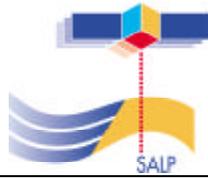


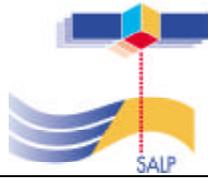


POSEIDON Altimeter & DORIS Receiver



POSEIDON Altimeter

- Turn-On of chain #1 on 10 December 2001, Chain #2 is redundant
- PRESENT CONFIGURATION, CHANGES:
 - no change from last SWT, 21 October 2002
 - from Launch, 2 patches for CNG (had only an impact on OSDR, not on IGDR/GDR) and GPS time-out from 30 to 150 seconds (to improve robustness against GPS time gaps)



POSEIDON EVENTS & AVAILABILITY (since last SWT)

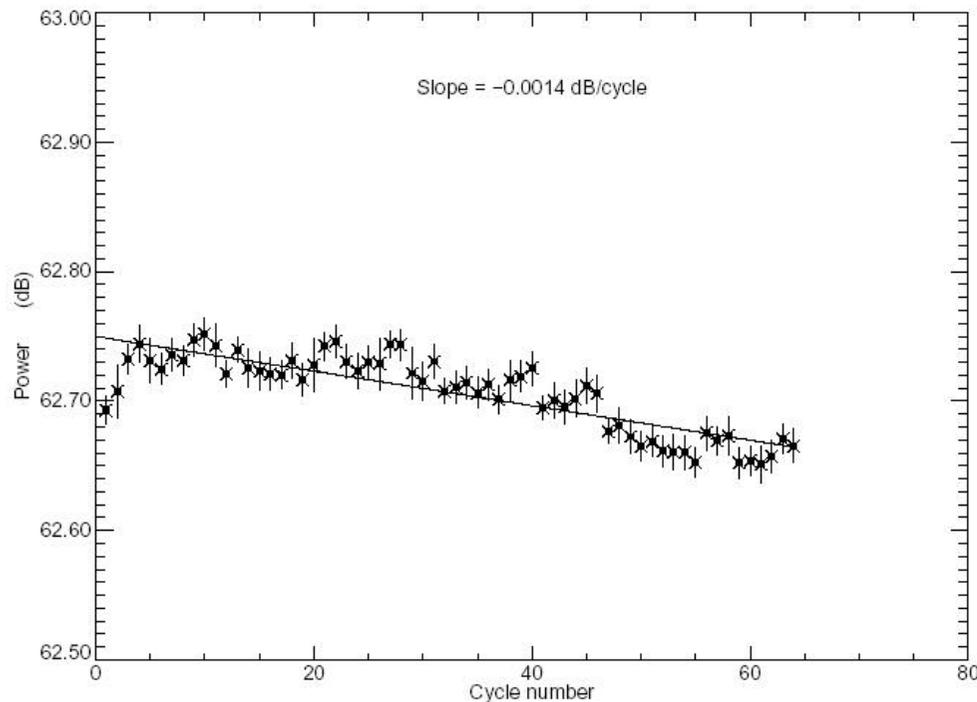
- 1 incident on 1 March 2003 17H22 UTC, over SAA,
 - incident self-detection by instrument and but unsuccessful self re-init
 - re-init detection on ground from HK TM and successful restart recovery
 - no data from 17H22 to 22H37 on same day
- 1 incident on 9 April 2003 00H19 UTC, on West limit of SAA
 - incident self-detection by instrument, but unsuccessful self re-inits
 - re-init detection on ground from HK TM and successful restart recovery
 - no data from 0H19 to 08H28 on same day
- POSEIDON availability is **99.9%** since last SWT



