IDS data structure and formats

First version: 2004-02-19
Current version: 2023-11-21
Change history: see the last page

Content

0. What kind of information may be found on which center?

IDS has three data/information centers:
 - **CB**: the ***Central Bureau*** web and ftp sites at CLS
 - **DC**: the ***Data Center***(s):
        * CDDIS: web and ftp sites
        * IGN: ftp sites at doris.ign.fr or at doris.ensg.eu
 - **AC**: the ***Analysis Coordination*** webpage

The baseline storage rules are as follows:

. DC store observational data, products, and ancillary information required for the use of these data and products + formats and analysis descriptions.
. CB produces/stores/maintains basic information on the DORIS system, including various standard models (satellites, receivers, signal, reference frames, etc).
. AC refers to CB and DC information on the data and modeling, and generates/stores analyses of the products.

Two criteria are considered for deciding where files are stored/maintained:
        1. the responsibility for their content and update,
        2. the ease of user access.

To avoid information inconsistencies, duplication is minimized. Logical links and cross referencing between the three types of information centers are systematically used.

Products are deposited in ad hoc DCs areas. The analysis centers need to have an account at both DCs.

1. File naming conventions

Filenames include only numbers and lower cap characters, including station names, with the exception of the ".Z" extension indicating compressed files.

Data and product files are compressed using UNIX compression format.

1.1 Data

1.1.1 Preprocessed data

***sss*data*MMM*.*LLL*.Z**
where:

> sss   the satellite three-character abbreviation (1)
> data   fixed part
> MMM   the three-digit cycle/arc number (2)
> LLL   version number (starting with 001 for the initial version) when the file is replaced
> Z (upper case) indicates compressed file (Unix)

Ex: sp2data033.001.Z

Note 1:
Three-character satellite name abbreviations:

Spot-2 : sp2	Cryosat-2 : cs2
Spot -3 : sp3	HY-2A : h2a
Spot -4 : sp4	HY-2C : h2c
Spot -5 : sp5	Saral : srl
Topex/Poseidon : top	Sentinel-3a : s3a
Envisat : en1	Sentinel-3b : s3b
Jason-1 : ja1	Sentinel-6a : s6a
Jason-2 : ja2	HY-2D : h2d
Jason-3 : ja3	Swot : swo
	All satellites : zzz

Note 2:
"cycles" refer to Topex/Poseidon and Jason satellites (about 10 days)
"arcs" refer to the Spot satellites
Envisat: 7-day arcs (the cycle length is exactly 35 days)

Note 3:
Spot2: the first 10 data files (31.03.90-02.11.92) are organized in monthly files. The file names range from sp2data9003.dat.Z through sp2data9211.dat.Z

Note 4:
Envisat: the first data file (en1data001.001.Z) corresponds to the first arc of repeat cycle 7. The Envisat repeat cycle number for a given DORIS Data Center arc number can be found using the formula cycle=int(0.2*(arc+34)).

1.1.2 Raw data (RINEX/DORIS files)

sssrxYYDDD.LLL.Z
where

sss	the satellite three-character abbreviation
rx	fixed part (rx for rinex)
YY	last two digits of year of first data
DDD	three-digit day of year of first data
LLL	version number (starting with 001 for the initial version) when the file is replaced
Z (upper case) indicates compressed file (Unix)

Ex: ja2rx09001.002.Z

1.1.3 Quaternions data files

sssqbodyYYYYMMDDHHMNSS_yyyymmddhhmnss.LLL
and (if any)
sssqsolpYYYYMMDDHHMNSS_yyyymmddhhmnss.LLL
where

sss	the satellite three-character abbreviation
qbody or qsolp	fixed part (qbody for body quaternions, qsolp (if any) for solar panel quaternions)
YYYY	date: year of first data
MM	date: month of the first data
DD	date: day in the month of first data
HH	time: hour of the first data
MN	time: minute of the first data
SS	time: second of the fisrt data
yyyy	date: year of last data
mm	date: month of the last data
dd	date: day in the month of last data
hh	time: hour of the first data
mn	time: minute of the first data
ss	time: second of the fisrt data
LLL	version number (starting with 001 for the initial version) when the file is replaced

