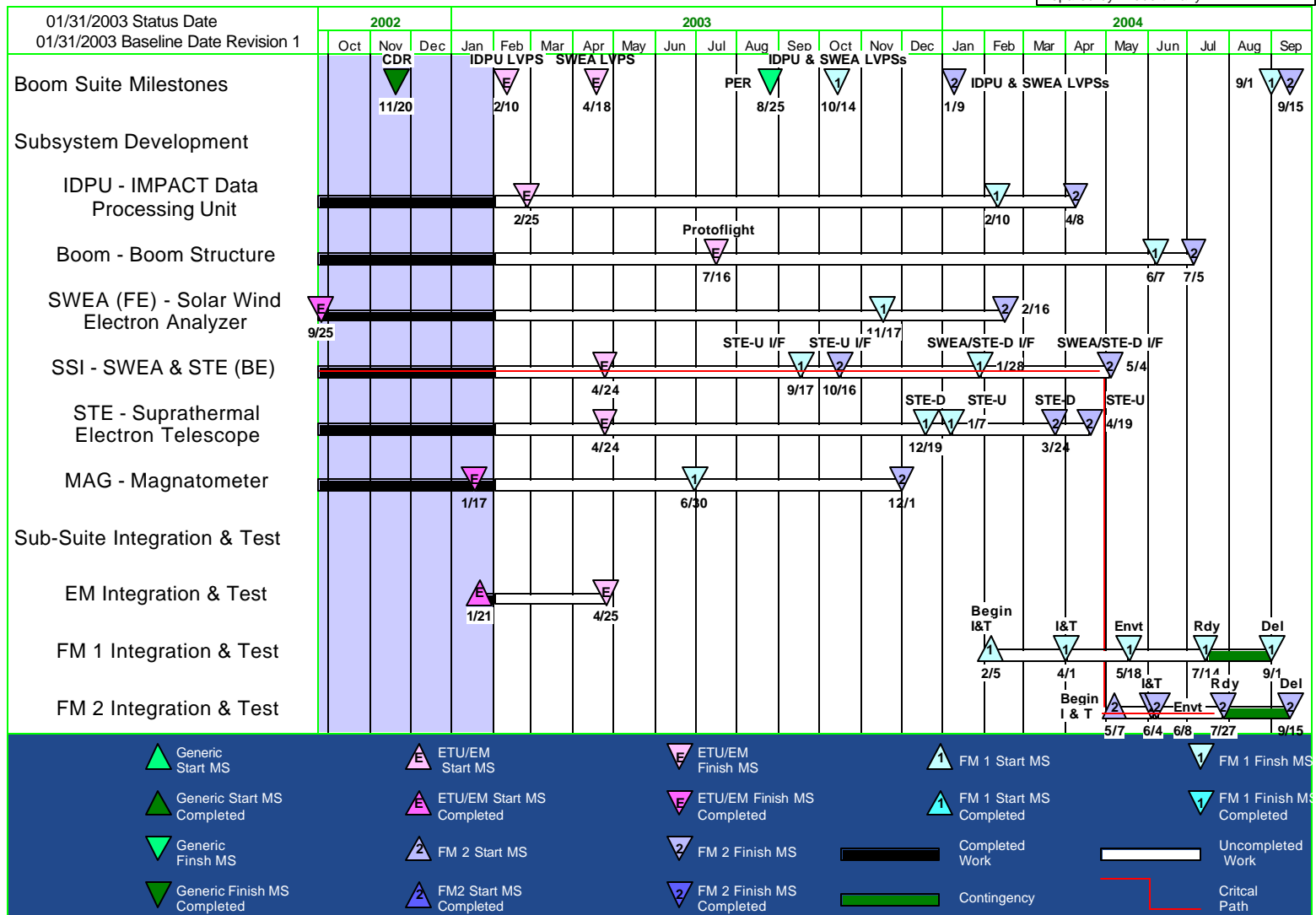


IMPACT Project Status

David Curtis, IMPACT Project Manager
UC Berkeley Space Sciences Laboratory
dwc@ssl.berkeley.edu, (510) 642-5998

