

Jet Propulsion Laboratory  
California Institute of Technology

4800 Oak Grove Drive  
Pasadena, CA 91109-8099

(818) 354-4321



July 2, 2004

Refer to: 930-04-008 ESB:NL:lc

TO: Distribution

FROM: Eugene S. Burke

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held June 17, 2004

**NEXT JURAP MEETING:  
Thursday, September 16, 2004  
JPL Bldg. 303, Room 411 1:00 p.m.**

Attendees:

Abramo, C.	Doody, D.	Holmes, D.	Scott, C.
Andujo, A.	Guduru, S.	Lacey, N.	Smith, E.
Beyer, P.	Hall, J.	Martinez, G.	Waldherr, S.
Brymer, B.	Hampton, E.	Retana, J.	
Burke, E.	Hill, D.	Satterlee, N.	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The last regular meeting was held on June 17, 2004 at the Jet Propulsion Laboratory.

***Introductory Remarks – E. Burke***

Mr. Burke reported that thanks to J. Retana, all Mid-range Scheduling problems have been solved.

***Spitzer Space Telescope – C. Scott***

The spacecraft continues to function normally, and successfully executed 29 weeks of observation time, and 124 days were flawless. The Project conducted a science update in May and conducted press conferences on the latest findings in May and June 2004. The spacecraft and instruments are performing above specification.

The Spitzer Observatory has recovered from one Safe mode since last March. Nominal recovery by MOS teams occurred. They received excellent DSN support to achieve nearly continuous coverage from DOY 163 to 168. The Safe mode entry was due to erroneous STA quaternion (OPZ violation) from slewing through earth (bright body). A second problem was due to an erroneous persistence check failure on IRU #1 from stopping S/C rotation while in Safe mode. Problems are well understood and both FSW patches and procedural changes are being implemented. The suspected cause of the dropped transfer frame is the MEDS S/W.

***Special Report – E. Smith***

Dr. Smith presented a summary of recent papers published for the American Association for the Advancement of Science and the American Geophysical Union. Observations during Ulysses' second solar orbit reveal basic changes between solar minimum and maximum. Fast high latitude wind disappeared in the southern hemisphere allowing slow wind to expand to all latitudes. In the north polar cap, both fast wind and a polar coronal hole were present. The magnetic field polarity reversal was detected in the north polar cap. The source dipole of the heliospheric magnetic field had a nearly equatorial, rather than an axial, orientation. Coronal mass ejections occurred at all latitudes including fast wind from the polar cap. Analysis of magnetic clouds confirmed their close association with solar filaments. The electron-proton ratio of galactic cosmic rays changed at the magnetic polarity reversal. Solar Energetic Particles were present at all latitudes including the formation of particle "reservoirs" that require access to all latitudes and longitudes. Reservoir particles are also present at solar minimum at low flux levels.

***Conflict Resolutions – A. Andujo***

Mr. Andujo reported RARB Action Item #1, with a "due date" of 04/15/2004, and 2b with a "due date" of 06/25/2004 are the only Action Items open at this time.

Action Item #1 requests DSMS Engineering to distribute plan for 26m subnet antenna hydraulic system refurbishment. This will be worked by the Resource Analysis Team to coordinate DSS-16, 46 and 66 downtimes with Operations and Flight Projects.

Action Item #2b requests the Genesis project to investigate alternate antenna support (non-DSN) for Genesis' post-Earth Flyby spacecraft disposal orbit. Response on 4/7/2004 identified Santiago as a possible tracking site. Investigations are under way of whether there is sufficient time to coordinate usage, test, and configure software both at JPL and Santiago.

***Resource Analysis Team – J. Retana***

For a complete listing of Ongoing and Advanced Planning projects visit the following link for the RAPSO website: <http://rapweb.jpl.nasa.gov/tmodmiss.pdf>

For a complete listing of the DSN Resource Implementation visit the following link for the RAPSO website: <http://rapweb.jpl.nasa.gov/tmodplns.pdf>

The Mid-Range scheduling RAP Team has completed schedule negotiations 26 weeks ahead of real time with 11 weeks of conflict-free schedules. Conflict resolutions are required for the following fifteen (15) weeks: Weeks 37 – 51.

***DSN Downtime Forecast – A. Andujo***

For a complete listing of Antenna Downtime Report visit the following link for the RAPSO website: <http://rapweb.jpl.nasa.gov/planning.htm>

There are no outstanding downtime changes for 2004 through 2007

**Note: RAPSO will submit a DSS-15 ACR downtime for 2005 Weeks 37 through Week 46.**

***DSN Operations – J. Buckley***

There was no presentation given at this month's JURAP.

***Goldstone Solar System Radar – D. Hills***

On May 7, DSS-14 received a new generator. MG was aligned and tested up to 450 kW by 1730 Local. Station personnel noted several discrepancies and contacted GE. On May 19<sup>th</sup> the MG Set failed again. An examination of the rotor showed that insufficient epoxy was applied to the windings and the epoxy was not baked long enough. The MG Set parts were shipped to GE in Cleveland, Ohio for warranty repair. On June 14, the newly repaired MG Set was installed and is now working with some vibration. On June 17 the Mercury support with 1 hour Xmit went fine and the Near Earth Asteroid 1998 SF36 track was successful. The most important track on imaging the NEA target for the Hayabusa (formerly MUSES-C) spacecraft is scheduled for next Monday and Tuesday.

***Radio Astronomy / Special Activities – G. Martinez***

Clock Synchronizations activities:

March -- DOY 103 with DSS-15 and DSS-65, No problems were reported.

April -- DOY 121 with DSS-15 and DSS-65, No problems were reported.

Gravity Probe-B Project:

The spacecraft is being controlled from the Gravity Probe B Mission Operations Center located at Stanford University. The spacecraft continues to be in good health with all subsystems performing very

well. The spacecraft's orbit, which will remain in full sunlight through August, is stable and meets the requirements for transition into the science phase of the mission. All four gyros are digitally suspended and have passed several very slow-speed calibration tests. The science telescope is locked onto the guide star, IM Pegasi, and it's been verified that the spacecraft is locked onto the correct star.

The BR092B experiment observed the source HR8703, which is used as guide star for the Gravity Probe-B mission. This radio source is being observed for extremely accurate position (Astrometry) and measurement of its proper motion in an inertial frame. No problems were by DSS-63. DSS-14 reported that the formatter lost sync with the 1pps signal and DSS-43 reported EAC problems and the tape running off the reel.

## **FLIGHT PROJECTS REPORTS**

### **Chandra - K. Gage**

There was no presentation given at this month's JURAP.

### ***Voyager – J. Hall***

Flight System Status for Voyager 1: Heliocentric Distance – 92.2 AU, RTLT – 24h20m46s; Spacecraft remains healthy. Major Activity: PMPCAL (Fields and Particles Calibrations).

Flight System Status for Voyager 2: Heliocentric Distance – 73.6 AU, RTLT – 20h10m46s; Spacecraft remains healthy. Major Activity: PMPCAL (Fields and Particles Calibrations).

Overall, DSN support has been good during this reporting period. Voyager 1 experienced two outages due to weather at DSS-45 and DSS-65. No significant outages reported for Voyager 2.

### ***Cassini – D. Doody***

DSN support in planning and preparation has been excellent. The Cassini spacecraft is operating in the Saturn Tour Phase. The Phoebe Encounter was a spectacular success. TCM 21 executed nominally on June 16, targeting for ring-plane crossings and SOI burn. TCM 22 is cancelled and the critical event is SOI.

Critical upcoming operations are: (1) Critical SOI Sequence is on-board, and the CMD is set to kick off the critical sequence on June 22. (2) Saturn Orbit Insertion, July 1, 2004, UTC (Burn start = June 30, 19:36 PDT ERT). (3) First Titan flyby (339,000 km) July 2, 2004. (4) OTM-1 July 3, 2004. (5) Periapsis (perichron) raise maneuver August 23, 2004.

### **Cluster II, Geotail, Polar, SOHO, and Wind – A. Chang**

There was no presentation given at this month's JURAP.

**WMAP, ACE, and IMAGE – S. Waldherr**

The WMAP project is awaiting a decision relative to the spacecraft losing the High Power S-Band and moving to the 34BWG1. WMAP is being reprogrammed to become a non-MCD-3 type mission.

In the past week and a half, the ACE spacecraft entered “inferior conjunction”.

IMAGE did not have a report.

**Genesis – E. Hirst / S. Waldherr**

Genesis is a solar wind sample-return mission that was launched in August 8, 2001. The mission has completed 26.7 months of solar wind collection. The mission minimum requirement was 22 months. The end of the solar wind collection was April 1, 2004, and now the spacecraft is in the Earth return phase. Earth return is scheduled for September 8, 2004.

***Mars Global Surveyor – E. Brower / P. Poon***

There was no presentation given at this month’s JURAP, though presentation material is included with the Minutes.

***Mars Odyssey – B. Mase / P. Poon***

There was no presentation given at this month’s JURAP.

***Mars Exploration Rover – B. Compton / B. Toyoshima***

There was no presentation given at this month’s JURAP.

***INTEGRAL/Mars Express/Rosetta – D. Holmes***

INTEGRAL operations have been going well – 99.4% of all requested data was delivered to the Project last month. The Project is working with 26m s/w development team on D5.1.1 MCP software.

Normal science observations are ongoing for Mars Express. The cooperative Italian/NASA Ground Penetrating RADAR experiment, MARSIS, antenna deployment has been postponed indefinitely.

All support by the DSN for Rosetta, with the exception of the S-Band MGA test @ DSS-14, has been completed until the beginning of the third experiment commissioning (S-Band MGA test to verify contingency support configuration, i.e., safe mode operations, and hibernation recovery).

***Ulysses – B. Brymer***

There was no presentation given at this month's JURAP, though presentation material is included with the Minutes.

***Stardust – S. Waldherr***

The Stardust spacecraft is healthy, presently 1.53 AU from Earth with a 00:25:28 RTLT, 2.54 AU from the Sun and in cruise mode. One short (power constrained) track per week. Minimum Earth Range on June 16 will be 1.53 AU. Telemetry Bit Rate is 1050 bps (on HGA/34M). DSMS support has been good this past period. Upcoming Events are: (1) Solar Opposition on June 24; (2) Aphelion of 2.68 AU from the Sun, 7 weeks centered on October 2004, limited communication because of power restrictions (long period of 3-hour duration tracks); and (3) TCM 16 on April 16, 2005. Information is available at the Stardust Website: <http://stardust.jpl.nasa.gov>

***Hayabusa/MUSES -C – M. Ryne***

There was no presentation given at this month's JURAP.



Jet Propulsion Laboratory  
California Institute of Technology

Interplanetary Network Directorate (IND)  
Deep Space Mission System (DSMS)

# Joint Users Resource Allocation Planning (JURAP)



## Action Item Status From 10 February 2004 RARB (Resource Allocation Review Board)

June 17, 2004

David G. Morris



# Joint Users Resource Allocation Planning (JURAP)



## Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
01	2004-5		DSMS Engineering	J. Osman J. Cucchissi	04/15/2004	Open

**ACTION:** (a.k.a. 8/13/2004 RARB A.I.#5) Distribute plan for 26m subnet antenna hydraulic system refurbishment. This will then be worked by the Resource Analysis Team to coordinate DSS-16, 46 and 66 downtimes with Operations and Flight Projects.

**RESPONSE:** (9/10/2003, 1/28/2004 & 5/20/2004) Changed due date as it will take extended time to plan new implementation dates. Studies are continuing.



# Joint Users Resource Allocation Planning (JURAP)



## Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
02a	2004- 2005	September- February	Genesis	S. Waldherr E. Hirst	04/15/2004	Closed

**ACTION:** Presentation by Genesis on mission requirement changes resulted in an action on HQ to provide direction regarding DSN support for Genesis' post-Earth Flyby spacecraft disposal orbit. It is important that consultation with impacted users (e.g., Chandra and ISTP missions) is part of this action if DSN coverage is determined to be used. Per the request of NASA HQ (03/, DSMS and Project are working on a compromise. The goal of the compromise is to minimize scheduling impact to other DSMS customers, yet still address risk mitigation for the Genesis mission (disposal orbit/first 60 days of backup orbit).