Ex: ja2qbody20090201220000_20090203020000.001
and ja2qsolp20090201220000_20090203020000.001

Note that for Swot, quaternions of the body are in NetCDF format and solar panel angles in XML format so the files include the format extension:
sssqbodyYYYYMMDDHHMNSS_yyyymmddhhmnss.LLL.nc
and
sssqsolpYYYYMMDDHHMNSS_yyyymmddhhmnss.LLL.xml

1.1.4 Information on data

- Current DORIS data holding by satellite and month for year YYYY:
doris.*yyyy*

- DORIS files available by satellite:
doris.files

- List of observation files available for satellite sss:

sss.files

where

        sss   the satellite three-character abbreviation (1)

        files   fixed part

- Observation counts per station for data file sssdataMMM.LLL:

sssdataMMM.LLL.sum

where

        sss   the satellite three-character abbreviation (1)

        data   fixed part

        MMM the three-digit cycle/arc number (2)

        LLL   version number (starting with 001 for the initial version) when the file is replaced

        Sum   fixed part

1.2 Products

1.2.1 Orbits

format sp1: **cccsssVV.bXXDDD.eYYEEE.sp1.LLL.Z**

format sp3: **cccsssVV.bXXDDD.eYYEEE.dgs.sp3.LLL.Z**

where

        ccc   center three-character acronym (1)

        sss   satellite three-character abbreviation

        VV   version number of the solution

        b   fixed part ("begin")

        XX   last two digits of year of first position

        DDD   three-digit day of year of first position (2)

        E   fixed part ("end")

        YY   last two digits of year of last position

        EEE   three-digit day of year of last position (2)

        sp1   fixed part, referring to the SP1 format

        dgs   (for sp3 format) types of data used for the orbit determination

        d= "D" or "_" : if DORIS data are used or not

        g= "G" or "_" : if GPS data are used or not

        s= "S" or "_" : if SLR data are used or not

        sp3   fixed part, referring to the SP3 format

        LLL   version number (starting with 001) when the file is replaced

        Z (upper case) indicates compressed file (Unix)

Ex: ssas3a10.b17309.e17319.DG_.sp3.001.Z

Note 5: Three-character analysis center name

        cls : Collecte Localisation Satellites

        csr : Center for Space Research

        grg : CNES/GRGS

        gsc : NASA/GSFC

        gop : Geodetic Observatory Pecny

gau : Geoscience Australia
esa : ESA/ESOC
nlc : University of Newcastle
iaa : Institute of Applied Astronomy (St Petersburg)
ign : Institut Géographique National/Jet Propulsion Laboratory
ina : INASAN (Moscow)
lca : LEGOS-CLS
sod : CNES/Service d'Orbitographie DORIS
ssa : SSALTO

1.2.2 Global Sinex solutions (cf IERS naming convention)

***cccWWuVV*.snx.Z**
where
ccc	three-character center acronym
WW	last two digits of year of the solution submission
U	D for «Doris only», C for «multi-technique»
VV	version number in year YY
snx	fixed part (refers to the format)
Z (upper case) indicates compressed file (Unix)	

Ex: ids17d01.snx.Z

Note 6: The global solutions are the first type of IDS geodetic products, defined within the scientific community working with IERS, IVS, IGS, ILRS and/or IDS. The purpose of this product is to serve as input for global combinations. They include two types of estimated parameters and the corresponding variance-covariance information, as follows.
- global astro-geodetic parameters that describe station positions and motions, Earth orientation, motion of the station network with respect to the Earth's center of mass, satellite motion (case of satellite geodesy) and radio source directions (case of VLBI);
- parameters for local models, such as those describing the effect of the troposphere on the signal transmission. These solutions are provided in the SINEX (Software INdependent EXchange) format.