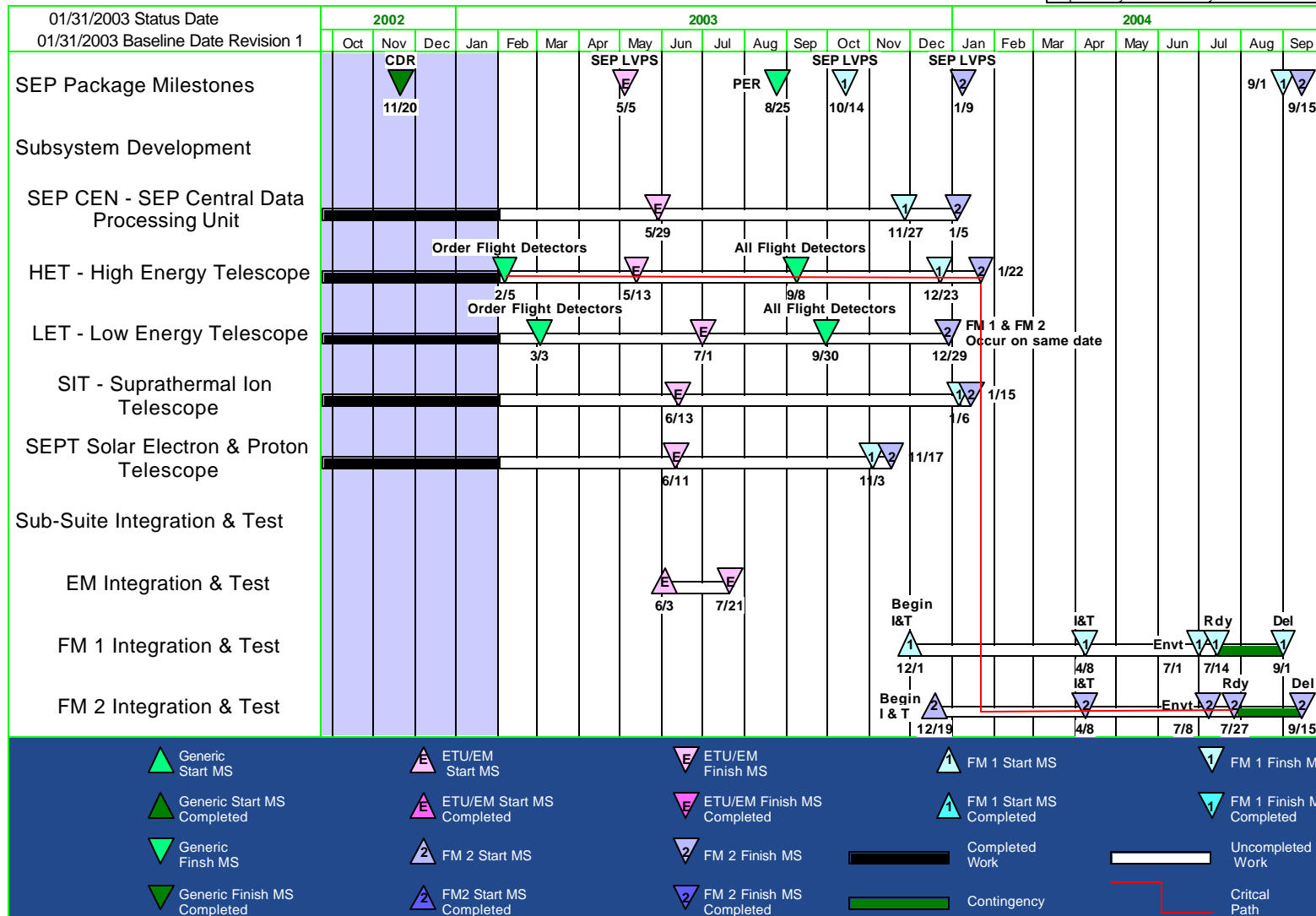
Approved by: Janet Luhman
Checked by: David Curtis
Prepared by: Robert Palfy

