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| Investigation: FIELDS |
| Progress accomplished this period: | October 2013 Reporting Period |
| 1. | Project Management and Product Assurance |
|  | a. | Project Management* Supported review of cost change proposal submitted to SwRI 31 July. Submitted responses to questions concerning the U of Iowa subcontract proposal.
* Prepared and submitted cost estimates for tasks not included in the 31 July proposal.
	+ Additional EMI testing for SDP
	+ Life testing for UNH HVOCs
	+ Assembly of Gun boards to be used in Gun refurbishments
* Began discussion of science data processing topics as part of the weekly FIELDS team meeting agenda.
* Supported the following PERs:
	+ None
* Supported the following TRRs:
	+ None
* Supported the following FRBs
	+ EDI Sensor SN7 and GDU SN4
	+ EDI Gun SN7 500 eV calibration
* Supported the following Acceptance Reviews or PSRs
	+ PSR: SDP 15, 16, 17, 18
* Received delivery of the following flight hardware items at UNH
	+ EDI Gun HV resistors to UNH for screening (from IWF)
	+ SDP door assembly SN19 (flight spare) (from LASP)
	+ Thermal HW for SDP SN2 (flight spare) (from GSFC)
* Delivery of the following flight hardware items from UNH to FIELDS partners
	+ Deliver screened HVOCs to IWF (2nd batch)
* Delivery of the following flight hardware items from UNH or LASP to the IS and Observatories
	+ None
* CDRL and contract deliverable submissions this month:
	+ None
* Prioritized and coordinated the efforts of the UNH team, subcontractors, foreign partners, outside vendors and in-house workshops to optimize schedule performance.
* Supported processing of NCRs
* Supported SDP and GDU TV testing
 |
|  | b. | Product Assurance |
|  |  | Turco / Salwen* SDP FM17 & FM 18 TVAC support
* SDP FM 15-18 PSR support
* SDP EIDP data uploading
* EDI GDU FM4 TVAC support
* EDI GDU FM4 Outgassing Cert
* SDP 15-18 post TVAC clean up
* EDI HV OPTO fab inspections
* EDI TVAC test support
* MMS equipment calibration support
 |
| 2. | Systems Engineering and FIELDS I&T |
|  |  | Rau, Dors, Needell* Performed SDP 17-18 EMI testing
* Performed SDP SN17-18 FIELDS testing (Magnetics) and submitted data
* Performed SDP SN15-18 Acceptance Test and CPT
* Performed EDI GDU SN04 Acceptance Test Magnetics and CPT
* Released EMI and FIT test reports for SDP SS4 and GDU SN04
* Supported SDP SN15-SN18 PSR
* Continued support of SDP commissioning plan development and MRT-8 planning including MRT-8 dry run
* Assisted FIELDS science team coordinate system definition and document
* Attended SWT at APL
* Continued FIELDS verification entry into DOORS with SDP
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| 3. | Post-Delivery Support (UNH) |
|  |  | * Submitted updated ADP Observatory Simulator Test procedure to MIS
* Supported OBS-1 Post Vibe Mag boom 2nd/3rd motion and functional
* Supported OBS-2 TB/TV test planning including procedure review and personnel scheduling
* Supported OBS-3 +Z RE installation and functional
* Supported OBS-4 CPT/Functional
* Supported and reviewed WOA and procedure development at IS/OBS levels
* Reviewed test data
* Performed FIELDS Full DSP Timing Characterization
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| 4. | Science and Science Data Processing  |
|  |  | SWT and SWG * Continued work on drafts of FIELDS Instrumentation papers

Science data processing activities (Compiled by Chutter)* ALL
	+ Continue working through coordinate system definitions
	+ Continue populating FIELDS Processing document
	+ Attended SWT
* UNH
	+ Sample CDF v3.5 L1A science files (except EDI) available at UNH and SDC
	+ Sample CDF v3.5 L1B FIELD housekeeping files available at UNH and SDC
* LPP
	+ DSP digital filters responses under study for inclusion in the SCM calibration software.
* UCLA
	+ Continue developing inflight calibration procedures
	+ Continue converting analysis software to python
* GSFC
	+ Developed initial version of AFG and DFG calibration files (ASCII/CDF)
	+ Documented calibration files in Science Data Products Guide
	+ Worked with FDOA and Dors on coordinate system definitions for FIELDS data and spacecraft magnetometer alignment
	+ Provided inputs to Project Coordinate Systems and Alignment document
* IRFU
	+ Outlined detailed processing pipeline for SITL/QuickLook products.
	+ Tested and imported NASA CDF v.3.5 patch for Matlab into the production tree.
* LASP
	+ Getting familiar with FIELDS data and requirements
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| 5. | Magnetometers |
|  | a. | DFG  |  |
|  |  |  | * No activity this month
 |
|  | b. | AFG |  |
|  |  |  | Science* Magnetometer paper now completed in draft form including full magnetic cleanliness section. Will now clean up and redistribute.