**RESPONSE:** (4/12/2004) DSMS has reviewed the DSN loading and Genesis proposal as listed below. The Genesis proposal is acceptable to DSMS. Genesis support request extending 90 days beyond September 8, 2004, covering the Disposal/Backup Orbit:

DOY 2004/253-266 : 2 weeks : near-continuous (full viewperiods), 34-m

DOY 2004/267-280 : 2 weeks : one 8-hr track per day, 34-m

DOY 2004/281-308 : 4 weeks : two 4-hr tracks per week, 34-m

DOY 2004/309-336 : 4 weeks : one 4-hr track per week, 34-m

It should be Noted: The DSMS resource allocation process has already successfully worked Genesis schedule through Doy 298. The remainder Genesis support request is currently being worked and is expected to be accommodated.



# Joint Users Resource Allocation Planning (JURAP)



## Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
02b	2004- 2005	September- February	Genesis	S. Waldherr E. Hirst	06/25/2004	Pending

**ACTION:** Presentation by Genesis on mission requirement changes resulted in an action to investigate alternate antenna support (non-DSN) for Genesis' post-Earth Flyby spacecraft disposal orbit.

**RESPONSE:** (5/20/2004) For the tracking support of the Genesis 84 day disposal orbit request, it has been decided alternate assets are not needed. This is due to a reduced Genesis tracking request. However, there is a DSN gap of over 8.5 hours on September 8 after capsule release. For this gap, alternate assets were explored. Santiago was identified as a possible tracking site. Currently, we are investigating whether there is sufficient time to coordinate usage, test, and configure software both at JPL and Santiago. The Genesis project is pursuing if Santiago (AGO) support will be requested and what the requirement would be.



# Joint Users Resource Allocation Planning (JURAP)



## Action Item Summary

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
03	2005	September	Cassini	D. Seal	2/17/2004	Closed

**ACTION:** Identify the 70M antenna that Cassini needs in week 38. The recommendation is to use DSS-63 while DSS-43 is in approved downtime.

**RESPONSE:** (02/10/2004) Cassini clarified that they have no issue with the recommendation as they are specifically requesting DSS-63 (twice) for 70M coverage in week 38.

<i>AI#</i>	<i>Year</i>	<i>Month(s)</i>	<i>System</i>	<i>Responsible</i>	<i>Due Date</i>	<i>Status</i>
04	2007	May	GBRA EVN	P. Wolken	02/17/2004	Closed

**ACTION:** Review EVN and GBRA events in the month based upon the recommendations and determine what is acceptable to both.

**RESPONSE:** (02/10/2004) Both the GBRA RA500 and the EVN need to occur before June 10, but not sooner than May 20. The RA500 activity will remain in Week 21 and agree to reduce support duration from 24 hours to 12 hours.

**JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE**

**Resource  
Analysis  
Team**

**June 17, 2004**

**Joaquin Retana**





*Resource Allocation Planning & Scheduling Office (RAPSO)*

**– Ongoing / Approved Projects –**

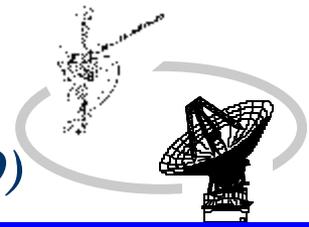
Project	Acronym	Launch or Start	EOPM	EOEM
DSN Antenna Calibration	DSN	--	--	--
DSS Maintenance	DSS	--	--	--
European VLBI Network	EVN	--	--	--
Ground Based Radio Astronomy	GBRA	--	--	--
Reference Frame Calibration	DSN	--	--	--
Space Geodesy	SGP	--	--	--
Voyager 2	VGR2	08/20/77	10/15/89	09/30/07
Voyager 1	VGR1	09/05/77	12/31/80	09/30/07
Goldstone Solar System Radar	GSSR	04/01/85	--	--
Ulysses	ULYS	10/06/90	09/11/95	03/31/08
Geotail	GTL	07/24/92	07/24/95	12/31/08
Wind	WIND	11/01/94	11/01/97	12/31/08
SOHO	SOHO	12/02/95	05/02/98	12/31/08
Polar	POLR	02/22/96	08/23/97	09/30/05
Gravity Probe B (non Spacecraft support)	GPB	06/01/96	05/30/05	TBD
Mars Global Surveyor	MGS	11/07/96	02/01/01	01/03/08
Advance Composition Explorer	ACE	08/25/97	02/01/01	09/30/07



*Resource Allocation Planning & Scheduling Office (RAPSO)*

**– Ongoing / Approved Projects (continued) –**

Project	Acronym	Launch or Start	EOPM	EOEM
Cassini	CAS	10/15/97	06/30/08	06/30/10
Stardust	SDU	02/07/99	01/14/06	---
Chandra X-ray Observatory	CHDR	07/23/99	07/24/09	07/24/14
Imager for Magnetopause-to-Aurora Global Exploration	IMAG	03/25/00	05/30/02	09/30/07
Cluster 2 - S/C #2 (Samba)	CLU2	07/16/00	02/15/03	02/28/06
Cluster 2 - S/C #3 (Rumba)	CLU3	07/16/00	02/15/03	02/28/06
Cluster 2 - S/C #1 (Salsa)	CLU1	08/09/00	02/15/03	02/28/06
Cluster 2 - S/C #4 (Tango)	CLU4	08/09/00	02/15/03	02/28/06
Mars Odyssey 2001	M01O	04/07/01	08/24/04	05/29/08
Wilkinson Microwave Anisotropy Probe	WMAP	06/30/01	10/01/03	10/01/07
Genesis	GNS	08/08/01	09/08/04	---
Advanced Tracking and Observational Techniques (ATOT)	MEGA	02/01/02	12/31/08	---
International Gamma Ray Astrophysics Lab	INTG	10/17/02	12/18/04	12/31/08
Hayabusa (MUSES - C)	MUSC	05/09/03	06/05/07	---
Mars Express Orbiter	MEX	06/02/03	02/11/06	08/03/08
Spirit (Mars Exploration Rover - A)	MER2	06/10/03	04/06/04	09/30/04
Opportunity (Mars Exploration Rover - B)	MER1	07/07/03	04/27/04	09/30/04



*Resource Allocation Planning & Scheduling Office (RAPSO)*

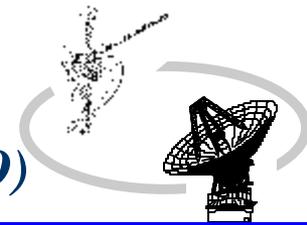
**– Ongoing / Approved Projects (continued) –**

Project	Acronym	Launch or Start	EOPM	EOEM
Spitzer Space Telescope (SIRTF)	STF	08/25/03	02/25/06	08/23/08
Rosetta	ROSE	02/26/04	12/31/15	---
Messenger	MSGR	07/30/04	TBD	---
Deep Impact	DIF	12/30/04	08/05/05	---
Lunar - A	LUNA	08/01/05	TBD	---
Mars Reconnaissance Orbiter	MRO	08/10/05	12/31/10	12/31/15
New Horizons	NHPC	01/10/06	04/17/16	TBD
Stereo Ahead	STA	02/11/06	05/16/08	---
Stereo Behind	STB	02/11/06	05/16/08	---
Space Technology 5	ST5	03/01/06	05/30/06	TBD
Dawn	DAWN	06/17/06	07/26/15	TBD

**– Advanced / Planning Projects –**

Project	Acronym	Launch or Start	EOPM	EOEM
Venus Express *	VEX	10/26/05	08/19/07	TBD
SELENE *	SELE	01/15/06	05/30/06	TBD
Phoenix Scout	PHX	08/09/07	11/04/08	TBD
Kepler	KEPL	06/07/07	09/26/11	TBD
Mars Telecommunications Orbiter 2009	M09T	09/07/09	09/07/16	09/07/20
Mars Science Laboratory 2009	M09L	10/25/09	03/04/12	TBD
Space Interferometry Mission	SIM	02/14/10	06/30/20	TBD
James Webb Space Telescope	JWST	08/01/11	07/31/16	TBD
Mars Placeholder 2011	M11L	10/30/11	09/10/14	TBD
Mars Placeholder 2013	M13O	11/28/13	08/21/16	TBD

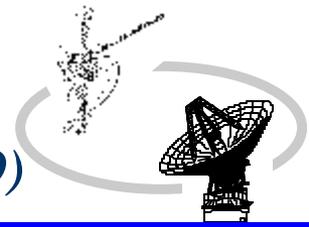
\* DSN support may not be required for these missions



# Resource Allocation Planning & Scheduling Office (RAPSO)

Complex	Station	Subnet	Delivery Date	S-Band		X-Band		20kW X-Band	Ka-Band		NSP
				Down	Up	Down	Up		Down	Up	
10	DSS-14	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
10	DSS-15	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
10	DSS-16	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	✓	✓	✓	✓	✓	✓	10/23/06	N/A	✓
10	DSS-25	34B2	✓	N/A	N/A	✓	✓	✓	✓	✓	✓
10	DSS-26	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
10	DSS-27	34HSB	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	01/31/05
40	DSS-34	34B1	✓	✓	✓	✓	✓	✓	04/11/05	N/A	✓
40	DSS-43	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
40	DSS-45	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
40	DSS-46	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
60	DSS-54	34B1	✓	✓	✓	✓	✓	✓	08/01/07	N/A	✓
60	DSS-55	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
60	DSS-63	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
60	DSS-65	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
60	DSS-66	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A

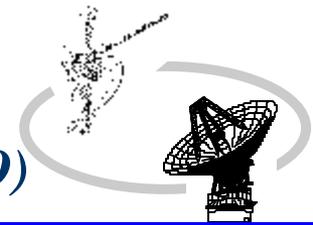
N/A = Capability Not Planned      xx/xx/xx = Capability Date Recently Changed      As of: 04/21/04  
 ✓ ✓ ✓ = Capability Recently Exists      ✓ = Capability Exists



◆ **RESOURCE NEGOTIATION STATUS**

- **2004 WEEKS 33 - 36 (THRU 09/05/2004) WERE RELEASED TO DSN SCHEDULING ON 06/15/2004.**
- **2004 WEEKS 37 - 40 (THRU 10/03/2004) ARE DUE TO BE RELEASED TO DSN SCHEDULING ON 07/16/2004.**
- **2004 WEEKS 41 - 51 (THRU 12/19/2004) ARE AWAITING CONFLICT RESOLUTION**

- ◆ **The Mid-range Scheduling process has negotiated schedules 26 weeks ahead of real-time. Currently, there are 11 weeks of conflict-free schedules. Conflict Resolution is required for the following fifteen (15) weeks: 37 through 51.**

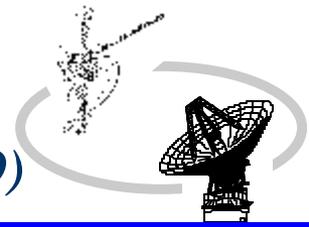


## ◆ COMPLETED SPECIAL STUDIES/ACTIVITIES

- GENESIS DISPOSAL/BACKUP ORBIT
- MARS ODYSSEY – UPDATED REQUIREMENTS

## ◆ ON-GOING SPECIAL STUDIES/ACTIVITIES

- DOWNTIME PLANNING
- MADB/TIGRAS TESTING AND TRAINING
- DSS-27 Closure Updated Study
- MESSENGER SPECIAL STUDY – POST 2004 REQUIREMENTS
- MARS GLOBAL SURVEYOR – UPDATED REQUIREMENTS
- ROSETTA LOAD STUDY – POST 2004 REQUIREMENTS
- ST-5 SPECIAL STUDY – LAUNCH CHANGE (12/15/05)
- STEREO – NEW LAUNCH DATE (02/11/2006)
- VENUS EXPRESS – RADIO SCIENCE SUPPORT