IMPACT SUITE - IDPU & Boom Suite



IMPACT SUITE - SEP PACKAGE

Approved by: Janet Luhman
Checked by: David Curtis
Prepared by: Robert Palfy



Schedule Summary

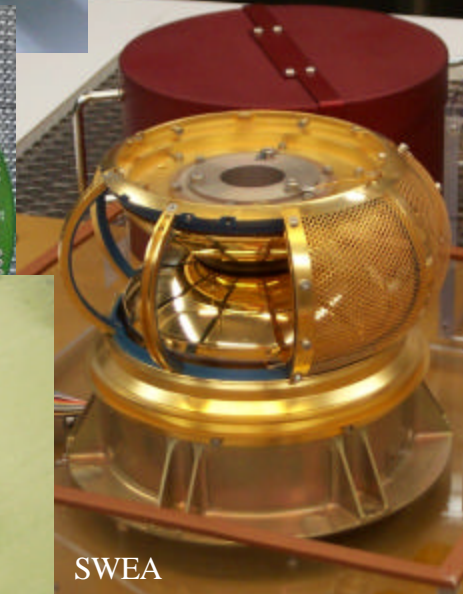
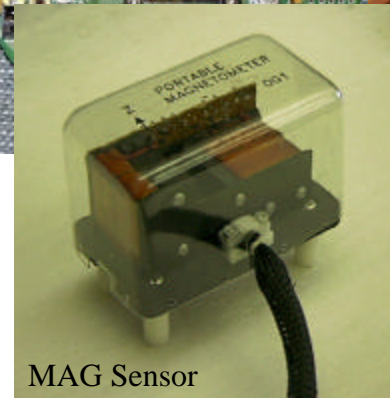
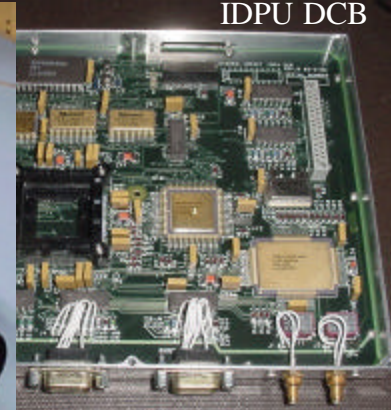
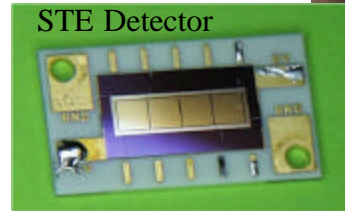
- **Since PDR schedule slippage has resulted in contingency to delivery of IMPACT to APL on the baseline schedule dropping from 50 to 7 days.**
 - **Technical problems (LET detectors, parts screening failure)**
 - **Delays in ramping up manpower (Boom and Power Converters)**
- **Schedule drivers have been addressed incrementally as they come up, and have been liened by Project.**
 - **Extra manpower in IDPU Flight Software Development: \$240K, ~1% of IMPACT Budget**
 - **Extra manpower in the Boom and LVPS areas: \$143K, <1% of IMPACT Budget**
 - **Parallel LET detector development paths: \$30K, <<1% of IMPACT Budget**
 - **SWEA/STE part screening failure recovery: \$63K, <<1% of IMPACT Budget**
- **Often these workarounds are not reflected in the original schedule because they involve re-ordering of tasks, allowing tasks to run in parallel, or result in decreasing the duration of future tasks (added manpower)**
- **A re-worked schedule taking these work-arounds into account is presented here**
 - **The new schedule has 35 days of contingency at the end, plus additional slack embedded before key milestones**

Schedule Management

- **Key interface deliveries are coordinated and tracked**
 - External interfaces (APL, PLASTIC)
 - Foreign contributors (CESR, Kiel, ESTEC, MPAe)
 - Internal team deliveries
- **All schedules are incorporated into an overall integrated IMPACT schedule**
- **Schedules are statused monthly**
 - Statusing supported by site-visits by planners
 - Impact of updates are assessed, reviewed between subsystems concerned
 - Effort is then made to bring the date back in line
 - Key milestones identified, monitored, and reported on to STEREO Project
 - Key milestones are those that drive deliveries, critical path or impact cost
- **Coordinated by monthly progress reports, numerous telecons, meetings, and site-visits**

