cnes

DORIS MISSIONS vstem NEWS



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DORIS MISSIONS

Today 6 satellites contribute to IDS / 13 missions have contributed since 1990

- SENTINEL 3A (GMES) : 814km, 98.6° February 16th 2016 → 2024(DGXXS+LRA+GPS)
- JASON3 (Eumetsat/NOAA/NASA/CNES): 1336 km, 66° January 17th 2016 → 2022(DGXXS+LRA+GPS)
- SARAL (CNES/ISRO): 800km, 98.5° February 2013 → 2019 (DGXX+LR)
 → Since July 4th, "SARAL-DP" mission on an orbit increased by + 1km
- HY2-A (CNSA, NSOAS): 960km, 99°

August 2011 \rightarrow 2019? (DGXX+LRA+GPS)

CRYOSAT-2 (ESA): 717 km, 92°

April 2010 \rightarrow end 2020 (DGXX + LRA)

JASON2 (Eumetsat/NOAA/NASA/CNES): 1336 km, 66° June 2008 → 2017 (DGXX+LRA+GPS)
 →on interleaved orbit since October 12th

Many future missions

 Sentinel 3B, AIT on going Sentinel 3C, 3D DORIS instrument development on going 	end of 2017 (7 years 2020, 2025 (7 years)
 HY2-C : DORIS contract signed between TSA and NSOAS HY2-D : DORIS contract will be signed in June 2017 2020 (3 years) 	2020
HY2E-F-G-H : to be confirmed	2024
 JASON-CS1/ SENTINEL 6A (Eumetsat/NOAA) JASON-CS2/SENTINEL 6B DORIS instrument development on going 	end 2020(7 years) 2025 (7 years)
SWOT (NASA/CNES) : 970km, 78° DORIS instrument development on going	2021 (3 years)
 E-GRASP/Eratosthenes (submitted to new ESA EE9 call Payload: GNSS/DORIS/SLR/VT/µSTAR/T2L2 Orbit: 6450 - 7800 km, 6.4 deg. Or 933 - 7200 km, 116 deg., sun-synchronous 	2017) 2024



Latest news on DORIS DATA

RINEX DATA

 Since January 2017, the RINEX data are provided by the "SPARINEX" tool (using the DIODE time Tagging) instead of PANDOR.

the past periods were disseminated in February on both CDDIS/IGN

- Unfortunately, there are some gaps at CDDIS (due to an anomaly in the Software using the new CCDIS HTTP protocol) it should be corrected shortly
- All data are available at IGN
- J. Jason2:
 - Data gap during safe mode (Gyro1 failure)
 - from March 15, 2017 to March 29, 2017 at 14:50:00.
 - No DORIS1B, No Orbits, but DORIS-RINEX available
 - New safe mode period (since May 17th, Jason2 is again in Safemode due to a problem on Gyro2)

Fourth generation Beacon B4G

❑ Designed to be operational up to 2030

- New electronic (with up to-date components)
- Better masks clearance expected thanks to longer distance between beacon and antenna (up to 50 m)
- Already integrated in existing system

Schedule :

- On time,
- Production of prototype unit November 2017
- Pre-production unit May 2018
- First production units April 2019

Radio frequency characterization of ALCATEL DORIS ground antenna

Loi de phase : Antenne ALCATEL Alcatel (deg) de la phase (Evolution d 0 -1 -2 1.4 D Δ 0 10 20 30 40 50 60 70 80 90 angle zénital (deg) DORIS Ground antenna corrections D01 : 2036,25MHz COMMENT COMMENT DO2 : 401,25 MHz END OF HEADER START OF ANTENNA ALCATEL XXXXXX NONE TYPE / SERIAL NO CHAMBER CNES 7 05-APR-13 METH / BY / # / DATE 0.0 DAZI 0.0 90.0 5.0 ZEN1 / ZEN2 / DZEN 2 # OF FREQUENCIES IGS08 1717 SINEX CODE Number of Calibrated Antennas DORIS: 009 COMMENT D01 START OF FREQUENCY 0.00 0.00 510.00 NORTH / EAST / UP NOAZI -2.05 -1.02 0.00 2.05 4.09 4.09 4.09 4.50 4.91 4.91 4.91 4.50 4.09 3.07 2.05 1.02 0.00 -1.02 -2.05 D01 END OF FREQUENCY D02 START OF FREQUENCY 0.00 0.00 335.00 NORTH / EAST / UP NOAZI 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 D02 END OF FREQUENCY END OF ANTENNA

Groupe Performance du 29 mars 2017

Radio frequency characterization of ALCATEL DORIS ground antenna

Five Alcatel antennas characterized at CNES compact antenna test range (CATR) with cooperation of antennas measurements team (D.Belot, L.Feat (CNES), A.Durand (Intespace)

- □ Serial number : 17, 47, 53, 58 et 66
- Report 25/11/2016
 OTP Intespace : A.15361.2015-2





New phase law

Same Center of Phase position (510 mm above the reference plane)

70

80

90

The IDS phase law replaced by the mean of the measures.



Groupe Performance du 29 mars 2017



Service International DORIS http://ids-doris.org www.cnes.fr