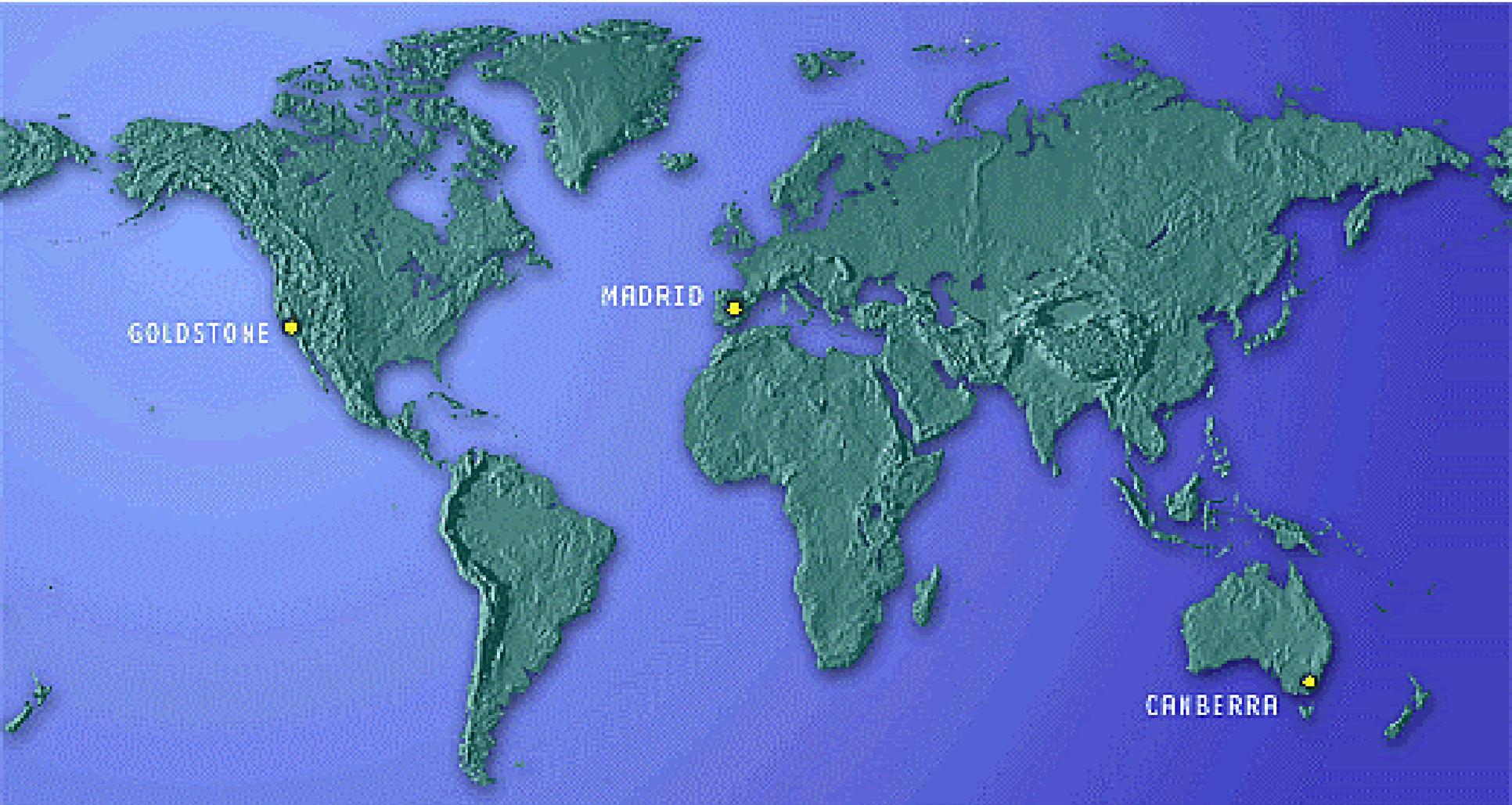


*Resource Allocation Planning & Scheduling Office (RAPSO)*

**August 2004 RARB Timeline**

Calendar Date	Work Days Remaining	Milestones
05/05/2004	67 Days	Distribute Mission Set, Major Events and User Loading Profiles to Projects/Users for verification.
05/25/2004	53 Days	Deadline for Projects/Users responses to Mission Set, Major Events, and User Loading Profiles. Last day for Trajectory or Viewperiod updates and submissions.
06/08/2004	44 Days	Start preliminary requirements analysis and recommendations.
07/15/2004	18 Days	Post preliminary Contentions/Recommendations to RAPWEB for Projects/Users review.
07/15/2004	18 Days	NASA Headquarters Science Review.
07/23/2004	12 Days	Complete Project/User Review
08/05/2004	3 Days	Post final Contentions and Recommendations on the RAPWEB
08/09/2004	1 Day	Distribute booklets to RARB Board Members
<b>08/10/2004</b>		<b>Resource Allocation Review Board Meeting</b>

# DSN Antenna Downtime Status and Forecast



<http://rapweb.jpl.nasa.gov/planning>

# Antenna Downtime Status and Forecast

## Changes to 2004 Downtime Schedule

- ❑ It has been requested of Mid-Range scheduling to schedule a Performance and Reliability Maintenance Downtime of three days for each of the DSN 26 meter stations. The following dates have been negotiated:
  - ❑ DSS-16 Week 33 DOY 223/1500 – 226/1500
  - ❑ DSS-46 Week 32 DOY 214/2200 – 217/2200
  - ❑ DSS-66 Week 34 DOY 230/0600 – 233/0600
  
- ❑ All previous requests have been negotiated and approved through the RARB, JURAP or Mid-Range Scheduling processes.

## Changes to 2005 Downtime Schedule

- ❑ It has been requested that RAPSO re-plan the DSS-15 Antenna Controller Replacement task that was cancelled in 2004. RAPSO has identified a 10 week period in 2005 starting in week 37 through week 46 (September 12, - November 20, 2005).
  
- ❑ All previous requests have been negotiated and approved through the RARB processes.

# Antenna Downtime Status and Forecast

## **Changes to 2006 Downtime Schedule**

- ❑ There are no outstanding downtime requests for 2006. All previous requests have been negotiated and approved through the RARB processes.

## **Changes to 2007 Downtime Schedule**

- ❑ There are no outstanding downtime requests for 2007. All previous requests have been negotiated and approved through the RARB processes.

# Antenna Downtime Status And Forecast Schedule

## DSN Antenna Downtime Report

Revised: June 14, 2004

2004							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 14	Antenna Controller Replacement	07/07/2004 00:00	12/07/2004 23:59	154	28 - 50	189	342
DSS 14	Hydrostatic Bearing	07/07/2004 00:00	12/07/2004 23:59	154	28 - 50	189	342
DSS 46	26M Performance and Reliability Maint.	08/01/2004 22:00	08/04/2004 22:00	3	31 - 32	214	216
DSS 45	Life Extension	08/09/2004 00:00	12/05/2004 23:59	119	33 - 49	222	340
DSS 16	26M Performance and Reliability Maint.	08/10/2004 15:00	08/13/2004 15:00	3	33 - 33	223	225
DSS 66	26M Performance and Reliability Maint.	08/17/2004 06:00	08/20/2004 06:00	3	34 - 34	230	232
DSS 14	NIB - USC Installation	09/20/2004 00:00	10/03/2004 23:59	14	39 - 40	264	277
DSS 45	NIB - USC Installation	11/22/2004 00:00	12/05/2004 23:59	14	48 - 49	327	340

2005							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 27	NSP Implementation	01/03/2005 00:00	01/30/2005 23:59	28	01 - 04	003	030
DSS 27	NIB - USC Installation	01/10/2005 00:00	01/23/2005 23:59	14	02 - 03	010	023
DSS 63	USC Installation	01/17/2005 00:00	01/30/2005 23:59	14	03 - 04	017	030
DSS 26	USC Installation	01/24/2005 00:00	02/06/2005 23:59	14	04 - 05	024	037
DSS 65	Antenna Controller Replacement	01/31/2005 00:00	07/03/2005 23:59	154	05 - 26	031	184
DSS 65	NIB - USC Installation	01/31/2005 00:00	02/06/2005 23:59	7	05 - 05	031	037
DSS 65	Relocation	01/31/2005 00:00	07/03/2005 23:59	154	05 - 26	031	184
DSS 65	Life Extension	01/31/2005 00:00	07/03/2005 23:59	154	05 - 26	031	184
DSS 34	X/X-Ka Band	02/15/2005 00:00	04/10/2005 23:59	55	07 - 14	046	100
DSS 34	NIB - USC Installation	02/15/2005 00:00	03/06/2005 23:59	20	07 - 09	046	065
DSS 34	NIB - Azimuth Idler Bearing	02/15/2005 00:00	04/10/2005 23:59	55	07 - 14	046	100
DSS 15	USC Installation	04/25/2005 00:00	05/08/2005 23:59	14	17 - 18	115	128
DSS 25	USC Installation	05/30/2005 00:00	06/12/2005 23:59	14	22 - 23	150	163
DSS 24	USC Installation	06/27/2005 00:00	07/03/2005 23:59	7	26 - 26	178	184
DSS 55	USC Installation	07/04/2005 00:00	07/10/2005 23:59	7	27 - 27	185	191
DSS 54	USC Installation	07/11/2005 00:00	07/16/2005 23:59	6	28 - 28	192	197
DSS 43	Antenna Controller Replacement	07/18/2005 00:00	01/01/2006 23:59	168	29 - 52	199	001
DSS 43	NIB - USC Installation	07/18/2005 00:00	07/31/2005 23:59	14	29 - 30	199	212
DSS 43	Hydrostatic Bearing	07/18/2005 00:00	01/01/2006 23:59	168	29 - 52	199	001

2006							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 63	Antenna Controller Replacement	05/22/2006 00:00	09/03/2006 23:59	105	21 - 35	142	246
DSS 24	X/X-Ka Band	09/04/2006 00:00	10/22/2006 23:59	49	36 - 42	247	295
DSS 45	Antenna Controller Replacement	10/16/2006 00:00	12/17/2006 23:59	63	42 - 50	289	351

2007							
Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	X/X-Ka Band	06/04/2007 00:00	07/29/2007 23:59	56	23 - 30	155	210

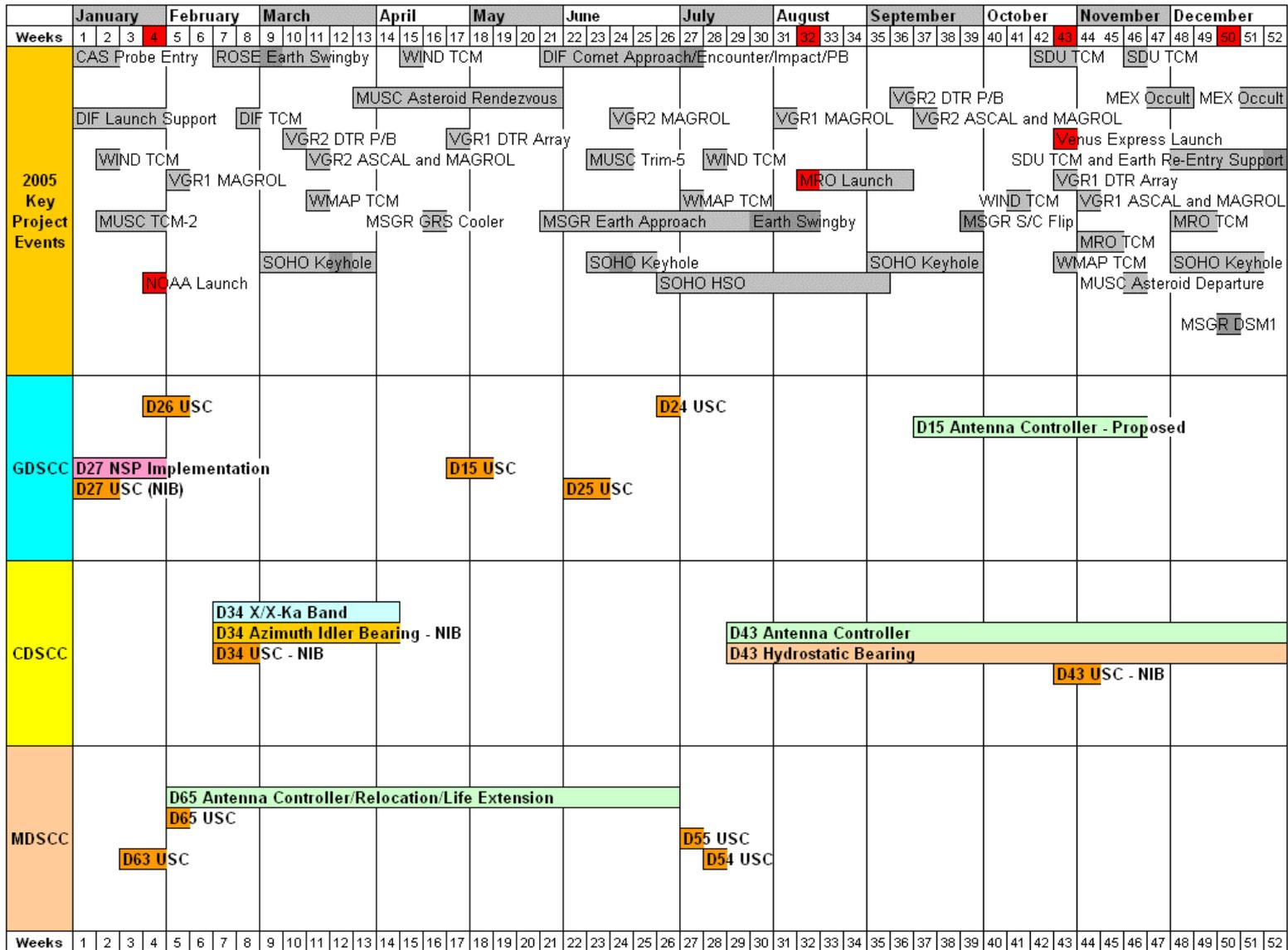
<http://rapweb.jpl.nasa.gov>

Although every effort is made to ensure the accuracy of this Downtime Planning report, changes can and do occur.