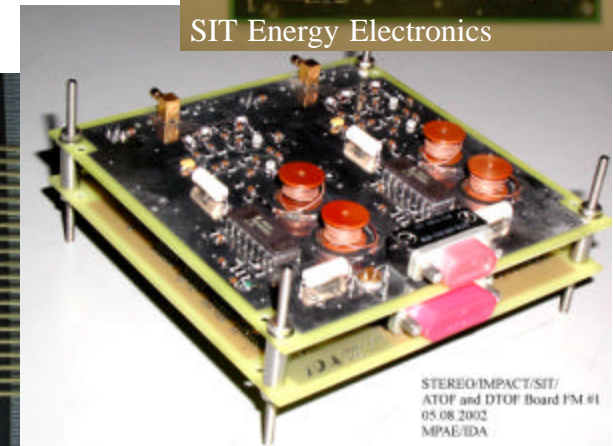
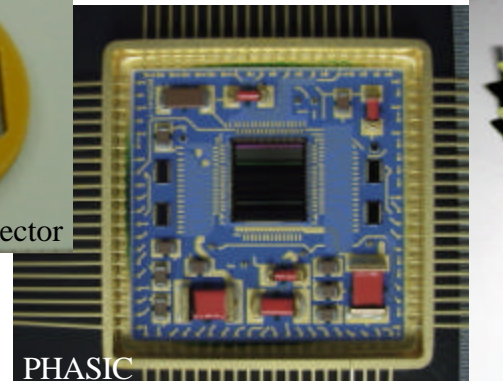
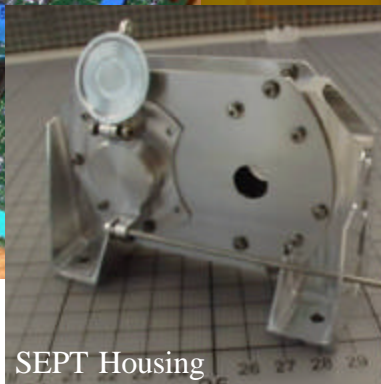
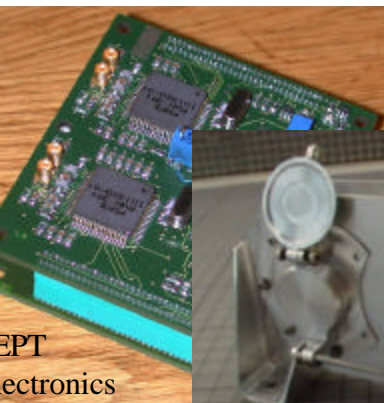
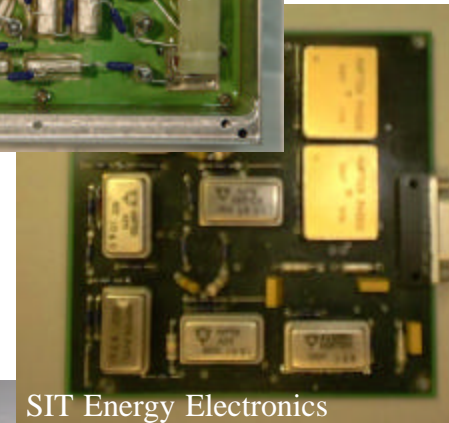
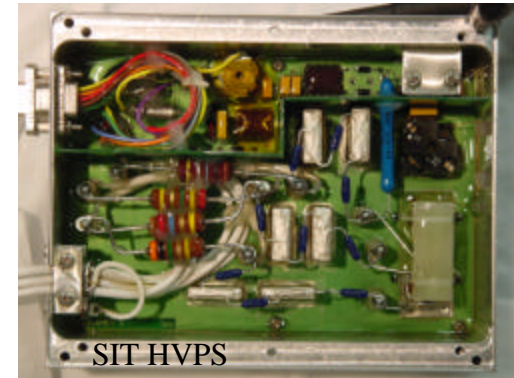
Instrument Development Status

- **Boom**
 - ETU assembled and tested
 - Qual unit in fabrication
- **IDPU**
 - ETU complete and tested
 - Instrument interface tests with ETUs in progress
- **Power Converters**
 - ETU SIT HVPS & IDPU LVPS complete
 - Remaining 3 LVPS ETU in layout
- **SWEA**
 - ETU complete, tested, delivered to UCB
 - Interface tests in progress
 - Selected flight fab has begun
- **STE, SWEA/STE Interface**
 - ETU fabricated, subassemblies in test
- **MAG**
 - Heritage design
 - ETU of STEREO-unique circuits fabricated and tested.