1.2.3 DPOD solutions

dpod*WWWW_VV*.snx.Z
or
dpod*WWWW_VV*.txt.Z

where
ccc	three-character center acronym
WWWW	year of the ITRF version on which the DPOD solution is based
VV	version number in year YY
snx or txt	fixed part (refers to the format: snx for SINEX, txt for text)
Z (upper case) indicates compressed file (Unix)	

Ex: dpod2014_01.snx.Z

1.2.4 Time series of sinex solutions (monthly, weekly, daily, …)

cccYYDDDtuVV.snx.Z
where

ccc	center three-character acronym
YY	last two digits of year of the first observation
DDD	three-digit day of year of the first observation.
T	type of the solution: m/w/d for monthly/weekly/daily solutions
u	d for «Doris only», c for «multitechnique»
VV	version number of the solution
snx	fixed part (refers to the format)
	Z (upper case) indicates compressed file (Unix)

Ex: ids00002wd04.snx.Z

Note 7: These solutions are defined similarly to the solutions above, except for the time span of the data used: they may be based on monthly, weekly, daily, etc observation sets. The purpose of this product is to serve as input for multi-technique combinations of time series. They are provided in the SINEX format.

Note 8: There is no mention of the satellite name in the filename. This information may be found in the headers of each file.

Note 9: Each sinex file in the series may have a summary file cccYYDDDtuVV.sum giving statistics of this data set, e.g. global, per satellite, per station, and any information useful for the user of the product file.

1.2.5 Time series of specific geodetic products

cccWWtuVV.stcd.aaaa.Z	for station coordinates
cccWWtuVV.stcd.aaaa.gif	for plots of station coordinates
cccWWtuVV.geoc.Z	for coordinates of the TRF origin (geocenter)
cccWWtuVV.eop.Z	for Earth orientation parameters (EOP)

where

ccc	the center three-character acronym
WW	year of submission
T	type of the solution: m/w/d for monthly/weekly/daily solutions
U	d for «Doris only», c for «multi-technique»
VV	version number in year YY
	Z (upper case) indicates compressed file (Unix)
stcd	fixed part (refers to the content)
aaaa	station name (four characters)
geoc	fixed part (refers to the content)
eop	fixed part (refers to the content)

Ex:
ids17wd05.stcd.adea.Z
ids17wd05.stcd.adea.gif
ina16wd01.geoc.Z
ina16wd01.eop.Z

Note 10: In principle, these times series are extracted by the Central Bureau from the time series of SINEX solutions (see 1.2.3). In this case, the documentation file is ccctuVV.snx.dsc (see hereafter). If the Analysis center provides stcd/geoc/eop time series, they must provide the corresponding .dsc documentation file(s).

1.2.6 Ionosphere products

cccsssVV.YYDDD.iono.Z
where

ccc	center three-character acronym
sss	satellite three-character abbreviation
VV	version number of the solution
YY	last two digits of year
DDD	three-digit day of year
Iono	fixed part (refers to the content)
	Z (upper case) indicates compressed file (Unix)

Ex: ssasp501.02124.iono.Z

1.3 Documentation

Each data/product file, or series of data/product files, mentioned hereafter shall be accompanied by a file describing the analysis and modeling used to derive it. The .dsc files for products would be similar to the explanation files for the submission of contributions to ITRF. The filenames are constructed as follows.