The DSN 7-Day Schedule takes precedence over this document.

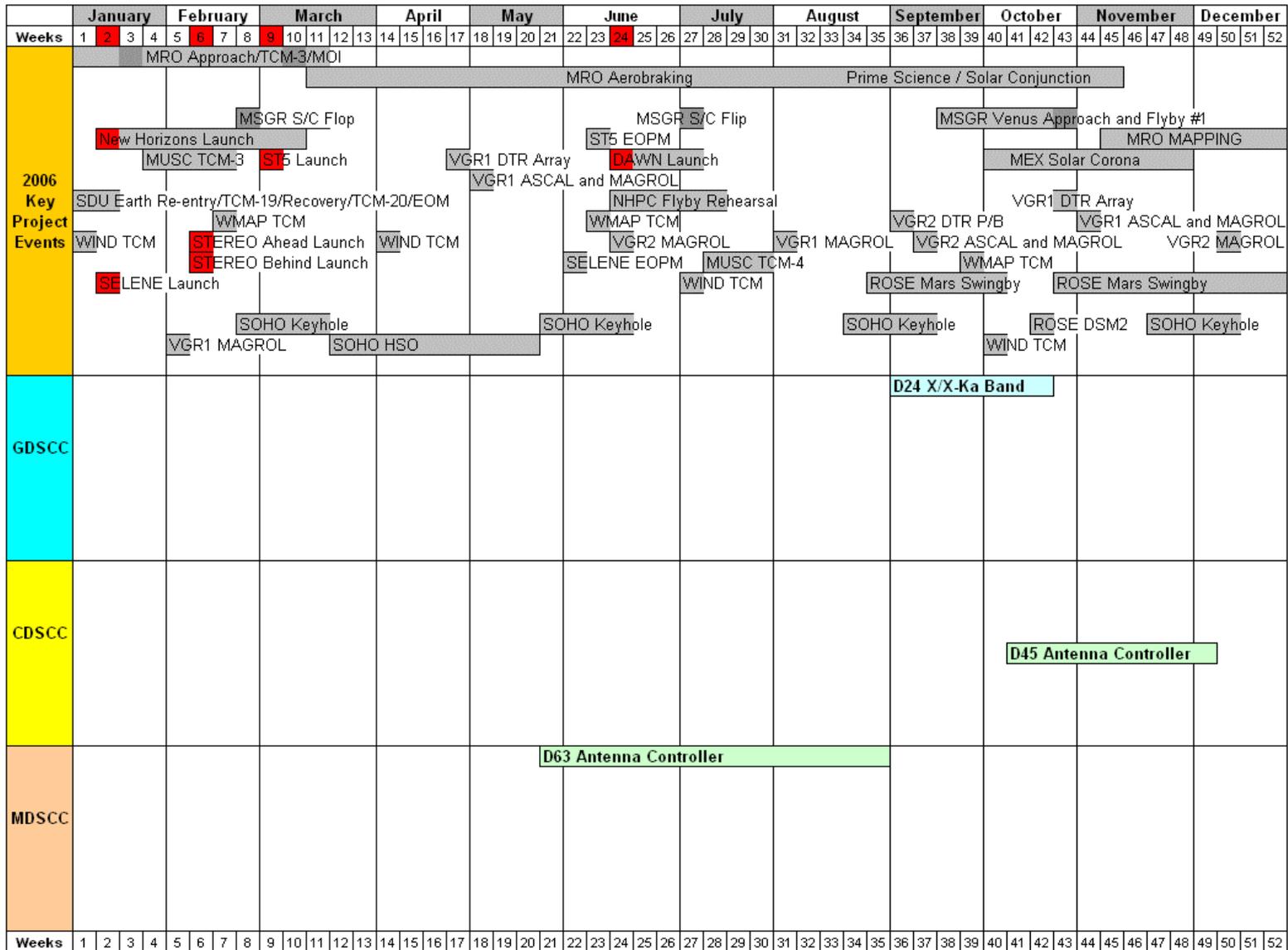


# Antenna Downtime Status And Forecast 2005



Revised: June 17, 2004

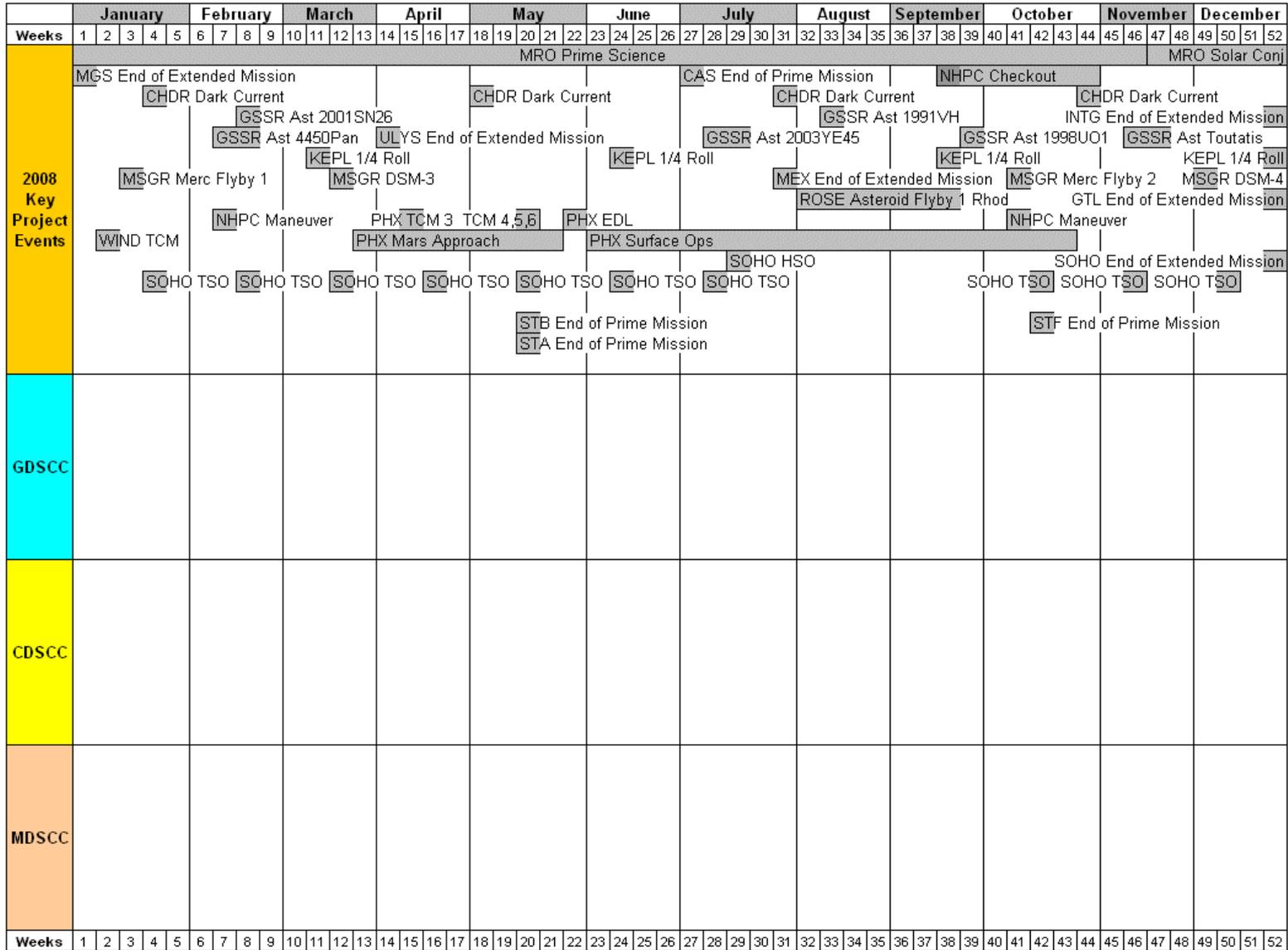
# Antenna Downtime Status And Forecast 2006



Revised: June 15, 2004



# Antenna Downtime Status And Forecast 2008



Revised: June 15, 2004

# Antenna Downtime Status And Forecast 2009

	January					February					March					April					May					June					July					August					September					October					November					December																							
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53																										
<b>2009 Key Project Events</b>						Dawn Mars Approach and Gravity Assist																														MO9T Launch					TCM 1					MO9L Launch and TCM 1					MO9T TCM 2																												
											CHDR Dark Current										CHDR Dark Current										CHDR End of Prime Mission					CHDR Dark Current										CHDR Dark Current																																	
						GSSR Ast 1998CS1															GSSR Ast 1994CC										GSSR Ast 2000CO10										GSSR Ast 2001 CV26										GSSR Ast 1998FW4					GSSR Ast 1999AP10																							
						GSSR Ast 1999AQ10																				GSSR Ast 2000DP10										GSSR Ast 1998FW4										GSSR Ast 1999AP10																																	
											KEPL 1/4 Roll															KEPL 1/4 Roll										KEPL 1/4 Roll										KEPL 1/4 Roll																																	
						WIND End of Extended Mission																																			KEPL 1/4 Roll										KEPL 1/4 Roll																												
																																																			ROSE Earth Swingby 3					ROSE Earth Swingby 3																							
																																																								MSGR Merc Flyby 3					MSGR DSM-5																		
											NHPC Maneuver																																													NHPC Checkout					NHPC Maneuver																		
<b>GDSCC</b>																																																																															
<b>CDSCC</b>																																																																															
<b>MDSCC</b>																																																																															
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53																										

Revised: June 15, 2004

## DSN Resource Implementation Planning Matrix by Complex

Complex	Station	Subnet	Delivery Date	S-Band		X-Band		20kW X-Band	Ka-Band		NSP
				Down	Up	Down	Up		Down	Up	
10	DSS-14	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
10	DSS-15	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
10	DSS-16	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	✓	✓	✓	✓	✓	✓	10/23/06	N/A	✓
10	DSS-25	34B2	✓	N/A	N/A	✓	✓	✓	✓	✓	✓
10	DSS-26	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
10	DSS-27	34HSB	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	01/31/05
40	DSS-34	34B1	✓	✓	✓	✓	✓	✓	04/11/05	N/A	✓
40	DSS-43	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
40	DSS-45	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
40	DSS-46	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
60	DSS-54	34B1	✓	✓	✓	✓	✓	✓	08/01/07	N/A	✓
60	DSS-55	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
60	DSS-63	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
60	DSS-65	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
60	DSS-66	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Capability Not Planned      xx/xx/xx = Capability Date Recently Changed      As of: 04/21/04

✓ ✓ ✓ = Capability Recently Exists      ✓ = Capability Exists

## DSN Resource Implementation Planning Matrix by Subnet

Complex	Station	Subnet	Delivery Date	S-Band		X-Band		20kW X-Band	Ka-Band		NSP
				Down	Up	Down	Up		Down	Up	
10	DSS-16	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
40	DSS-46	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
60	DSS-66	26M	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
10	DSS-27	34HSB	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	01/31/05
10	DSS-24	34B1	✓	✓	✓	✓	✓	✓	10/23/06	N/A	✓
40	DSS-34	34B1	✓	✓	✓	✓	✓	✓	04/11/05	N/A	✓
60	DSS-54	34B1	✓	✓	✓	✓	✓	✓	08/01/07	N/A	✓
10	DSS-25	34B2	✓	N/A	N/A	✓	✓	✓	✓	✓	✓
10	DSS-26	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
60	DSS-55	34B2	✓	N/A	N/A	✓	✓	✓	✓	N/A	✓
10	DSS-15	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
40	DSS-45	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
60	DSS-65	34HEF	✓	✓	N/A	✓	✓	✓	TBD	N/A	✓
10	DSS-14	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
40	DSS-43	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓
60	DSS-63	70M	✓	✓	✓	✓	✓	✓	N/A	N/A	✓

N/A = Capability Not Planned

xx/xx/xx = Capability Date Recently Changed

As of: 04/21/04

✓ ✓ ✓ = Capability Recently Exists    ✓ = Capability Exists

# ***Goldstone Solar System Radar***

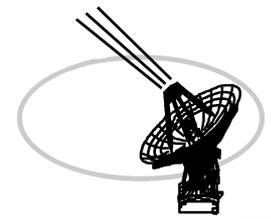


***Martin A. Slade***

***June 17, 2004***

***NASA Jet Propulsion Laboratory***

***Joint Users Resource Allocation Planning Committee Meeting***



## •The DSS-14 MG Set : The continuing saga

- May 7 - Received generator @ ~ 0300. MG aligned and tested up to 450kW by 1730 Local. Noted discrepancies below and contacted GE.