Instrument Development Status (SEP)

- SEPT
 - ETU fabrication in progress, on schedule for SEP ETU integration
- SIT
 - Heritage telescope design; New electronics
 - ETU I&T in progress
- HET, LET
 - ETU in the layout/piece-part drawing stage, on schedule
- SEP Central
 - ETU in the layout/piece-part drawing stage, on schedule



Curtis

Top Schedule Concerns and Mitigations

- **Power converter ETU schedule**
 - Provide adequate manpower to support fab and test schedule
 - Monitor progress against key delivery milestones
- **SWEA/STE parts qualification workaround**
 - Multiple candidates in test, decision points identified
 - The order of ETU testing has been reorganized
- **Boom development effort**
 - Maintain enhanced level of effort to complete Qualification Unit as early as possible
 - Add boom reviews at key points to mitigate technical risk
- **LET/HET detector technical issues**
 - Parallel paths for L1 detector
 - Track key decision milestones for backup plans
 - Provide technical support to resolve issues in a timely fashion

IMPACT CRITICAL MILESTONE SCHEDULE

1/31/03

ITEM	EVENT	2002		2003											
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
1	IMPACT - Instrument CDR	▼	11/22												
2	MAG - Deliver ETU to UC-B			▼	1/20										
3	IMPACT - Flight ACTEL Lot Buy Received			▼	1/20										
4	LET - L1 Detector Decision Trigger Event			▼	1/31										
5	Place HET Flight Detector Order			▽	2/5										
6	IMPACT - Flight ACTEL Lot DPA Complete			▽	2/7										
7	IDPU - ETU LVPS Available			▽	2/10										
8	IDPU - ETU Complete (Final Testing)			▽	2/25										
9	Place LET Flight Detector Order			▽	3/3										
10	SWEA/STE-D - ETU LVPS Available						▽	4/18							
11	STE - ETU Complete						▽	4/24							
12	SWEA - ETU Complete						▽	5/2							
13	SEP - ETU LVPS Available						▽	5/5							
14	HET EM to CIT						▽	5/8							
15	PLASTIC - ETU LVPS Delivered								▽	6/9					
16	SEPT ETU to CIT								▽	6/11					
17	Completion of Boom Protoflight Unit									▽	7/16				
18	All HET Flight Detectors Received											▽	9/8		
19	All LET Flight Detectors Received												▽	9/30	
20	SEP Package EM I&T Complete													▽	10/2

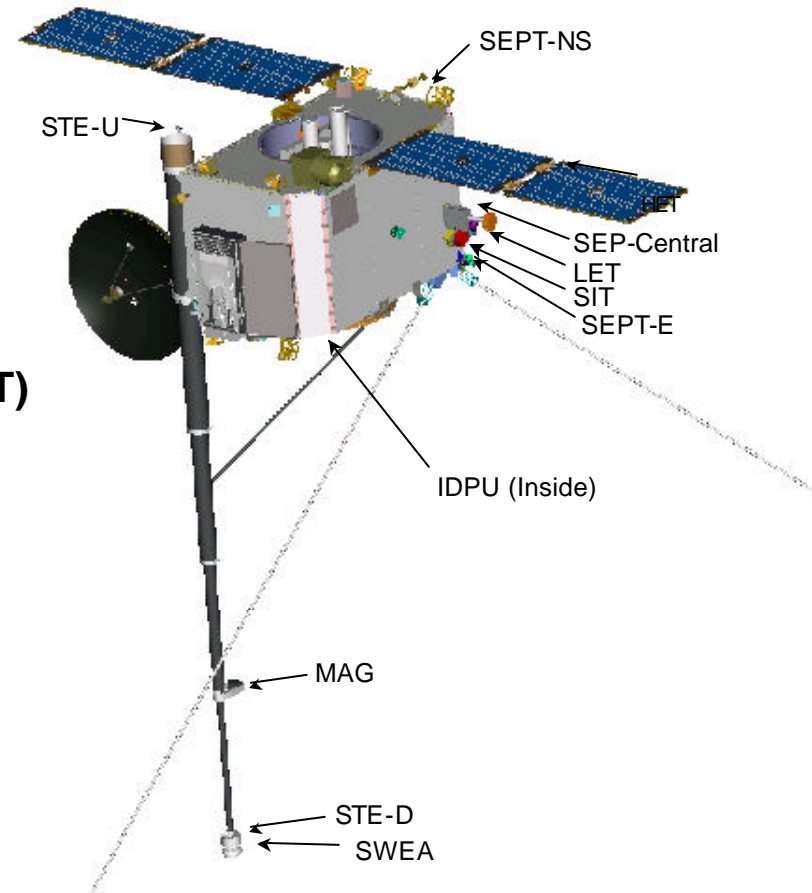
Summary

- **IMPACT is on track for delivery**
 - **Good progress to date**
 - **Adequate schedule slack**
 - **No show-stoppers**