Data/Product item	Data/Product file	Description file
Data	sssdataMMM.LLL.Z	sssdataMMM.dsc
Raw data	sssrxYYDDD.LLL.Z	sssrxYYDDD.desc
Data summary	sssdataMMM.LLL.sum	sssdata.LLL.sum.dsc
Quaternions and solar panel angles	sssqbodyYYYYMMDDHHMMSS_yyyymmddhhmnss.LLL sssqsolpYYYYMMDDHHMMSS_yyyymmddhhmnss.LLL	
Orbits	cccsssVV.bXXDDD.eYYEEE.sp1.Z cccsssVV.bXXDDD.eYYEEE.dgs.sp3.Z	cccsssVV.sp1.dsc cccsssVV.sp3.dsc
Global sinex solutions	cccWWuVV.snx.Z	cccWWuVV.snx.dsc
Time series of sinex solutions	cccYYDDDtuVV.snx.Z	ccctuVV.snx.dsc cccYYDDDtuVV.sum
Station coordinates differences time series	cccWWtuVV.stcd.aaaa.Z	cccWWtuVV.stcd.dsc
TRF origin time series	cccWWtuVV.geoc.Z	cccWWtuVV.geoc.dsc
EOP time series	cccWWtuVV.eop.Z	cccWWtuVV.eop.dsc
Iono files	cccsssVV.YYDDD.iono.Z	cccsssVV.iono.dsc

2. Data centers structure

2.1 Information

Information is stored and maintained at the CB ftp site in **ftp://ftp.ids-doris.org/pub/ids/**.
Most of the documents are also available on the IDS website in **https://ids-doris.org/documents/BC/** (content not visible, enter the full path with directory and file name).

The main directories are:

ancillary/	*documents about the DORIS ancillary data*
centers/	*documents for the analysis centers*
combination_center/	*products and reports of the combination center*
combinations/	*working directory of the combination center*
data/	*documents about the DORIS data*
dorismail/	*archive of the mails of DORISmail mailing list*
dorisreport/	*archive of the mails of DORISreport mailing list*
dorisstations/	*archive of the mails of DORISstations mailing list*
events/	*lists of events occurring on the DORIS system*
ids.analysis.forum/	*archive of the mails of ids.analysis.forum mailing list*
plottool_files/	*archive of the database for the plottools*
products/	*format descriptions of the products*
satellites/	*documents and data related to the satellites*
stations/	*documents and data related to the stations*

Material:

/
> DORIS_System_Definition.pdf

describing the DORIS missions, then the DORIS system in details, with its external and internal connections. This document applies to the DORIS system from the DGXX generation.

> DOR-O-T_Webservice_2014.pdf

presentation leaflet of the IDS Webservice DOR-O-T which provides tools to browse time series in an interactive and intuitive way

> WhatIsDORIS.pdf

DORIS for beginners

    ancillary/
        quaternions/
            cryosat2_quaternions_TUdelft_description.pdf

information about: -quaternions for Cryosat-2 -time frames when the nominal attitude law is off for Cryosat-2

            jason1_2_3_quaternion_solar_panel.pdf

descriptions of the quaternion and solar panel files for Jason1&2&3

            sentinel-3_quaternions_ESA_description.pdf

descriptions of the quaternion and solar panel files for Sentinel-3A&B and Sentinel-6A

swot_quaternions_CNES_product_description.pdf
descriptions of the quaternion files for Swot

centers/
blnkform.acn
blankform

ccc.acn
describing the permanent features of center ccc

Template_analysis_summary.xls
template of the analysis summary in excel format

Note11 : The .acn information files concern permanent features of center, while the .dsc information files concern a given set of analyses.

combination_center/

products/

reports/

combinations/

data/
detailed_POD_configuration.pdf (link to detailed_POD_configuration_200801.pdf)
Detailed standards of the CNES/SOD POD configuration for the DORIS satellites

doris10.fmt
DORIS Data Exchange Format Version 1.0 (April 1992)

doris21.fmt
DORIS Data Exchange Format Version 2.1 (January 2002)

doris22.fmt
DORIS Data Exchange Format Version 2.2 (June 2008)

DORIS_models&solutions_v1.0.pdf
Model equations for a complete solution using the DORIS raw phase and pseudo-range measurements

DORIS_RINEX_implementation_in_GINS.v2.0.pdf
Doppler observation equation in the GINS software

