016) for daily reports and Experiment Phase Re-Commissioning Analysis for analysis work.							SKM				
WEEK 01 (34) Aug 14	227 - 233	C1 - DRS Control Mode and Noise Performance (Run C1.TM1.N.1) using capacitive sensing See Week 1: C1.TM1.N.1 Capacitive Sensing Noise Run for analysis							SKM	July 21	July 28	Aug 4	Aug 5 / Aug 9
WEEK 02 (35) Aug 21	234 - 240	SKM	C1 - DRS Control Mode and Noise Performance (Run C1.TM1.N.2) using OMS sensing See Week 2: C1.TM1.N.2 Noise Run with OMS in the Loop						July 28	Aug 4	Aug 11	Aug 12 / Aug 16	
WEEK 03 (36) Aug 28	241 - 247	T1 - Thruster Performance Characterization See Week 3: T1 Explorations for analysis			T3 - Open Loop Thruster Performance Characterization See Week 3: T3 Analysis for analysis		T7 - Closed Loop Control on Seven Thrusters See Week 3: T7 Analysis for analysis		SKM	Aug 4	Aug 11	Aug 18	Aug 19 / Aug 23
WEEK 04 (37) Sep 4	248 - 254	SKM	Get to 18-DOF Mode transitions can be out of view. Use OMS with TM12X instead of TM2X	C8 - Test Mass Differential X Working Point Optimization for Interferometer Start C8 in view - lasts ~24 hours See Week 4: C8 Analysis for analysis	Return to Zero-G for experiment C4 (two days - both in view) Go back to using capacitive sensing C4 - Ramp Null Vector Amplitude See Week 4: C4 Analysis on Different Bias Levels for analysis Get to DFLF overnight	Set TM2 to high force for C2 C2 - Measure TM Actuation Response See Week 4: C2 Analysis for analysis	Go back to Zero-G Go back to using OMS Set new OMS TM12x offset (sDOR) while TM2 is still in high force C1 - DRS Control Mode and Noise Performance (Run C1.TM1.N.3)	Aug 11	Aug 18	Aug 25	Aug 26 / Aug 30		
WEEK 05 (38) Sep 11	255 - 261	C1 - DRS Control Mode and Noise Performance (Run C1.TM1.N.3 continued) with OMS sensing and using DURLA See Week 4: C1 with DURLA Analysis for analysis					C2 - Measure TM Actuation Response (18-DOF Injections) See Week 4: C2 Analysis for analysis	SKM	Aug 18	Aug 25	Sep 1	Sep 2 / Sep 6	

WEEK 06 (39) Sep 18	262 - 268	SKM	ESA Noise Run	ESA Drift Mode	MPS Cold Gas Anomaly					
WEEK 07 (40) Sep 25	269 - 275	Spacecraft Recovery Includes DRS Startup / Priming		ESA System Characterization / Noise Run	SKM	Sep 1	Sep 8	Sep 15	Sep 16 / Sep 20	
WEEK 08 (41) Oct 2	276 - 282	SKM	C1 - DRS Control Mode and Noise Performance (Run C1.TM1.N.4)	T9 - DFACS Performance with Colloid Thrusters See Week 8: T9 Analysis for analysis	Transition from T9 to P2 (Zero-G with higher bias)	Sep 8	Sep 15	Sep 22	Sep 23 / Sep 27	
WEEK 09 (42) Oct 9	283 - 289	P2 - Thruster Performance as a Function of Beam Voltage See Week 9: P2 Analysis			SKM	Sep 15	Sep 22	Sep 29	Sep 30 / Oct 4	
WEEK 10 (43) Oct 16	290 - 296	SKM	P6 - Thruster Current Control Parameters See Week 10: P6 Analysis		DMU Anomaly and Recovery DOY295 ~16:45	Sep 22	Sep 29	Oct 6	Oct 7 / Oct 11	
WEEK 11 (44) Oct 23	297 - 303	Priming and handover to DRS P1 - Thruster Performance as a Function of Temperature See Week 11 and 17: P1 Analysis		Thruster 4 Short Anomaly and Investigation DOY301 ~16:00	SKM	Sep 29	Oct 6	Oct 13	Oct 14 / Oct 18	
WEEK 12 (45) Oct 30	304 - 310	SKM	Thruster 4 Short Recovery Activities			Oct 6	Oct 13	Oct 20	Oct 21 / Oct 25	
WEEK 13 (46) Nov 6	311 - 317	TM1 Z violated FDIR limits triggering LTP_SAFE	Develop Cold Gas Thruster Bias Work Around RTB Run on Nov 8-9		SKM	Oct 13	Oct 20	Oct 27	Oct 28 / Nov 1	
WEEK 14 (47) Nov 13	318 - 324	SKM	Develop Cold Gas Thruster Bias Work Around RTB Run on Nov 15-16			Oct 20	Oct 27	Nov 3	Nov 4 / Nov 8	
WEEK 15 (48) Nov 20	325 - 331	LPF Operations / Develop Cold Gas Thruster Bias Work Around RTB Run Nov 22-24			SKM	Oct 27	Nov 3	Nov 10	Nov 11 / Nov 15	
WEEK 16 (49) Nov 27	332 - 338	SKM	DRS with Cold Gas Thruster Bias Commissioning Activity <ul style="list-style-type: none"> Mon - Tues: Priming, handover and capture to Zero-G Wed - Thurs: Transition to DFLF and 18-DOF Trans Fri - Sat: Transition to 18-DOF 			Nov 3	Nov 10	Nov 17	Nov 18 / Nov 22	
WEEK 17 (50) Dec 4	339 - 345	Return to Zero-G with Inertial Sensing	Complete Experiment P1 - Thruster Performance as a Function of Temperature See Week 11 and 17: P1 Analysis	Thruster Safe Shutdown	ESA Operations	SKM	Nov 10	Nov 17	Nov 24	Nov 25 / Nov 29
Extended Mission, December 7 - May 31st (Summary of Extended Mission Timeline)										

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