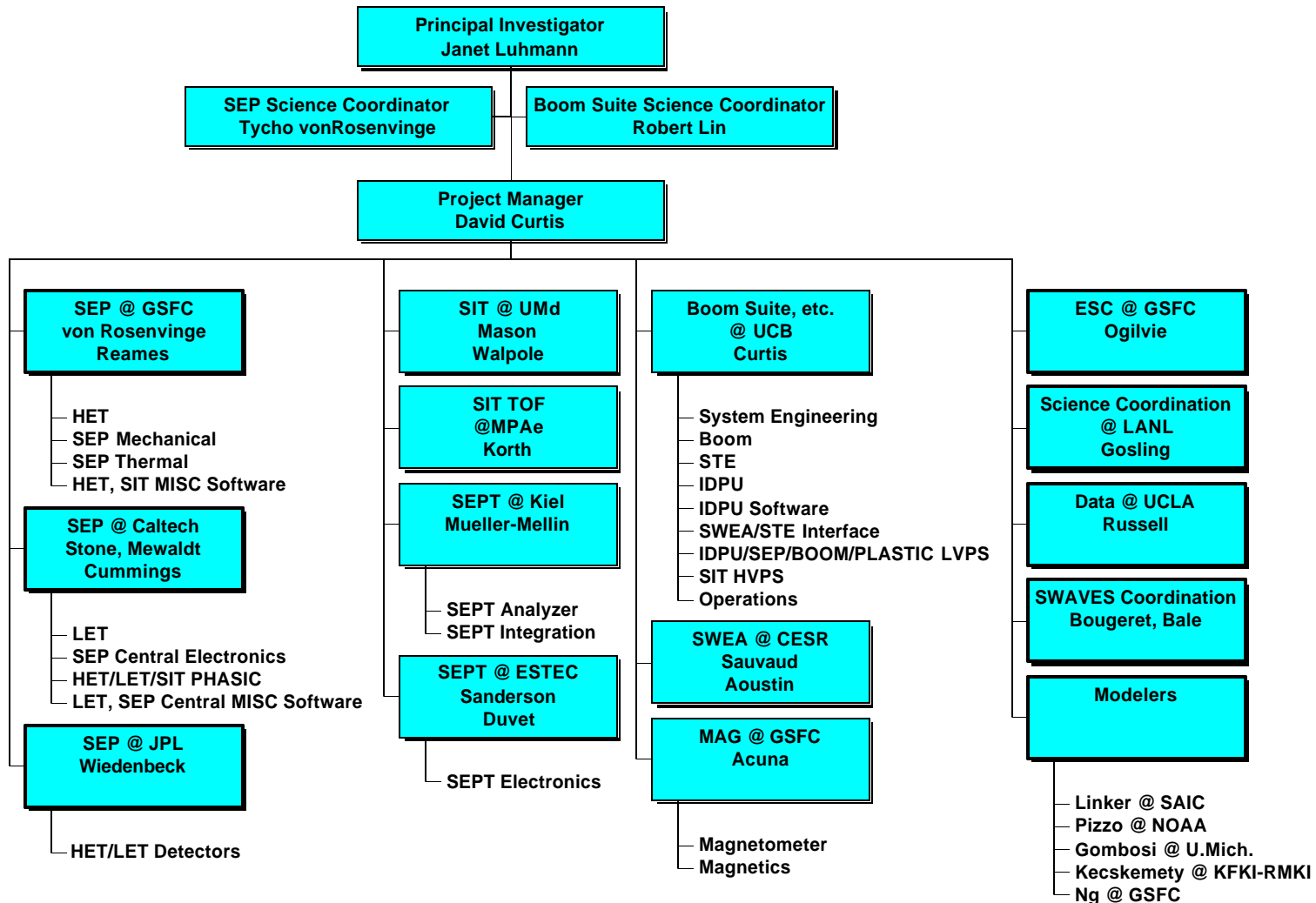
IMPACT Backup Material

IMPACT (In-situ Measurements of Particles and CME Transients) Instrument Overview