DORIS_RINEX_subroutines_from_GINS.tar
Routines to read DORIS/RINEX files (courtesy by Jean-michel Lemoine, CNES)

IntroductionToDORISRINEX.pdf
A quick description of the DORIS/RINEX format

POD_configuration_GDRD.pdf
Summarize of the GDR-D configuration applied by CNES/SOD POD (2012)

POD_configuration_GDRE.pdf
Summarize of the GDR-E (also named POE-E) configuration applied by CNES/SOD POD (2015)

POD_configuration_Jason_Envisat_GDRB_GDRC.pdf
Summarize of the GDR-B and GDR-C configurations applied to Jason and Envisat by CNES/SOD POD (March 2009)

POD_configuration_POEF.pdf
Summarize of the POE-F configuration applied by CNES/SOD POD (2018)

RecommendationsAboutDORISRinexDataProcessing_20150315.pdf
Recommendations from the Analysis Coordination about RINEX/DORIS data processing

README.txt
Quick content description of the folder

RINEX_DORIS.pdf (link to SALP-SP-M-EA-15578-CN_Ed1_Rev1.pdf)
DORIS RINEX : format description

SOD_processing.pdf
Description of the CNES/SOD preprocessing for the DORIS data export formats (June 2002)

archives/
Archives of files no longer applied

for_tests_of_RINEX_DORIS_format/
Simulated Jason2 data file in RINEX DORIS format provided by CNES for tests.

RINEX_DORIS_JASON2_for_test_20010821.txt
The current file is a corrected version of the file put online on 02/06/2008 and which was then replaced on 23/06/2008.

for_tests_RINEX_PANDOR_time_tagging/
Contains seven Jason2 data file in RINEX DORIS format provided by CNES for tests of PANDOR time_tagging.

dorismail/
dorismail.NNNN
DORISmail #NNNN in text format **(automatically updated only on the ftp site)**

dorismail.index
List of the mails **(automatically updated only on the ftp site)**

dorisreport/
dorisreport.NNNN
DORISreport #NNNN in text format **(automatically updated only on the ftp site)**

dorisreport.index
List of the mails **(automatically updated only on the ftp site)**

dorisstations/

dorisstations.NNNN

DORISstations #NNNN in text format **(automatically updated only on the ftp site)**

dorisstations.index

List of the mails **(automatically updated only on the ftp site)**

events/

README.txt

Quick content description of the folder

[files relative to the main events that occurred on the DORIS space segment and ground segment]

DataEvents.txt

Events impacting data (not delivered data, data redelivery, change in POE data processing, change in acquisition mode) **(automatically updated only on the ftp site)**

DORIS_system_events.txt

Events concerning the System: onboard (satellites, DORIS instruments, Diode navigator software), on the ground (Satellite Control Center, DORIS control and data processing center, acquisition station) **(automatically updated only on the ftp site)**

Earthquakes.txt

Earthquakes with magnitude larger than 6 in the vicinity of DORIS sites (less than 500 km) - based on USGS Earthquake notifications **(automatically updated only on the ftp site)**

StationEventsHistory.txt

Events concerning the beacon network (new site, new installation, change of beacon equipment, data gap, invalid data) **(automatically updated only on the ftp site)**

[other files]

DiscontinuitiesITRF2008.txt

list of discontinuities (position/velocity) of the ITRF2008 solution

EvolutionOfConstellation.txt

evolution of the DORIS constellation (start, end of mission; number of satellites in operation)

GeodeticNetworks_Earthquakes_m6d500.txt

Earthquakes with magnitude larger than 6 in the vicinity of DORIS, GNSS, SLR and VLBI sites (less than 500 km) since 1993/01/01 based on USGS Earthquakes notifications and the list of stations processed by GRGS Analysis Centers (i.e. limited number of GNSS sites).