Prelaunch Preparations* Hannes Leinweber developing inflight calibration and inflight calibration procedures.
* Louise Lee converting analysis software to modern languages like Python.
* Support SODAWG – with emphasis on coordinate systems.

Engineering: Post-delivery Activity* Need connector to complete kitted parts.
* Watching over activities in assessing LM6142.
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|  | c. | SCM | * SCM FMS => SENSOR S/N FM4 + PREAMP S/N FM3
	+ - Sensor and Preamp bakeout complete.
		- Harness bake out complete.
		- SCM FMS (sensor, preamp, and harness) fully packed and ready for delivery.
		- ADP still in progress.
		- NCR (Sensor Vibration) => MMS-SCM-NC-TRI-669-LPP\_problem\_during\_vibs Iss1 Rev2.doc sent to UNH for review.
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| 6. | EDI |
|  |  | Ship Set 3 - GDU SN 4* Detector Characterization
* Thermal Vacuum Test
* FIELDS Level Testing
* Magnetics Testing

Sensor* Ship set 1 - SN 9
	+ DC Beta Test of HV Capacitor and Preamplifier Board
* Ship set 4 SN 7
	+ Sensor Electrical Test and Vacuum Test; broken HV contact found during vacuum test (PFR-10160.53-119); held FRB, repaired contact & repeated vacuum test
* Ship Set 4 SN 8
	+ Final board stack assembly complete; MCP module assembly is next

Gun - IWF efforts* Ship set 3 - SN 6
	+ Repaired HV-FIL board SN 7 (damaged/stressed resistors R20 & R46)
	+ Performed test of partially assembled FM6 board stack;
	+ Integrated deflection boards (DEFL1 & DEFL2); board stack complete
* Ship Set 4 - SN 7
	+ Completed Gun assembly; calibrate gun at 1keV energy; problem with insufficient beam current found at start of 500eV calibration; performed diagnostic testing and held FRB; decision to replace beam generation system
* Ship Set 4 - SN 8 and ship set 1 - SN 9
	+ Started population of HV sides of boards; DEFL1 & DEFL2 complete

Optics* Delivered Optics SN 7 to UNH; Integration with Sensor SN7 was stopped due to non-nominal resistor reading in "inner optics" subassembly; returned to UIowa for inspection and repair; repair in process;
* Continue work on ship set 4 and Flight Spare

Software* Continued impementation and testing of electric field mode

HVOCs (UNH)* Shipped and installed the 1st group of HVOCs in Gun #7 in mid August, Awaiting test results from IWF.
* Shipped 2nd group of HVOCs, to IWF beginning of Oct.
* Completed build of the 3nd batch of 45 HVOC devices.
	+ Conducted PD testing; all devices passed.
	+ Workmanship: all devices passed.
	+ Burn-in #1(cold); all devices passed
	+ Burn-in #2(hot); all devices passed.
	+ Presently running Burn-in #3.
* Prepared kits for 4rd batch 45 HVOC's, and fabricated 15 of 45 HVOCs.
* Last 30 are in final stages of fabrication.
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| 7. | SDP/BEB/LVPS  |

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|  | a. | SDP/BEB/LVPS (KTH/IRFU/Oulu)KTH/IRFU: LVPS, SDP BEB’s, ADP BEB’s and SDP Preamp/Boom Cable Assemblies:* Done.

KTH/Oulu/IRFU: Sphere / Yo-Yo Mechanism:* No new developments. Testing of last two Probes (including the probe designated for the flight spare SDP unit )to be done at KTH Mid. Nov.