- **Boom Suite:**
 - Solar Wind Electron Analyzer (SWEA)
 - Suprathermal Electron Telescope (STE)
 - Magnetometer (MAG)
- **Solar Energetic Particles Package (SEP)**
 - Suprathermal Ion Telescope (SIT)
 - Solar Electron and Proton Telescope (SEPT)
 - Low Energy Telescope (LET)
 - High Energy Telescope (HET)
- **Support:**
 - IMPACT Boom
 - SEP Central
 - Instrument Data Processing Unit (IDPU)

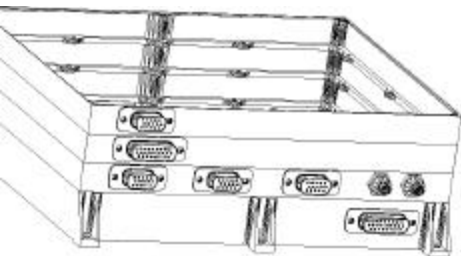


IMPACT Organization Chart



STEREO IMPACT

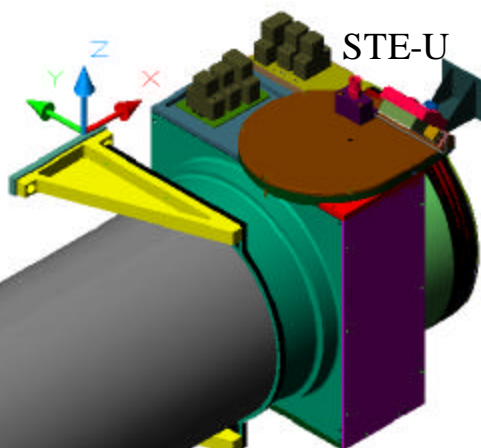
GPMC Presentation
2003 February 10



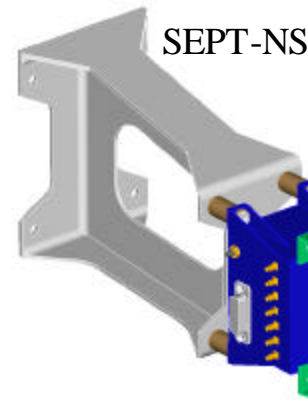
DPU

IMPACT Suite

Boom
(Stowed)



STE-U



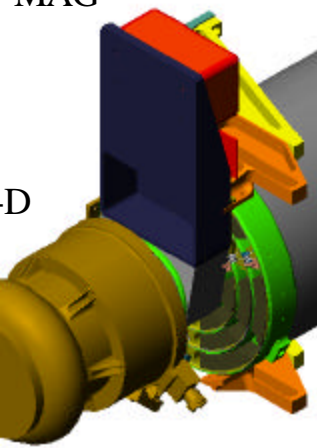
SEPT-NS



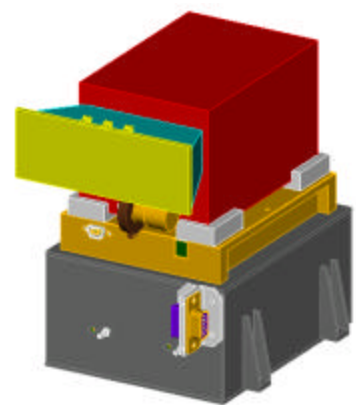
SEPT-E

MAG

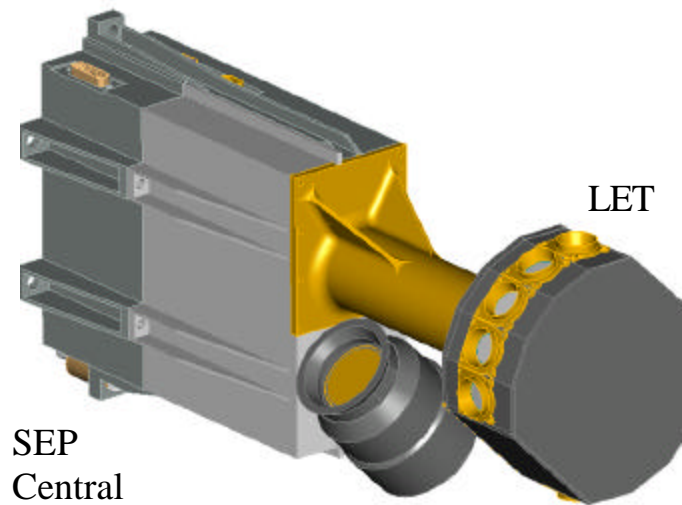
ED



SWEA



SIT



SEP
Central

LET

HET

Curtis