

Rev 12 Cassini Radio Science Occultation: Event Times on DOY 214, 2005

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| | SCET UTC | ERT UTC OWLT = 1:23:55 | Pacific Time GMT-7hrs 7:00:00 | Comments |
|---------------------------|----------|------------------------------|-------------------------------------|---|
| DSS-55: Begin-of-Track | 6:36:05 | 8:00:00 | 1:00:00 | Cassini HGA is not Earth pointed |
| Start LMB | 6:57:00 | 8:20:55 | 1:20:55 | Cassini HGA Earth pointing starts |
| DSS-55: Enable Monopulse | 6:57:00 | 8:20:55 | 1:20:55 | Enable monopulse ASAP after BOT |
| Start Baseline | 7:31:16 | 8:55:11 | 1:55:11 | Start of the RSS occultation experiment |
| Ring F | 7:53:40 | 9:17:35 | 2:17:35 | Ring F is only detectable in postprocessing |
| Ring A in | 7:59:12 | 9:23:07 | 2:23:07 | Sudden drop in signal level |
| Enke Gap | 8:03:51 | 9:27:46 | 2:27:46 | Brief recovery of strong signal level |
| Ring A out | 8:20:19 | 9:44:14 | 2:44:14 | Strong signal expected in the Cassini Div |
| DSS-55: Disable Monopulse | 8:26:09 | 9:50:04 | 2:50:04 | Monopulse offset used to reinitialize blind pntng |
| Ring B in | 8:26:39 | 9:50:34 | 2:50:34 | Signal level drops substantially |
| Ring B out | 9:01:24 | 10:25:19 | 3:25:19 | Signal level throughout Ring B is small |
| DSS-55: Enable Monopulse | 9:01:54 | 10:25:49 | 3:48:36 | Monopulse enabled ~30 s after exit from Ring B |
| Ring C out | 9:24:41 | 10:48:36 | 3:48:36 | High signal level but with fast fluctuations |
| DSS-55: Disable Monopulse | 9:27:05 | 10:51:00 | 3:51:00 | Monopulse offset used to reinitialize blind pntng |
| Ionosphere in | 9:27:30 | 10:51:25 | 3:51:25 | imapcat parameter ~68,000 km |
| Troposphere in | 9:37:58 | 11:01:53 | 4:01:53 | Signal level drops systematically |
| loss of Ka-Band signal | 9:43:46 | 11:07:41 | 4:07:41 | Likely disappearance of the Ka-band signal |
| loss of X-band signal | 9:44:46 | 11:08:41 | 4:08:41 | Likely disappearance of the X-band signal |
| loss of S-band signal | 9:45:56 | 11:09:51 | 4:09:51 | Likely disappearance of the S-band signal |
| End of Ingress | 10:08:16 | 11:32:11 | 4:32:11 | End of Saturn ingress occultation |
| Behind Saturn | | | | |

| Behind Saturn | | | | |
|---------------------------|----------|----------|---------|--|
| Start of Egress | 11:38:16 | 13:02:11 | 6:02:11 | Start of Saturn egress occultation |
| weak S-Band signal | 12:07:10 | 13:31:05 | 6:31:05 | S-Band starts to build up systematically |
| weak X-band signal | 12:08:10 | 13:32:05 | 6:32:05 | X-Band level starts to build up systematically |
| weak Ka-band signal | 12:09:44 | 13:33:39 | 6:33:39 | Ka-Band level starts to build up systematically |
| Troposphere out | 12:16:29 | 13:40:24 | 6:40:24 | Blind pointing error may affect signal level |
| Ionosphere out | 12:26:41 | 13:50:36 | 6:50:36 | Strong signal level |
| DSS-55: Enable Monopulse | 12:34:12 | 13:51:00 | 6:51:00 | impact parameter > 68,000 km |
| Ring C in | 12:34:12 | 13:58:07 | 6:58:07 | Strong dynamically changing signal level |
| DSS-55: Disable Monopulse | 12:56:34 | 14:20:29 | 7:20:29 | Monopulse offset used to reinitialize blind |
| Ring B in | 12:57:04 | 14:20:59 | 7:20:59 | Signal level drops substantially |
| Ring B out | 13:30:30 | 14:54:25 | 7:54:25 | Signal level is small in Ring B |
| DSS-55: Enable Monopulse | 13:31:00 | 14:54:55 | 7:54:55 | Monopulse enabled ~30 s after exit from Ring B |
| Ring A in | 13:36:28 | 15:00:23 | 8:00:23 | Signal level comes back up in the Cassini Division |
| Enke Gap | 13:51:46 | 15:15:41 | 8:15:41 | Clear dynamic signal throughout most of Ring A |
| Ring A out | 13:56:01 | 15:19:56 | 8:19:56 | Sudden transition to free-space signal level |
| Ring F | 14:01:02 | 15:24:57 | 8:24:57 | Rings F is only detectable in postprocessing |
| End of Baseline | 14:29:16 | 15:53:11 | 8:53:11 | End of the rev 10 radio occultation experiment |
| End LMB | 15:07:04 | 16:30:59 | 9:30:59 | HGA Continues to be Earth pointed |
| DSS-55: End-of-Track | 15:26:05 | 16:50:00 | 9:50:00 | Gravity Enhancement Observation during DL |

Note: Some Ring Edges are known to be noncircular, which will affect event times above
Enable/Disable monopulse strategy is tentative at this time; may be changed in real-time