KTH/IRFU/Oulu Management:* Supported project as needed.
* Prepared the Acceptance data package summary for all delivered hardware
 |
|  | b. | SDP/BEB/LVPS (UNH)LVPS, * No activity

AEB, S-BEB’s, Preamp/Cable Assemblies, GSE:* Done for all flight units

FM and FS SDP:* Completed magnetics and EMI tests.
* Successfully completed the PSR for ship set #4 (SNs 15-18)
* Received door/latch assemblies SNs 19 and 20 from LASP. SN19 is designated for the flight spare SDP (SN2)
* Spare FM2 kit is largely complete with the Outer Cylinder final drilling and tapping now complete. Only outstanding hardware is surface treatment of spare RWC hardware, the quote is in process.
* Presented a plan for additional SDP EMI testing as requested by SwRI.
 |
|  | c.  | SDP (LASP)* Disassembled SN01 and SN18 SDP Doors
* Assembled and tested SN19 (flight spare) and SN20 (EM) SDP Doors with parts from SN01and SN18 Doors
* Shipped SN19 and SN20 Doors to UNH
* Prepared SDP Door SN19 and SN20 as-built documentation
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| 8. | ADP |
|  | a. | LASP ADP Post-Delivery Support Activities at Goddard* Traveled to Goddard to provide ADP post-delivery support
	+ Obs #1
		- Reinstalled the +Z ADP RE on Obs #1
		- Performed post-installation deployment test of +Z ADP RE on Obs #1
	+ Obs #2 – No LASP activity
	+ Obs #3
		- Installed the +Z ADP RE on Obs #3
		- Completed the +Z ADP RE safe-to-mate and limited functional
		- Performed post-installation deployment test on +Z ADP RE
		- Performed post-installation FIELDS ADP functional on +Z ADP RE
	+ Obs #4 – No LASP activity
* Guard discoloration PR (Guard SN05, ADP RE SN01, +Z RE on Obs #4)
	+ Similar discoloration was created on a spare guard part at LASP by enclosing the part in a poly bag with IPA. As with the flight guard, the discoloration was conductive and could not be removed with mild solvents.
	+ The PR was closed with a use as-is disposition.

Axial Electronics Box (AEB)* No activity
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| 9. | DSP, Thermal, Systems Engineering, Product Assurance and Management (LASP) |
|  |  | DSP - No activities this month.Thermal – No activities this month.Systems Engineering and Program Management* Supported program as needed

Quality Assurance, Parts, and Materials Engineering* Supported program as needed.
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| 10. | CEB  |
|  | a. | Hardware |
|  |  |  | * No activity. CEB hardware activities are complete.
 |
|  | b. | CDPU Software,  |
|  |  |  | * Software is stable
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| 11. | GSE (Mello) |
|  |  | GSE Hardware* No activity

FIELDS Simulator* No activity

GSEOS & GSE Software* Support OBS/FIELDS testing
* Telemetry screen improvements
* New SDP Commissioning TLM screen
* New TBAL/TVAC screens
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| 12. | Commissioning and Mission Operations (Needell) |
|  |  | * Supported development/review and testing of MRT9b scripts and RTS with SOC
* Supported MRT9b Dry run on OBS4
* Delivered Low Voltage Commissioning Plan to SOC
* Continued MRT8 planing
* Continued participation in bi-weekly Commissioning telecoms
* Supported testing of GESOS revisions to fix SOC/ITF compatibly issues.
* Attended SWT @APL - participated in Commissioning discussion/planning.
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| 13. Problems encountered and updates this period |