Discrepancies:

On May 7th, we found a few problems with the work performed.

The eddy current clutch leaks from 3 locations. The leaks are minor, but we shouldn't have any leaks at all. It also produced vapor/smoke for a minute or so, which may have been a normal startup phenomenon. The key that retains the coupler on the generator shaft was moving freely in the keyway. We had to secure it with a setscrew after drilling and tapping. The bearing cover ring was askew and upon rotation it was grinding into the housing. It has been forced loose and is rotating freely about the shaft. The temperature probe monitor cord was badly damaged as the insulation was gone in several spots. We replaced the cable."

The MG Set was returned to service on May 9, 2004. The first operational use had problems in equipment "upstream" from the MG Set. GSSR track on May 12, 2004, had full power to X-band High Power Transmitter.

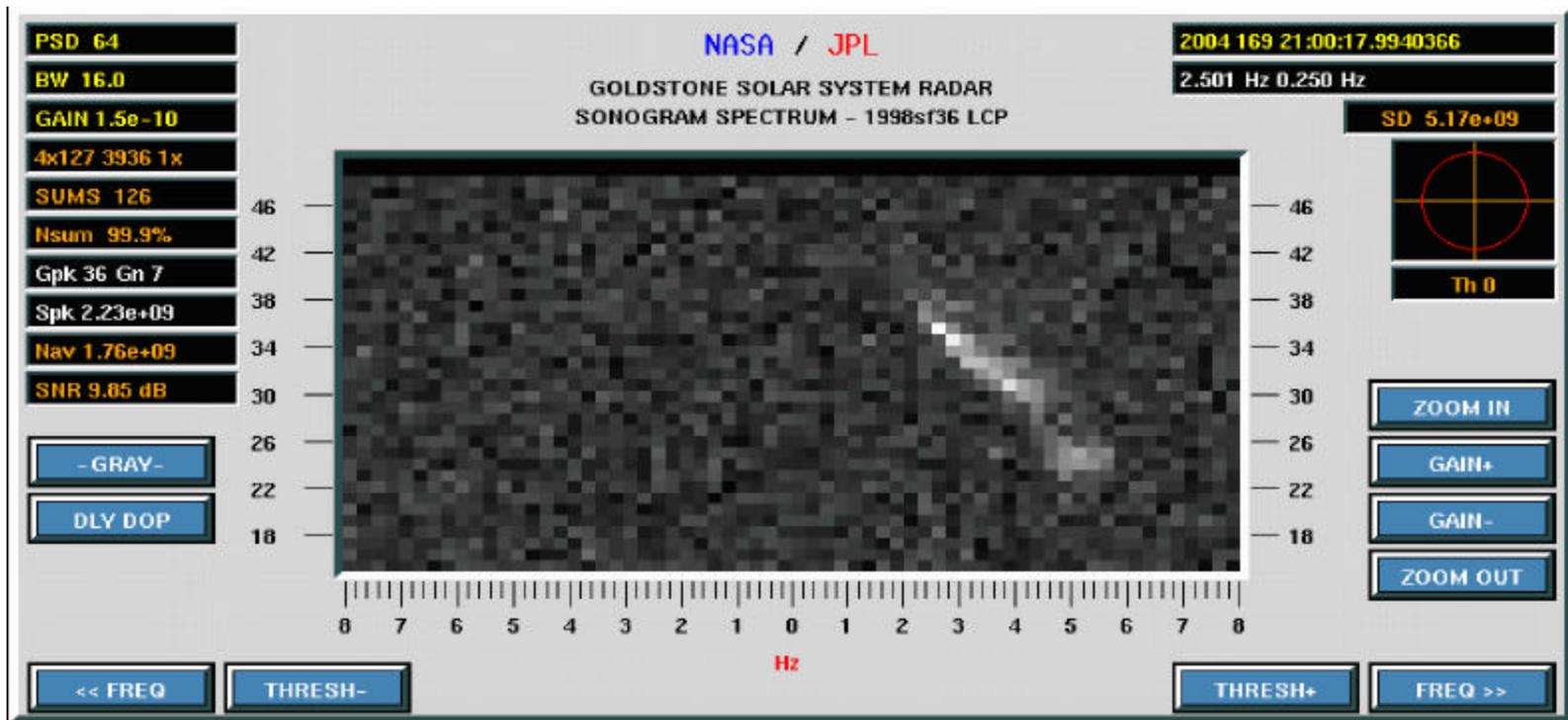
- May 19 - MG Set Fails again. Examination of the rotor shows that insufficient epoxy was applied to the windings, and the epoxy was not baked long enough. MG Set parts shipped to GE Cleveland for warranty repair.
- June 14 - Newly repaired MG Set is installed and working, with some vibration.

- Radar Tracks with “repaired” MG Set

June 17 Thursday June 17: Mercury track DOY 169 of 1 hour Transmit On time went fine.

June 17 Thursday June 17: NEA 1998 SF36 track DOY 169 1630 to DOY 170 0230 was successful (see image below).

The important question is: how will the MG Set hold up? The most important tracks on imaging the NEA target for the Hayabusa (formerly MUSES-C) spacecraft are next Monday and Tuesday.



Interplanetary Network Directorate

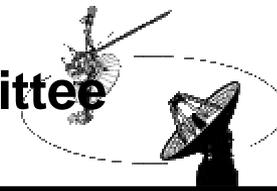
# Joint Users Resource Allocation and Planning Committee

## Radio Astronomy & Special Activities



**George Martinez**

**June 17, 2004**

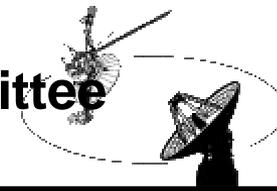


**JPL**

### Time and Earth Motion Precision Observations (TEMPO)

- **DOY 103**
  - No problems were reported by either DSS-15 or DSS-65.
  - The data tapes were shipped to the JPL correlator for processing.
  
- **DOY 121**
  - No problems were reported by either DSS-15 or DSS-65.
  - The data tapes were shipped to the JPL correlator for processing.





## Space Geodesy Program (SGP)

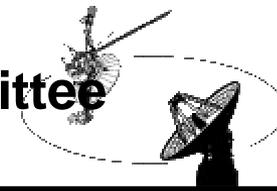
- **IVS-T2029**
  - The objective of the IVS-T2 sessions is to monitor the Terrestrial Reference Frame (TRF) via monthly sessions. All geodetic stations participate in at least three T2 sessions each year. These sessions replace the IRIS-S sessions observed in previous years.
  - No problems were reported by DSS-15.
  - The data tape was shipped to the Washington correlator for processing.
- **Metrics**
  - 100.0% of data time utilized.





# Joint Users Resource Allocation and Planning Committee

## Radio Astronomy & Special Activities



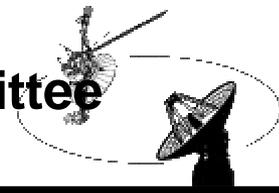
**JPL**

### Gravity Probe-B

- The spacecraft is being controlled from the Gravity Probe B Mission Operations Center, located at Stanford University.
- The spacecraft continues to be in good health, with all subsystems performing very well.
- The spacecraft's orbit, which will remain in full sunlight through August, is stable and meets the requirements for transition into the science phase of the mission.
- All four gyros are digitally suspended and have passed several very slow-speed calibration tests.
- The science telescope is locked onto the guide star, IM Pegasi, and it's been verified that the spacecraft is locked onto the correct star.



ITT Industries



### Gravity Probe-B - Continued

- **BR092B**
  - This experiment observed the source HR8703, which is used as a guide star for the Gravity Probe-B mission. This radio source is being observed for extremely accurate position (Astrometry) and measurement of its proper motion in an inertial frame.
    - Only Astrometric VLBI can yield this accuracy.
  - No problems were reported by DSS-63.
  - DSS-14 reported that the formatter lost sync with the 1pps signal.
    - This created a 1 microsecond jump.
    - The correlator reported fringes were detected after the 1 microsecond jump was removed.
  - DSS-43 reported EAC problems and the tape running off the reel.
  - The data tapes were sent to the Socorro correlator for processing.

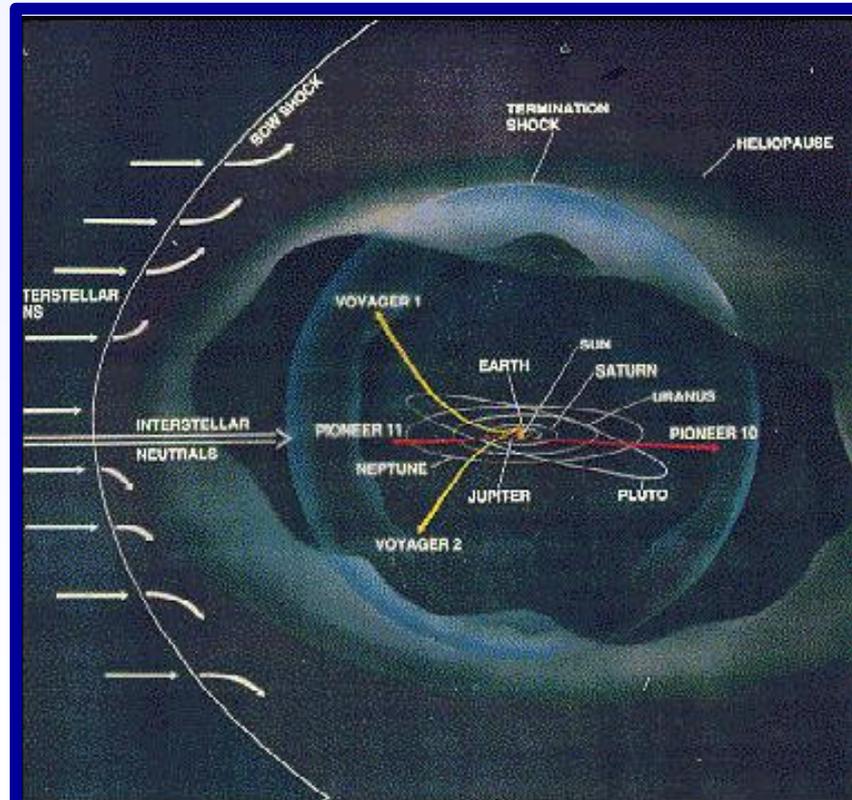




# VOYAGER

## FLIGHT OPERATIONS

### JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE



Jefferson Hall  
June 17, 2004

*NASA Jet Propulsion Laboratory*



<http://voyager.jpl.nasa.gov>



# VOYAGER

## FLIGHT OPERATIONS



**JPL**

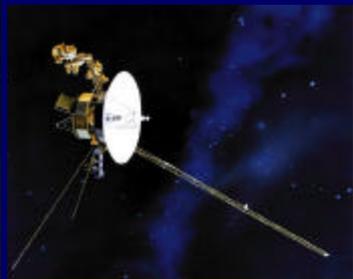
### FLIGHT SYSTEM STATUS

#### **VOYAGER 1**

- \* HELIOCENTRIC DISTANCE – 92.2 AU, RTLT – 25h20m46s
- \* SPACECRAFT REMAINS HEALTHY
- \* MAJOR ACTIVITY: PMPCAL [FIELDS AND PARTICLES CALIBRATIONS]

#### **VOYAGER 2**

- \* HELIOCENTRIC DISTANCE – 73.6 AU, RTLT – 20h10m52s
- \* SPACECRAFT REMAINS HEALTHY
- \* MAJOR ACTIVITY: PMPCAL [FIELDS AND PARTICLES CALIBRATIONS]



# VOYAGER

## FLIGHT OPERATIONS



**JPL**

### GROUND SYSTEM STATUS

(May 15, 2004 thru June 11, 2004)

- DSN - OVERALL SUPPORT – GOOD
  - ? TWO OUTAGES ON VOYAGER 1 DUE TO WEATHER AT DSS-45 AND DSS-65
  - ? THERE WERE NO SIGNIFICANT OUTAGES ON VOYAGER 2!!



