

S45 Rev91 E6
Enceladus Gravity
Inbound

DOY 305
10/30-31/08

0550 Called 54 about their request to do
on-pant phase cal. & how important it is..
whether they think monopulse will not work
without it or it's just to check phase values.
⇒ wants to talk to maintenance

~~0551~~
0552 Said maintenance person said monopulse
should work OK but wanted to double
check since it's been a long time
⇒ told him we prefer they don't do it
since it's a science pass & our preference
was for them to do it during ORT pass
last week
⇒ OK
⇒ let us know if they have monopulse problems
& we'll decide what to do.

0557 AH auto

0600 Start recording.
Setup 1-way in case we see signals
before turn completes

| | | | | |
|-------|----|----|----|----|
| Fgain | 54 | 55 | X | 37 |
| | 54 | 55 | Ka | 53 |
| | 63 | X | X | 43 |

0611 Weak signals (1-way) in open-loop

0617 Asked 55 to enable monopulse ⇒ NO jump

0619 station 54 completed phase - call

⇒ asked them to enable monopulse

⇒ enabled 0620

in 1.4 dB jump

0623 54 asked if they can disable monopulse before switch to 3-way

⇒ yes. Asked 55 to do the same

0626 55 mon offsets $A_3 = -3.75, E_L = -1.25$
54 mon offsets $+3.38, -3.20$ $E_L \approx 41.5$

062645 54 & 55 mon. disabled

062820 lost 1-way signal. Switched rcvrs to 2-way (55) & 3-way (54 & 63)

063030 55 ill .. enable mon ⇒ yes
same asked by 54

063045 Both 55 & 54 monopulse

0633 SNR Readings

| | | Fgain |
|-------|-------|-------|
| 55 X | 33.11 | 37 |
| 55 Ka | 46.05 | 53 |
| 63 X | 38.82 | 43 |
| 54 X | 32.64 | 37 |
| 54 Ka | 46.87 | 53 |

0634 SNT

| | | | |
|------|--------|------|--------|
| 55 X | 24.156 | 54 X | 30.75 |
| 55 K | 60.965 | 54 K | 49.825 |

63 X 23.398

0858 LOS Ka-band

085845 LOS X-band

0648 55 opened DR for RSRZ problems
M105115

Playback 1st segment 0600 - 0910

0755 released Elias

0756 Station reporting more rain & SNT
doubled

0758 SNT readings

55 X 28.00

55 K 97.36

54 X 35.2

54 K 95.98

63 X 46.8

0759 Ka dropped at 55 by ~1.5 dB due to
rain

0825 NOPE asking about weather at 63
Raining. Stormy skies. SNT 4X (times)
what they started with

0848 SNR Readings

55X 32.05

55Ka 43.0

~~54~~ X 32

54 Ka 42.0

63 X 32 ← how so?

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DOY 306
10/31-11/1/08

Weather: Overcast
Weather: Medium cloudy

NOTES Lu & Sandy

DSS-55 using LQG
(wind speed picking up)

0233 X-band signal at 34

023745 34 1/L X-band

024247 Ka-band on

0243 34 1/L

0244 Monopulse enabled.

⇒ 2 dB jump

offsets RZ 1.66 EL 9-10 EL 19.51
-2

0305 54/55 signals

0310 54 1/L .. Nope asking if 54 enable monopulse,
⇒ low EL. wait.

0311 55 1/L

0315 55 enable monopulse
54 enable monopulse

0316 Switch to coherent ⇒ some act autos

0318 54 re-enabled

0320 55 mon. enabled

0327 SNR2 readings

0327 SNR2 readings

| | |
|-------|-------|
| 55 X | 30.20 |
| 55 Ka | 42.86 |
| 54 X | 30.10 |
| 54 Ka | 43.72 |
| 63 X | 35.36 |

| | |
|-------|-------|
| 34 X | 29.59 |
| 34 Ka | 42.70 |

0328 SNT readings

| | |
|-------|--------|
| 55 X | 34.290 |
| 55 Ka | 95.403 |
| 54 X | 45.280 |
| 54 Ka | 77.191 |
| 63 X | 30.816 |

| | |
|-------|---------|
| 34 X | 43.207 |
| 34 Ka | 154.208 |

0330 U/L transfer 34 to 55

0610 Stations open. closed-loop Blw to accommodate for U/L transfer

| | | |
|----|------|-------|
| 55 | X 20 | Ka 30 |
| 54 | X 20 | Ka 25 |
| 63 | X 20 | |

Smooth transfer

0651 54 & 55 LOS

060650 Told 54 & 55 we are done.