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|  |  | EDI* [NEW] Beam current for 500eV calibration (Gun FM7) (PFR-10160.53-122-IP)
	+ Insufficient beam at 500eV. Change in operating characteristics observed at 1 keV.
	+ FRB approved plan to replace the BGS.
	+ Gun 7 calibration is proceeding normally following the rework.
* [NEW, CLOSED] GDU SN4 TV test anomalies (Sensor set points, FPGA2 reconfigurations, CMD rejections) (PFR-10160.53-120-CL
	+ Several anomalies were observed during TV test continuous operations. The Sensor set points were zero at some point (sensor FPGA reset?), FPGA2 went through a few autonomous reconfigurations and was unconfigured at some point, the CDPU rejected-command counter incremented several times, and the GDU command frame header error bit was also set.
	+ These anomalies were also observed during diagnostic low-voltage testing. The grounding configuration was then changed.
	+ Subsequent testing at in TV high voltage (>100 hours) was error free with regard to the noted anomalies.
* [NEW] GDE Converter Shutdowns during TV (GDU SN FM4) (PFR-10160.53-118-IP)
	+ GDE converter shut down during continuous operations startup at first hot plateau in TV while switching gun energy to 1keV.
	+
	+ Another converter shutdown and two FPGA communication locks occurred after 101 hours of error free operation during instrument configuration for continuous operations.
	+
	+ Subsequent instrument operation (23 hours) at HV on was nominal.
* [UPDATE] Off-resonance HV supply operation (Gun SN7) (PFR-10160.53-116-IP)
	+ During a test of the partially assembled board stack (lower three boards and HV stacks) the HV supply input current was 95 mA instead of the typically nominal 9.6 mA.
	+ Caused by test setup (HV probe capacitance causing off-resonance operation with high power consumption) resulting in possible overstress of two resistors (R20 and R46) on HV-FIL board SN8;
	+ The HV-FIL board SN8 was removed and replaced with SN9; Gun testing resumed.
	+ HV-FIL board will be repaired (R20 and R46)
	+ UPDATE: Gun 7 calibration is proceeding normally.
* [UPDATE] Red Limit Violation of MCP supply current housekeeping monitor (EDI GDU FM4) (PFR-10160.53-117-IP)
	+ During detector characterization tests, the MCP current monitor had a single-sample red limit violation. This type of violation has occurred on other units referenced in NCRs 53-83, 53-88, and 53-105.
	+ UPDATE: Another single-sample red limit violation of the MCP current monitor was registered during the LFT conducted during the third hot cycle in the TV test.
	+ .
* [UPDATE] Failure of HV supply (Gun SN6) (PFR-10160.53-113-OP)
	+ During final integration test of the FM6 gun electronics, in two cases a failure of the HV supply has been observed. The high voltage output of the stack reaches only 60% of the nominal value.
	+ As of 8 Oct 2013:
		- Diagnosed problem with insufficient HV stack output; R20 has increased resistance (700 Ohms instead of 20 Ohms); Very likely caused by test setup (HV probe capacitance causing off-resonance operation with high power consumption) resulting in overstress of two resistors (R20 and R46) on HV-FIL board.;
		- The HV-FIL board will be repaired
	+ UPDATE: The cause was identified with a similar problem was observed with Gun 7. See PFR-10160.53-116-IP. Rework is complete. Calibration of Gun/GDE SN6 is planned to follow that of SN7.
* Board-level test failure SN6 Gun Beam Board - damaged LVDS chip (PFR-10160.53-110-OP)
	+ The LVDS driver chip was damaged during board-level test on the SN6 Beam board due to a missing ground between the EGSE and the +/-5.2V power supply of the test board.
	+ Proposed Actions/Corrections:
		- Replace the part and inspect. DONE.
		- Correct the test setup and confirm. DONE.
		- Resume board level testing of the Beam Board. DONE.
		- Provide analysis assessing risk, if any, to other components on the board.
	+ UPDATE:
		- SN6 Gun has been placed back in cleanroom environment. Testing will resume when time is available.
		- Awaiting NCR details and analysis from IWF.
* EDI GDU SN2 open work (PFR-10160.53-101-IP)
	+ GDU SN2 exhibited problems during the Gun calibration and component level TV test. See PFR-10160.53-56 [Thermal Vacuum Com Locks and Fold-Backs (EDI GDU SN2)] and PFR-10160.53-47 [GDE fold-back during SN2 Gun Calibration]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan:
		- -Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exhibited LED current trends.
		- -Remove 27 Ohm resistor from GUN25V supply line in GDE/Gun harness
		- -Install 20 Ohm resistor on HV-FIL board in Gun
	+ Retest plan:
		- -Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* EDI GDU SN3 open work (PFR-10160.53-103-IP)
	+ GDU SN3 exhibited problems during the component level TV and vacuum tests. See PFR-10160.53-81 [GDE Converter Fold Back and Comm Locks observed during TV test (GDU SN FM3)] and PFR-10160.53-83 [Sensor FPGA reset (EDI GDU FM3)]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan: Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exhibited LED current trends.
	+ Retest plan:
		- Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* EDI GDU SN5 open work (PFR-10160.53-106-IP)
	+ GDU SN5 exhibited problems during the component level TV and vacuum tests. PFR-10160.53-105 [Red Limit Violations on GDU SN5] and PFR-10160.53-96 [Converter Foldbacks (GDU FM5)]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan: Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exibited LED current trends.
	+ Retest plan:
		- Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* UPDATE[CLOSED] : Anomalously low LED current of channel D5 in Gun FM4 (PFR-10160.53-104-IP)
	+ Cause: intermittent contact of HV feedback resistor solder pad to board.
	+ Corrective action: reflowed the solder in two joints.
	+ Subsequent Gun test and calibration performed successfully.
	+ Waiting for successful GDU T/V test before closing
	+ Update (closed): No anomalies were seen on HV amplifier D5 in the Gun during the T/V test of GDU SN4. This demonstrates that the rework was successful.
* [UPDATE] Negative Current spikes seen on Plate 7 Optocoupler during calibration (GUN SN4) (PFR-10160.53-85-AP)
	+ Three opto-couplers (HVOC 204, 210, 229) and one transistor (Q5, 2N2222) were replaced and submitted to GSFC for DPA. DPA results for HVOC 229 still pending.
	+ Successful Gun re-calibration performed.
	+ Waiting for successful GDU T/V test before closing. Risk of latent damage unknown. Opened risk on GDU SN4 (ID: 121)
	+ Update following GDU TV test:
		- 1) The affected Gun deflection channels – D5, D6 and D7 – performed without error during the GDU SN4 T/V test. Channel D6 exhibited a 7% trend (5 LSBs) in LED current between the first and last hot plateau of the T/V test. This is much less than the trends found on channels D3 (25%) and D8 (20%). Channel D5 showed no trend at all, channel D7 merely 2.2% (one LSB)
		-
		- 2) The DPA report for HVOC 229 is still pending.
	+
* [UPDATE] Failure to set the Wehnelt voltage (EDI Gun SN4, Q4 on HV-FIL board SN4) (PFR-10160.53-78-IP)
	+ Damage of transistor Q4 on HV-FIL board.
	+ Suspected cause: arc or ESD.
	+ Successful BLT of board SN4 after replacement of Q4, but board SN4 was not used for Gun SN4. Board SN5 was used with Gun SN4.
	+ No impact on other Gun boards seen, but risk of latent damage unknown. Opened risk on GDU SN4 (ID: 121)
	+ Update: Converter shutdowns and communication locks were observed during GDU SN4 TV testing