# VOYAGER

## FLIGHT OPERATIONS

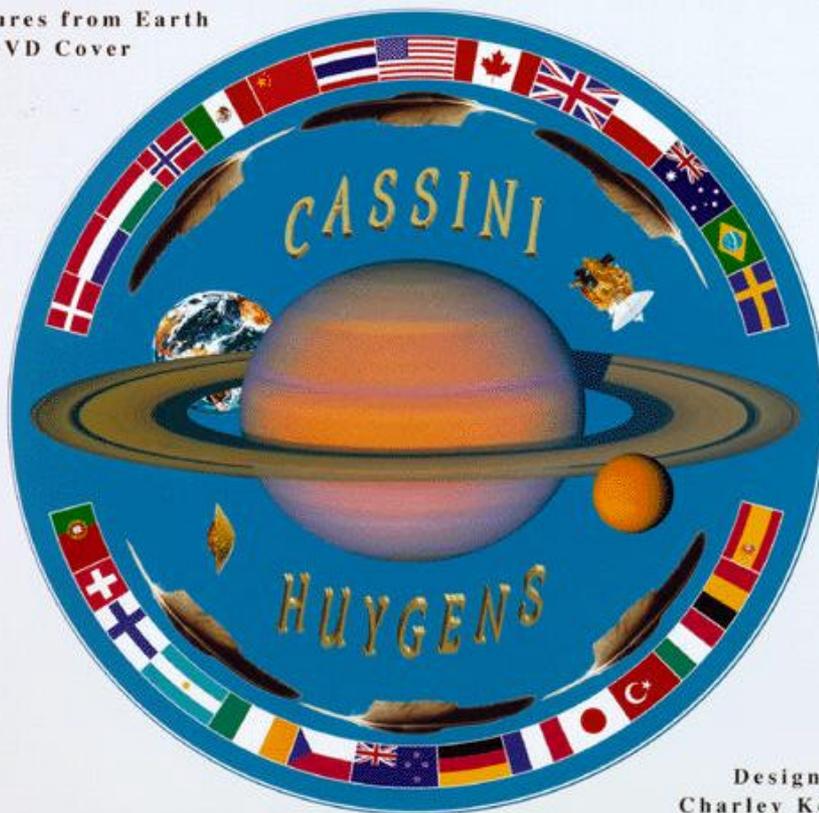


### TOTAL SUPPORT TIME, OUTAGE TIME, % OF OUTAGE TIME

S/C	SCHED. SUPPORT	ACTUAL SUPPORT	70M TIME	SIGNIFICANT OUTAGE TIME	% OF OUTAGE TIME
31	383.3	381.9	94.0	1.9(0.2)	0.6
32	301.6	301.6	64.2	0(0.1)	0.03

VOYAGER HOMEPAGE - <http://voyager.jpl.nasa.gov>

Signatures from Earth  
DVD Cover



Design by  
Charley Kohlhase

# CASSINI

<http://saturn.jpl.nasa.gov/cassini/index.shtml>

## Joint Users Resource Allocation Planning (JURAP) Committee Meeting

Dave Doody  
June 17, 2004



# Cassini / Huygens

---

- **Operating in Saturn Tour Phase**

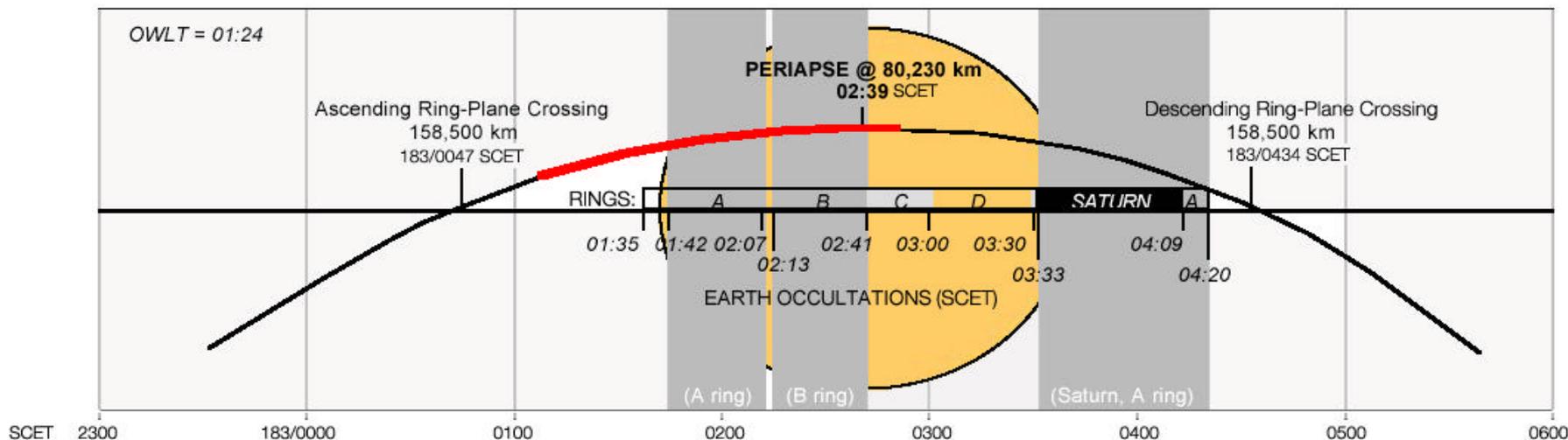
- Phoebe Encounter was a spectacular success
  - TLM included images, IR, VIS, and UV spectra, Radar scatterometry & radiometry, Mag and Particle Science
  - Doppler data the days before and after closest approach was used to put constraints on Phoebe's mass
  - Level-1 and -2 DSN support was flawless the critical days immediately before and after
    - Sunday's DSS63 pass suffered loss of exciter control, causing CMD, TLM, TRK data loss
- TCM-21 executed nominally yesterday, targeting for ring-plane crossings and SOI burn
- TCM-22 is cancelled, next critical event is SOI

- **Critical Operations Continue**

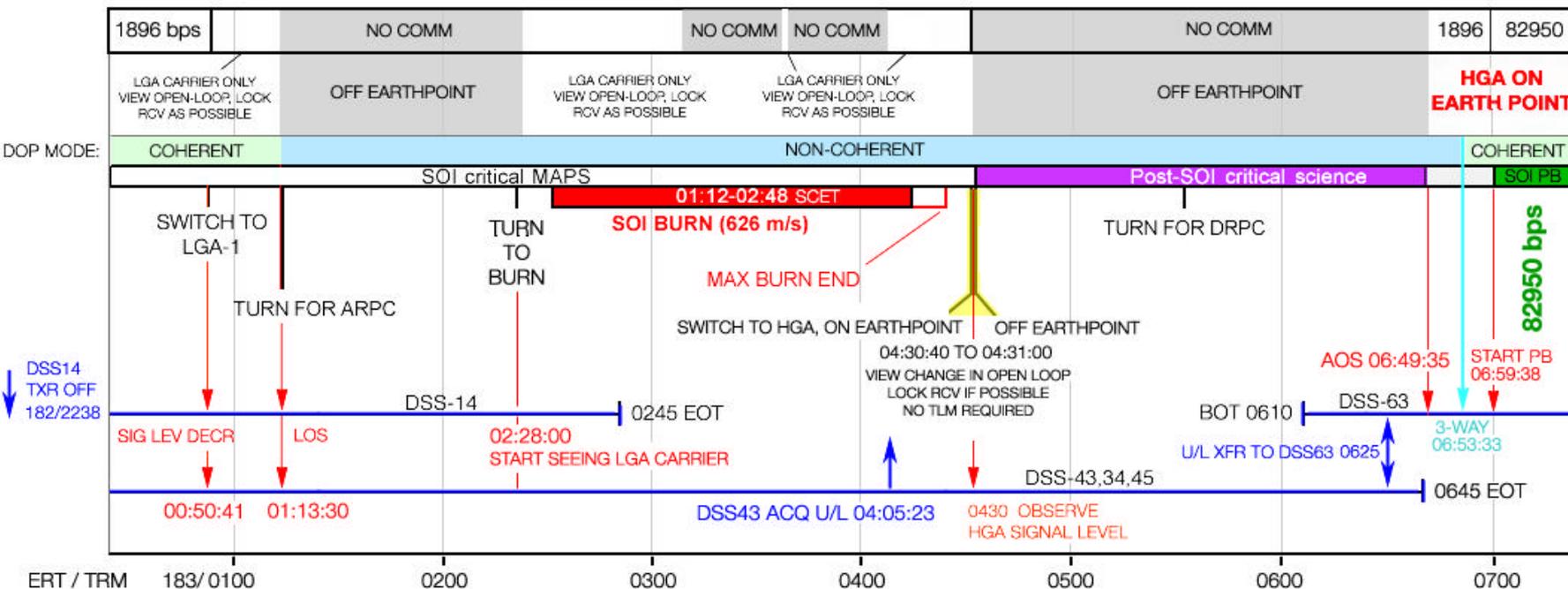
- Critical SOI Sequence is on board. Enable CMD is on board, set to kick off the critical sequence Tuesday.
  - Critical sequence begins with quiet period of 8 days followed by...
- **Saturn Orbit Insertion July 1, 2004 UTC (Burn start = June 30, 19:36 PDT ERT)**
- First Titan flyby (339,000 km) July 2, 2004
- OTM-1 July 3, 2004
- Periapsis (perichron) raise maneuver 23 August, 2004
- DSN support in planning and preparation has been excellent

# SOI TIMELINE, MSSO-OPS ANNOTATED

VERSION: F



UTC SCET



UTC ERT / TRM



*Mars Global Surveyor*  
**Flight Operations  
Status**

**E.E. Brower**  
*June 17, 2004*



# *Mars Global Surveyor*

## AGENDA

---



- Project Snapshot
- Recent Events/Accomplishments
- Mission Assessment
- Comments

---

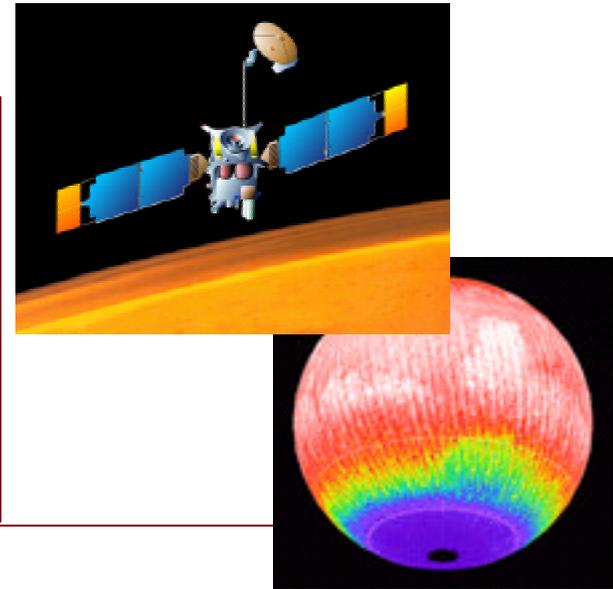
*MGS*



## Mars Global Surveyor

### Salient Features

- **Global mapping of Martian atmosphere, surface, magnetic field**
- **Nadir pointed spacecraft**
- **5 instruments (MOC imager, MOLA laser altimeter, TES - IR spectrometer, MAG magnetometer, RS radio science)**
- **Launch date: November 1996**
- **Mapping lifetime: One Mars year (687 days)**
- **Provides relay capability for surface assets (Relay lifetime: 5 years)**



### Science

- **To characterize surface morphology at high spatial resolution to quantify surface characteristics and geological processes**
- **To determine the composition and map the distribution of surface minerals, rocks, and ices; measure the surface thermophysical properties;**
- **To determine globally the topography, geodetic figure, and gravitational field;**
- **To establish the nature of the magnetic field and map the crustal remnant field;**
- **To monitor global weather and thermal structure of the atmosphere;**
- **To study surface-atmosphere interaction by monitoring surface features, polar caps, atmospheric dust, and condensate clouds over a seasonal cycle.**



# *Mars Global Surveyor*

## **Recent Accomplishments**

---



**Completed UHF relay for primary missions of both MER Spirit and Opportunity spacecraft.**

**Supporting MER Extended Mission relay**

- One Opportunity PM relay/sol + 2x/week Spirit relay until July 15 MGS Beta Supplement begins**

