

S45 Rev 93 Timeline for RSS Saturn Gravity Observation

2008/321-322, Sun-Mon Nov 16-17, 2008
Saturn Closest Approach: ~2008/321-23:43 ERT

EPOCH: E093_Per1 2008-321T22:24:00 SCET
OWLT = 01:21, RTLT = ~02:42

Closed-loop Doppler is prime for gravity. Open-loop is backup

RSR = Radio Science Receiver (open-loop receiver) RSSG = Radio Science Systems Group

RSSG: Note telemetry bit rate changes. Playbacks scheduled. Set RSR fgain accordingly and do not change during observation

DOY	Time ERT	Date/Day PST	Time PST	Event	Comments
				X-TWTA ON	Has been ON for days
321	15:25	Sun 11/16	7:25 AM	DSS-34 Pre-cal	Cassini specific 4th-order pointing model
	16:55		8:55 AM	DSS-34 BOT	No downlink until ~20:14 ERT. Pass# 4062
	17:32		9:32 AM	DSS-34 Transmitter ON	DKF time 17:32:03
	18:14		10:14 AM	Ka-band ON (KEX & Ka-TWTA)	On-board s/c
	19:44		11:44 AM	Begin s/c Turn to Earth	Turn by Science Planning (SP). ~30min turn
	19:45		11:45 AM	RSSG: Begin RSR recordings (X & Ka)	
	20:14		12:14 PM	Begin RSS - Begin Coherent Downlink	DKF time 20:13:56. DSS-34 2-way
				DSS-34 Enable Monopulse	As requested by RSSG
				Note: Bit Rate Change	Bit Rate 27650
	22:00		2:00 PM	Note: Bit Rate Change	Bit Rate 1896
	23:00		3:00 PM	Note: Bit Rate Change	Bit Rate 27650
	23:43		3:43 PM	Saturn Periapse (Closest Approach)	22:22 SCET. R = 4.269 Rs, lat = -15 deg, phase = 154 deg
322	00:40		4:40 PM	DSS-55 Pre-cal	Cassini specific 4th-order pointing model. TLC enabled
	00:59		4:59 PM	Note: Bit Rate Change	Bit Rate 22120
	01:02		5:02 PM	DSS-34 Transmitter OFF	DKF time 11:02:05
	01:59		5:59 PM	Note: Bit Rate Change	Bit Rate 14220
	02:10		6:10 PM	DSS-55 BOT	3-way with DSS-34
				DSS-55 Enable Monopulse	As requested by RSSG
	02:55		6:55 PM	DSS-34 EOT	
				DSS-34 Disable Monopulse	At loss of Ka-band signal
	03:14		7:14 PM	Note: Bit Rate Change	Bit Rate 22120
	03:44		7:44 PM	End RSS - End Coherent Downlink	DKF time 03:43:54
				Ka-band OFF	DKF time 03:43:43
				Begin s/c Turn from Earth	Turn by Science Planning (SP)
				DSS-55 Disable Monopulse	At loss of Ka-band signal
				Note: Bit Rate Change	Bit Rate 1896
	04:00		8:00 PM	RSSG: End RSR recordings (X & Ka)	
	04:15		8:15 PM	DSS-55 EOT	