ADP* ADP RE sine vibration levels – Risk retired at the IS level. Input relief above 50 Hz was provided by ULA. Predicted ADP responses are below test levels. ADP RE’s on Obs #1 were inspected post-vibration and acoustics. No additional DAG wear or damage was observed.
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| 14. Issues and concerns |
|  |  | From FIELDS PM* The Gun/GDE continues to be the critical path for GDU and FIELDS. UNH will continue to coordinate support with IWF. UNH will provide support of testing and assembly activities on site at IWF as needed. In addition, IWF has prepared and shipped kits so that UNH can assemble the Gun boards to be used in the refurbishment of GDUs. The intent is to have assembled and tested boards to be used as replacements and avoid rework of the boards currently in these Guns. The parts needed to assemble these boards are available or on order. These boards will employ UNH-built HVOCs.
* A risk record regarding GDU performance and schedule was initiated and discussed (7 Nov) with SwRI and GSFC project leaders. The intent is to use this as a tool going forward to help coordinate mitigation efforts.

FM1 (Obs-1) SCM alignment* It will be difficult to extrapolate the alignment error of the sensors in this unit from the torques used to fasten them. The LPP SCM team proposed to check the alignments in flight using data from the AFG. The FIELDS science team agreed with this approach.

Science Data Processing (Compiled by Chutter)* UNH
	+ SDC sandbox computer not yet available
* LPP
	+ [still pending – new files available to be checked] Conversion of TT2000 (64 bits long integers) to double precision floating point numbers introduces errors (tenths of nanoseconds). This conversion is needed to correct for leap seconds and also for tplot variable timing.
	+ [new] SSH access to the Sandbox from Laurent Mirioni’s computer fails. Lon Riesberg is having a look on it.
	+ [still pending – new files available to be checked] In preliminary input test files, time resolution varies (hundreds of nanoseconds). *Mark Chutter: This may come from a change in temperature during data acquisition which changes the clock frequency*
* UCLA
* GSFC
	+ There is a mismatch regarding required inputs from Fluxgate to DCE processing. Spinning vs despun, MPA vs angular momentum aligned.
	+ Latest available version of MMS CDF Guidelines did not give sufficient guidance on naming conventions and metadata associated with CDF variables.
	+ Mag DMPA SITL product is assumed to be Near GSE, but current project requirements make no mention of spin axis alignment with the ecliptic pole
	+ Required inputs for L2plus Mag Combine not clear.
	+ Awaiting specification of temperature and non-linearity corrections.
* IRFU
	+ Waiting for Matlab to be installed at SDC.
* LASP
 |