**Using MER 70m DSN passes for low noise at 40kbs nearing maximum range.**

- July 15 relay will continue as 70 m coverage permits. MCR from MER**

**Executed OSM7 on May 27, 2004**

**Spacecraft power analysis showed local mean solar time > 2:30 pm was a concern for subsequent aphelia.**

**Secured CPROTOs of MER-A and B landing sites, Beagle landing target and Viking 2 Lander. Also imaged Spirit and Opportunity tracks on March 30 and April 28. Completed ROTO coverage of Beagle landing ellipse.**

**Negotiated MEX uplink accommodation during critical commanding**

**Received NASA authorization for E3 mission FY05-FY06.**

---

***MGS***



# Mars Global Surveyor

## Recent Events



- **Last 3 Months:**

- CPROTOs successfully imaged the Spirit Rover tracks      **March 30**
- Transition to Low Data Rate      **April 1**
- Beagle CPROTO      **April 8**
- E3 extension process      **Approved 2 Years**
- MOC Focus Calibration      **MAY 1-9**
- SA autotrack      **MAY 12**
- OSM 7      **May 27**

- **Next 12 Months:**

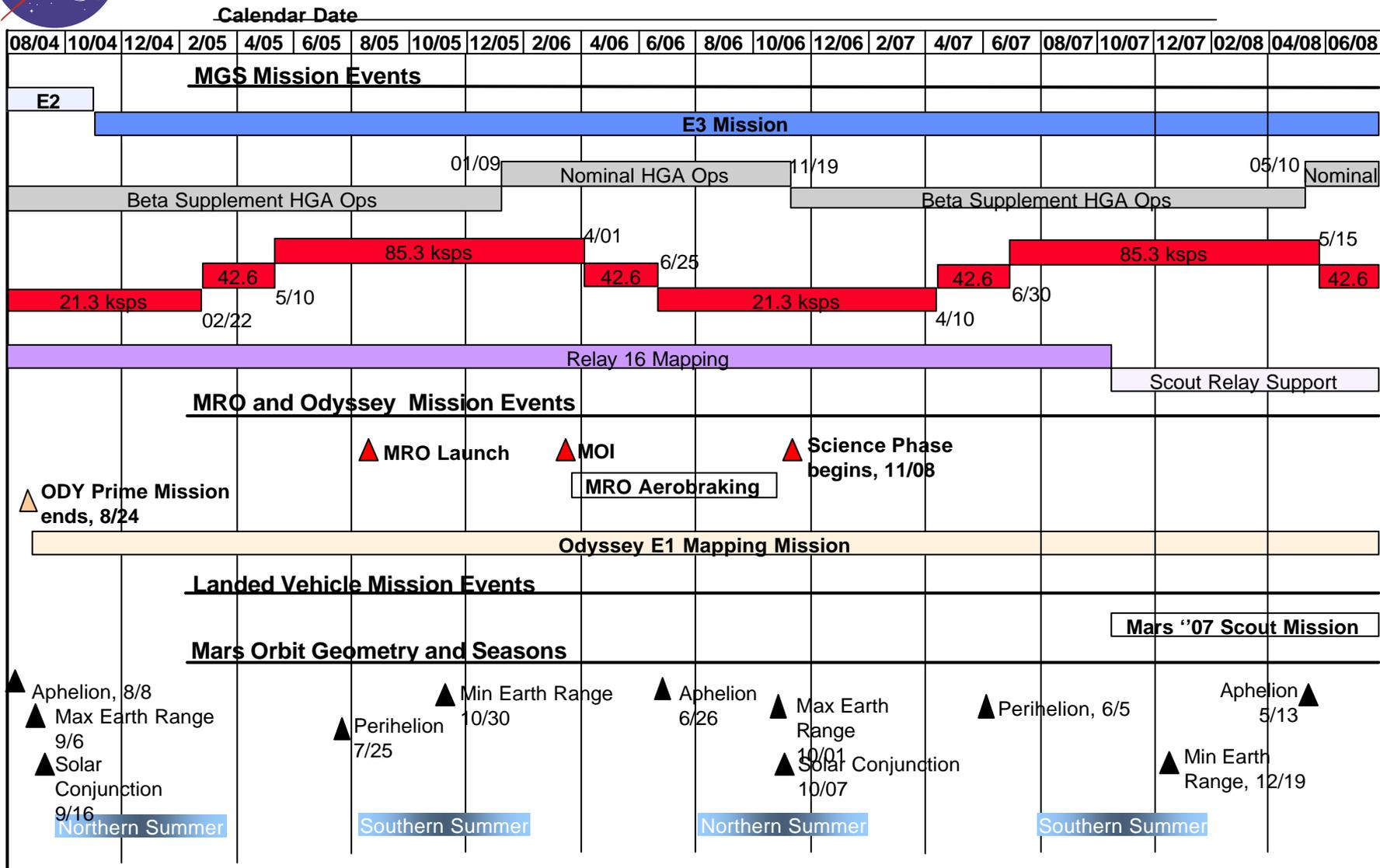
- CPROTO's (Various Science Targets)      **Apr 22 - 28**
- MGS MER ROVER relay      **JAN-???**
- Beta-Supp Transition      **July 14**
- Aphelion      **AUG 8**
- Solar Conjunction      **SEP 16**
- E3 Begins      **SEP 27**

---

**MGS**



# Mars Global Surveyor E3 Mission Timeline



MGS



# *Mars Global Surveyor*

## Mission Assessment

---



- **Spacecraft is in good health.**
- **Expect to fulfill most extended mission objectives**
- **Expect to satisfy MER EDL Requirements.**
- **Chances of operation through 2008 are good.**

---

*MGS*



- **None**



## ESA Mission Set - JURAP Report



- **INTEGRAL**

- Operations have been going well – 99.4% of all requested data delivered to the project last month.
- Working with 26m s/w development team on D5.1.1 MCP software
  - PIT this weekend at DSS-16 with DSS-15 as alternative telemetry source
  - Working with scheduling for additional test time

- **MARS Express**

- Normal Science observations ongoing
- ESA MEX web site - <http://sci.esa.int/science-e/www/area/index.cfm?fareaid=9>
- The cooperative Italian/NASA Ground Penetrating RADAR experiment, MARSIS, antenna deployment has been postponed indefinitely.

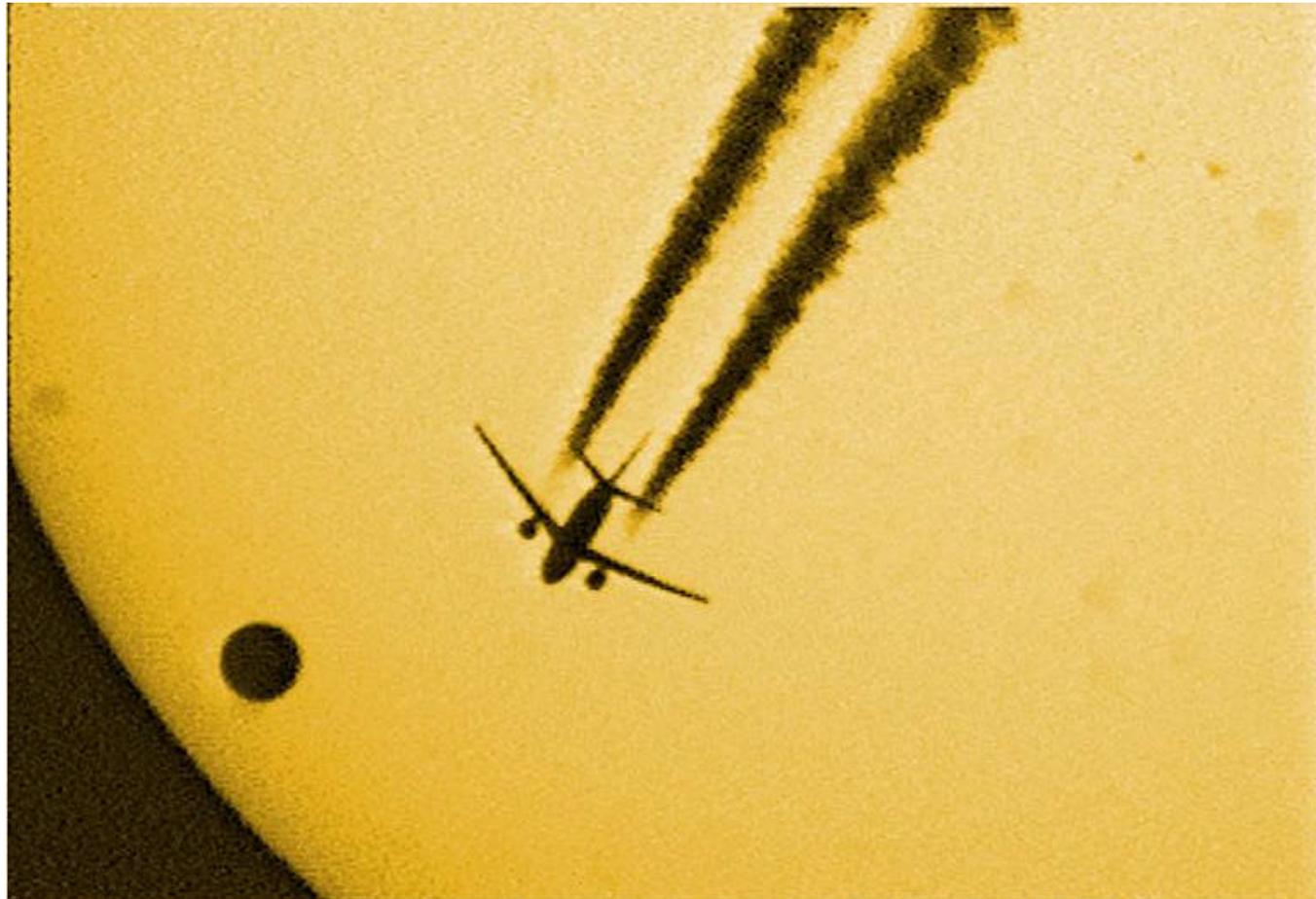
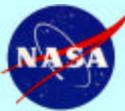
- **ROSETTA**

- All support by DSN with exception of S-band MGA test @ DSS-14 has been competed until the beginning of the third Experiment commissioning.
  - S-band MGA test to verify contingency support configuration, i.e. safe mode operations, and hibernation recovery.