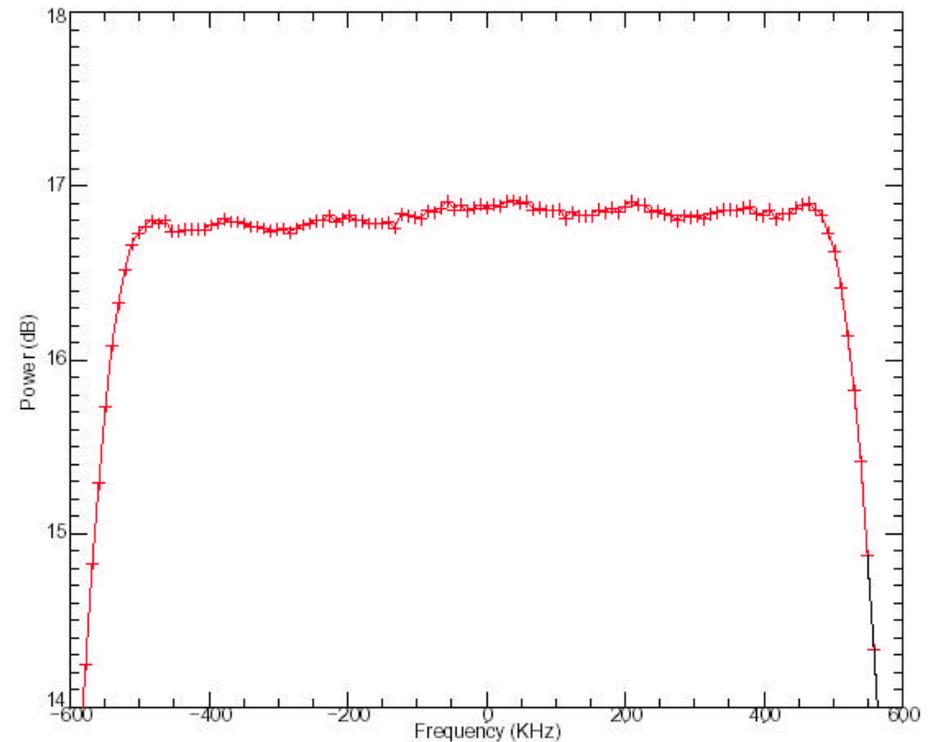
POSEIDON PERFORMANCES

- RANGE Noise is 1.6 cm at 1 Hz, stable
- Calibrations are nominal (3 per day), normal trend of instrument (i.e. stable)

POSEIDON2 – Cycle 064
Total power of the PTR in Ku band



POSEIDON2 – Nominal LPF in Ku band





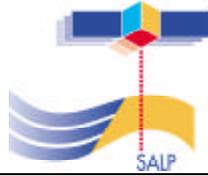
CONCLUSIONS

- **FUNCTIONING OF THE POSEIDON ALTIMETER IS VERY SATISFACTORY**



DORIS - Determination of Orbit and Radiopositioning Integrated by Satellite

- Turn-On of DORIS Chain #2 on 8 December 2001, Chain #1 is redundant
- PRESENT CONFIGURATION, CHANGES SINCE LAUNCH:
 - complete software in EEPROM successfully changed from Version 2.02 to 2.08 on 25 November 2002, to improve robustness and allow DORIS beacons with shifted frequency



DORIS EVENTS & AVAILABILITY (since last SWT)

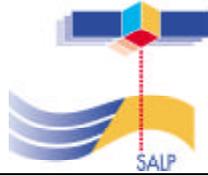
- New Software V2.08 upload in EEPROM on 25 November 2002,
 - enables use of beacons with shifted frequencies, successfully tested in flight in January 2003
 - has improved robustness of instrument, synchronization problem on 25 Jan. 2002 can NO more occur
 - DORIS time-tagging data not available for about 35 hours, return to normal operations was delayed by 1 day because of ionospheric effects over the KOUROU Master Beacon during local night
 - Mission impact : IGDRs/GDRs not time-tagged, thus not delivered for 1.5 days

- Overall DORIS availability since last SWT is **99.6%**



DORIS Performances

- DOPPLER MEASUREMENT
 - mean value for noise is 0.40-0.50 mm/s (POE residuals)
 - still a ‘radiation USO effect’ for SAA Beacons, effect on frequency has increased since last SWT (see specific meeting presentations).
 - Mission impact seems low at POE Level, some SAA beacon measurements are discarded in processing
 - studies are in progress to elaborate a SAA Effect Model to model USO frequency variation during each pass, first results seem to be promising
- DORIS Time-tagging of PPS performances
 - is used for altimeter data
 - accuracy is 1-2 microseconds as compared to on-board GPS (platform)
- Navigator (DIODE) performances
 - RMS radial 20 cm
 - RMS 3D < 1 meter (typically 50 cm)



CONCLUSIONS

- OPERATIONS ARE SIMPLE, NO INCIDENT
 - NO TC in routine, one TC for each maneuver
- FUNCTIONING OF DORIS IS SATISFACTORY