NCR Summary: Provided separately (Excel file)

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| Activities planned for next reporting period |
|  |  | Management |
|  |  |  | * Continue to support SwRI review of the FIELDS cost change proposal submitted 31 July.
* Continue to push open NCRs to closure. Support FRBs as needed.
* Continue to prioritize and coordinate the work of the UNH team and its FIELDS partners.
* Closely monitor status and schedule performance of team members. Identify schedule risks and provide assistance for mitigation if warranted. Work to minimize schedule slippage.
* Support/staff T/V testing as needed
* Update the Gun and GDE schedule.
* Receive delivery of the following items at UNH
	+ Parts kits for 3R and 5R EDI Gun boards (from IWF)
	+ Macor brackets for 3R and 5R Gun boards (from IWF)
	+ SN7 Gun/GDE (from IWF)
	+ SN7 Optics (from U of Iowa)
	+ SDP Probe for flight spare (SN FM2) (from KTH)
* Delivery of the following flight hardware items from UNH to FIELDS partners
	+ BGS SN11 and HV&Fil SN10 to IWF
* Prepare and conduct the following PERs
	+ GDU SN7 vibration test
* Support the following TRRs
	+ GDU SN7 vibration test
* Prepare and conduct the following PSRs or Acceptance Reviews.
	+ PSR: EDI GDU SN4
* Make or coordinate delivery of the following to GSFC IS or S/C teams
	+ SDP SNs 15, 16, 17 & 18
	+ EDI GDU SN4
	+ Maheu hats (GSE for EDI TV)
* CDRL and contract deliverable submissions:
	+ None planned
 |
|  |  | Product Assurance, Configuration Management, Parts, Materials, Facilities |
|  |  |  | Turco/Salwen* EDI Sensor 9 staking/coating
* EDI GUN board assembly support
* SDP FM17 & FM18 cleaning and bagging
* HVOC assembly and test support
 |
|  |  | Systems Engineering & FIELDS I&T |
|  |  |  | Rau, Dors, Needell* Continue submitting FIELDS verification material for closure
 |
|  |  | Post-Delivery Support (UNH) |
|  |  |  | IS and Observatory Support (FIELDS)* Support OBS-1 ADP RE re-installation and testing
* Support OBS-2 pre-TB aliveness test
* Support OBS-2 TB testing
* Support OBS-2 TV test preparation including personnel scheduling
* Support OBS-2 TV testing
* Support OBS-3 Baseline Mag boom 2nd/3rd motion and functional
* Develop test procedure for SCM special test during OBS-4 EMI
* Support OBS-4 EMI and Acoustics
* Support EDI GDU SN04 PSR
* Deliver EDI GDU Maheu Hats and install on OBS-2 prior to TV
* Deliver SDP SN15-18 and GDU SN04 to GSFC
 |
|  |  | Science |
|  |  |  | SWT and SWG* Support science telecons as needed
* Continue preparation FIELDS Instrumentation papers