© ESA/MPG/H. Uwe Keller

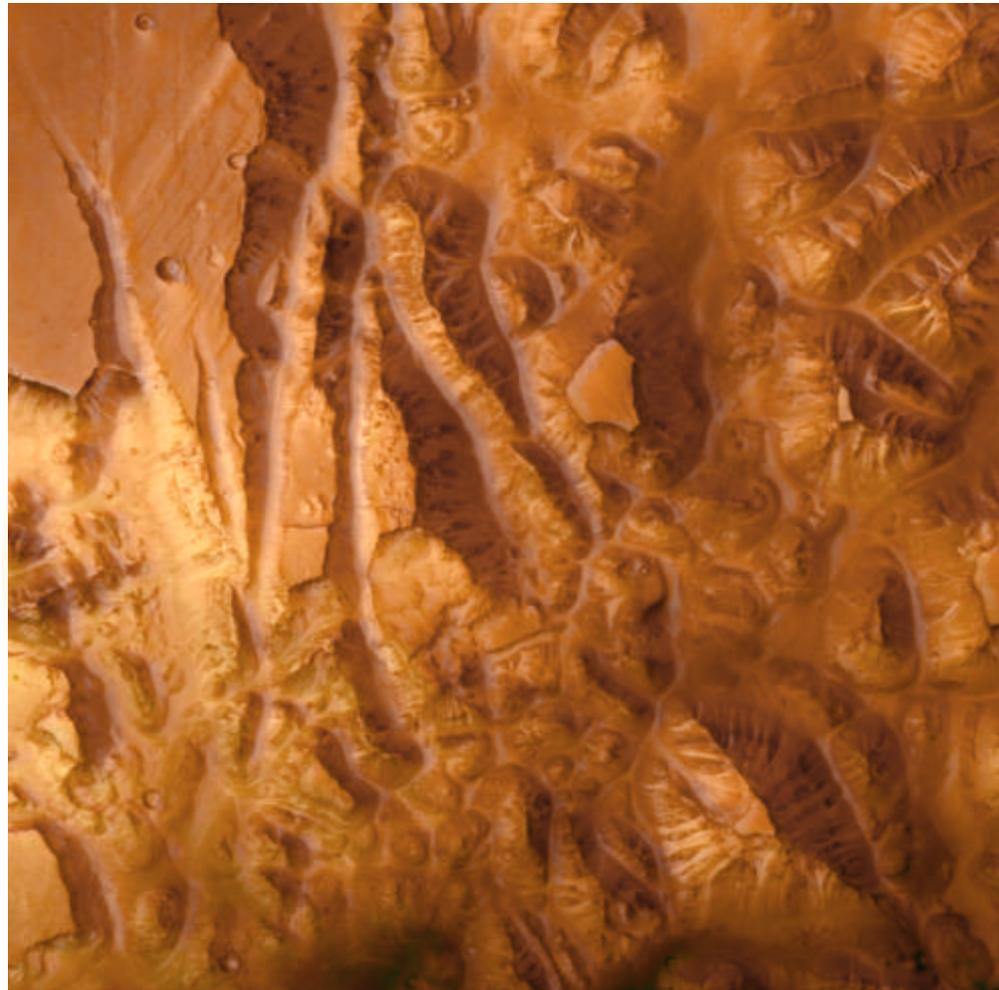
**Rosetta image of Comet Linear**



## Venus Transit with aircraft

17 June 2004

dph-3



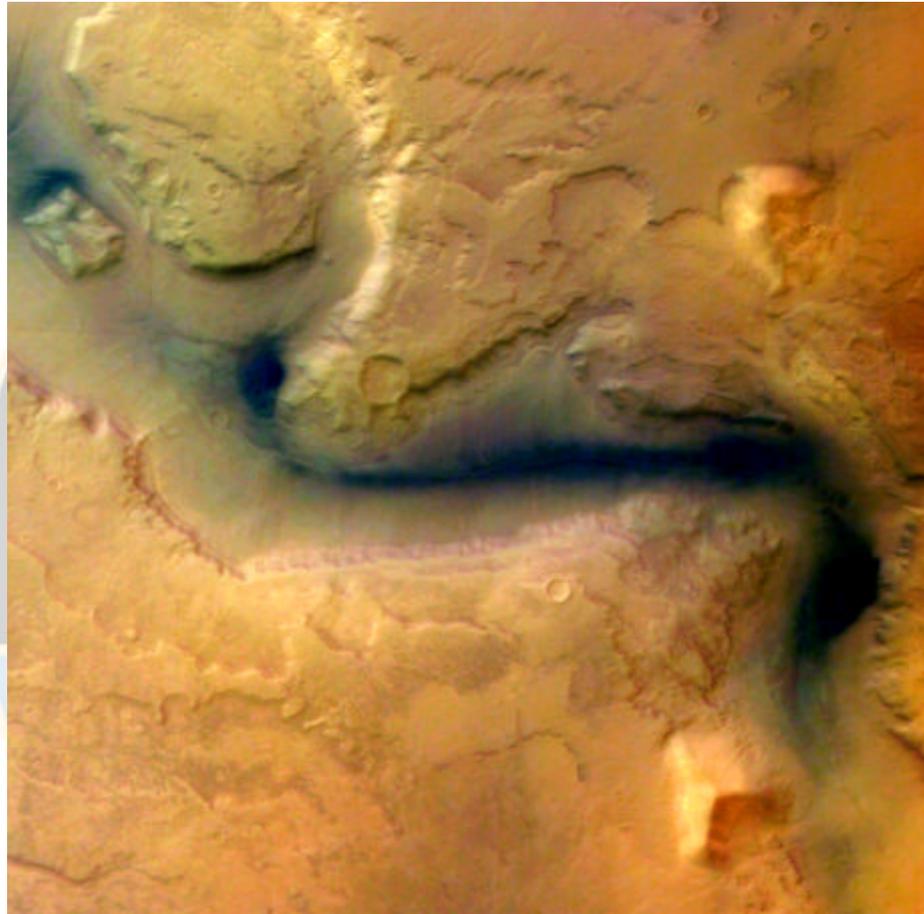
17 June 2004

## Valles Marineris - Overhead

dph-4



JPL



Reull Vallis River Channel



# ulysses

## **JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE**

**B. Brymer**

**June 17, 2004**

*NASA Jet Propulsion Laboratory*

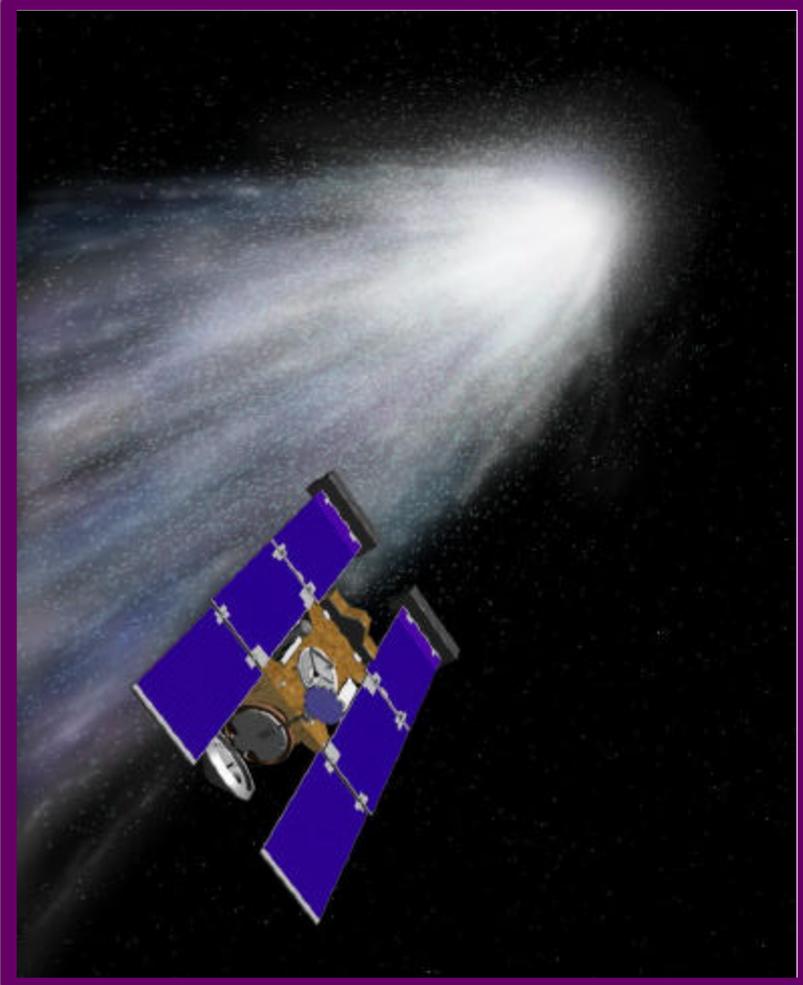


<http://ulysses.jpl.nasa.gov/>

# ULYSSES

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

- NOMINAL SPACECRAFT OPERATIONS CONTINUE
- SPACECRAFT POWER AND THERMAL RECONFIGURATIONS AND INSTRUMENT CALIBRATIONS ARE PERFORMED AS REQUIRED
- SPACECRAFT EARTH-POINTING MANEUVERS ARE BEING PERFORMED EVERY WEEKLY



# STARDUST

**JOINT USERS**

**RESOURCE ALLOCATION**

**PLANNING COMMITTEE**

**R. E. Ryan**  
**June 17, 2004**

NASA Jet Propulsion Laboratory

*<http://stardust.jpl.nasa.gov>*

### **STATUS**

**SPACECRAFT IS HEALTHY (6/17/04)**

**PRESENTLY 1.53 AU from EARTH**

**00:25:28 RTLT**

**2.54 AU from SUN**

**CRUISE MODE**

**ONE SHORT (power constrained) TRACK PER WEEK**

**MINIMUM EARTH RANGE, JUNE 16, 1.53 AU**

**TELEMETRY BIT RATE IS 1050 bps (on HGA/34 METER)**

**DSMS SUPPORT HAS BEEN GOOD THIS PAST PERIOD**

<http://stardust.jpl.nasa.gov>

(there are some good shots, movies and information)

### UPCOMING EVENTS

**SOLAR OPPOSITION ON JUNE 24**

**APHELION OF 2.68 AU FROM THE SUN**

**7 WEEKS CENTERED ON OCTOBER 2004**

**LIMITED COMMUNICATION BECAUSE OF POWER RESTRICTIONS**

(long period of 3 hour duration tracks)

**TCM 16 ON April 6, 2005**



June 17, 2004

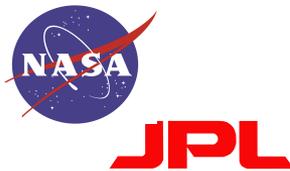
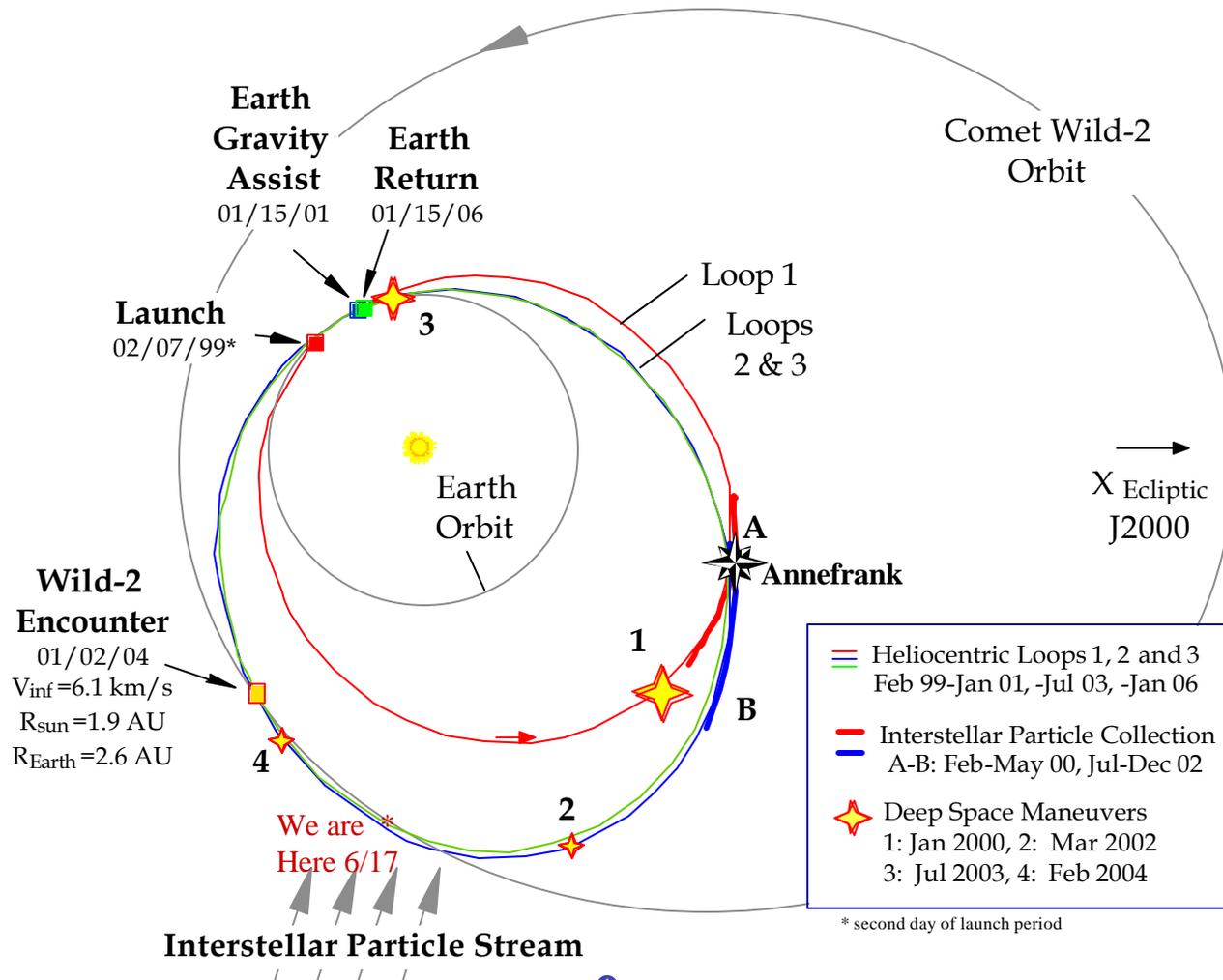


UNIVERSITY OF  
WASHINGTON



# STARDUST

## Report to JURAP



June 17, 2004