Science data processing activities* ALL
	+ - Work on interface code to run at SDC
		- Produce CDF skeleton files
		- Work on data product guides
* UNH
	+ - Improve CDF skeleton files
		- Make flight-like version of SDP deployment CDF files
		- Test Packet On Demand Access (PODA) interface for data retrieval from POC
* LPP
	+ - Digital filter response will be tested in the calibration software.
		- Modify and test the SCM calibration software in order to read the new SCM L1A cdf files provided by M. Chutter in Mag123 system.
* UCLA
	+ - Continue developing inflight calibration procedures
		- Continue converting analysis software to python
* GSFC
	+ - Get satisfactory sample attitude and ephemeris files from FDOA.
* IRFU
	+ - Start implementation of SITL/QuickLook pipeline.
* LASP
	+ - Work on paper describing DSP data acquisition processes
 |
|  |  | AFG |
|  |  |  | * Complete kitted parts set.
* Work on data products guide.
* Continue developing inflight calibration procedures.
* Continue software analysis activities.
* Continue to support SODAWG.
* Develop milestones for prelaunch preparations.
* Review Roy’s paper and comment.
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|  |  | DFG |
|  |  |  | * No activities planned for November
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|  |  | SCM |
|  |  |  | * NCR and alignment measurements report to be completed (MMS-SCM-NC-TRI-623-LPP and MMS-SCM-PR-TRI-622).
* Support the preparation of the SCM noise measurements during the next obs-level EMI tests.
* NCR (FMS sensor vibration) => MMS-SCM-NC-TRI-669-LPP\_problem\_during\_vibs Iss1 Rev2.doc to be added in the FMS ADP after validation by UNH.
* FMS ADP
* Organization of the FMS (with the harness) delivery to UNH
* Support (remotely) UNH team for the preparation of s/c EMI testing
 |
|  |  | EDI |
|  |  |  | Ship Set 3 - GDU SN 4* Pre-Ship Inspections
* PSR
* Shipment to GSFC

Ship Set 4 - GDU SN 7* Start GDU Assembly
* Baseline Functional Test
* PER

Sensor* Ship Set 4 - SN 8
	+ Complete Final Assembly; Perform Electrical & Vacuum Test
* Ship Set 1 - SN 9
	+ Preamplifier Trimming and Delay Test

Gun - UNH efforts* Board Level test of HV-FIL board SN10

Gun - IWF efforts* Ship set 3 - SN 6
	+ Complete Gun integration (housing, deflection head, grid, beam generation system); perform functional test; start calibration
* Ship Set 4 - SN 7
	+ Replace Beam Generation System; calibrate gun, deliver to UNH
* Ship Set 4 - SN 8
	+ Finish population of HV sides of boards (OPT\_DEFL, BEAM)
	+ Integrate lower board stack

Optics* Deliver SN7 Optics
* Continue work on ship set 4 and Flight Spare

Software* Continue implementation and testing of electric field mode

HVOCs (UNH)* Complete the screening test sequence for batch 3.
* Complete analysis and reporting of the screening data for batches 2 and 3
* Complete assembly of the 4th and planned final batch of 45 HVOCs
* Conduct the screening tests on batch 4
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|  |  | SDP/LVPS/BEBs/Preamp/Probe (KTH/ Oulu/IRFU) |
|  |  |  | SDP:* No activity

S-BEB’s & Preamp & Probe:* Perform TV testing on final pair of probes. One probe is designate for the SDP flight spare (SN2)

A-BEBs and LVPS:* Done
 |
|  |  | SDP/LVPS/BEBs/Preamp/Probe (UNH) |
|  |  |  | UNH SDP:* Receive the spare probe from KTH
* Continue assembly of flight spare SDP (SN2)
* Revise plan for additional EMI testing as requested by SwRI.

LVPS* Do final test of FM5 LVPS before placing in storage
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|  |  | ADP/SDP/DSP (LASP) |
|  |  |  | QA/Parts/Materials* Support the project as necessary.

DSP – No activity plannedADP* Support I&T at Goddard as needed

AEB – No activity plannedSDP* Deliver SDP Door EIDP updates with as-built records for door SN19 and SN20.
* Thermal – No activity planned

Systems and Program Management* Focus on EIDP and verification tasks
* Support any UNH requests for cost justification with the FIELDS proposal to SwRI
 |
|  |  | CEB Hardware and Software |
|  |  |  | * All flight hardware is delivered. Flight spare kits are complete. No further activity is planned.
* CEB flight software is stable.
 |
|  |  |  |  |
|  |  | GSE (Mello) |
|  |  |  | GSE hardware* No planned activity

GSEOS & GSE Software* Support OBS/FIELDS testing
* Support TBAL/TVAC/FIELDS testing
* Telemetry screen improvements
* Update GSEOS version
* New GSE Decoders & Screens for GSE Therm & SC telemetry

FIELDS Simulator (FS)* No planned activity
 |
|  |  | Commissioning and Mission Operations (Needell) |
|  |  |  | * Support MRT9B during OBS2 TVac
* Continued planning for MRT8
* Deliver additional Commissioning plans to SOC as needed.
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