fields: date / time / magnitude / 4-letter code / site / distance (km) / USGS index (N=New) / technics (D = DORIS; L = SLR; G= GNSS; V = VLBI)

backup/

Archives of files no longer applied

ids.analysis.forum/

Archive of the mails of ids.analysis.forum mailing list (no longer active) in text format + list of the mails in the file ids.analysis.forum.index

plottool_files/

bdd.tar
Archive of the database for the plottools

products/
CB_STCD_format_v1.1.pdf
PDF of the description of the STCD format

eop.fmt
Description of the eop format

geoc.fmt
Description of the geoc format

iono.fmt
Description of the iono format

snx.fmt
Description of the snx format

sp1.fmt
Description of the sp1 format

sp3.fmt
Description of the sp3 format

stcd.fmt
Description of the stcd format

SP1description/
contains NOAA reference files describing sp1 format

NOAA-TR-NOS113NGS46(extract)-Sp1Format.pdf
NOAA-TR-NOS113NGS46-OrbitsFormats.pdf

satellites/
[documents]
CryoSat-2_CharacteristicsForDORIScalibrationPODprocessing.pdf
Characteristics for DORIS calibration and POD processing, applicable to the DORIS Cryosat-2 project.

CryoSat-2_Precise_Orbit_Context.pdf
Preliminary set of information to be used for the definition of a test orbit for DORIS instrument onboard Cryosat-2.

DORIS_instrument_modelling_1G_2G.pdf
Modelling parameters for DORIS instruments (for all generation beacons + first and second generation onboard instruments) used for DORIS measurements ground processing.

DORIS_instrument_modelling_2GM.pdf
Modelling parameters for DORIS 2GM used for DORIS measurements ground processing, applicable to the DORIS Jason-1 and Spot-5 projects.

DORISSatelliteModels.pdf
DORIS satellites models implemented in POE processing by the CNES SOD.

DORIS_USO_Sensitivity_To_Radiations.pdf
Information about DORIS Ultra-Stable Oscillators (USO) and their sensitivity to radiations.

HY2_InputDataForPOD.pdf
Input data for HY-2A precise orbit determination

HY2C_InputDataForPOD.pdf
Input data for HY-2C precise orbit determination

HY2D_InputDataForPOD.pdf
Input data for HY-2D precise orbit determination

Ja2_sat_geometry.pdf
Plan of the Jason-2 satellite

Jason-3_CharacteristicsForPODprocessing.pdf
Jason-3 characteristics for POD processing

Saral_CharacteristicsForDORISCalibrationPlanAndPODProcessing.pdf
Description of the Saral satellite characteristics for DORIS calibration plan and POD processing

Sentinel6A_PODcontext.pdf
Input data for Sentinel-6A precise orbit determination

Swot_CharacteristicsForPODprocessing.pdf
Swot characteristics for POD processing

SwotAndSentinel6AttitudeLaws.pdf
Description of the theoretical attitude laws for the satellites Sentinel-6 and Swot

[files of data]
MassCoGInitialValues.txt
IDS recommended initial values of mass and center of gravity coordinates in satellite reference frame

man.readme
Description of the maneuver files format.

mass.readme
Description of the satellites mass files format.

*sss*att.txt
attitude for satellite sss **(automatically updated only on the ftp site)**

*sss*mass.txt
center of mass for satellite sss **(automatically updated only on the ftp site)**

*sss*man.txt
maneuvers for satellite sss **(automatically updated only on the ftp site)**

[directories]
archive/
*for earlier versions of documents and (no longer used) calendar of arcs/cycles and maneuvers,
(ssscalend.rtf, for satellite sss)*

attitude-archive/

for earlier versions of sssatt.txt (sssatt.yymmdd)

CORRECTIVE_MODEL_JASON1/

This directory provides:
- the corrective model of DORIS/Jason USO frequency
- the technical note describing the model, how to implement it in a UNIX environment, and how to use it.

ephemeris/

SP1 files of orbit ephemeris provided by LCA Analysis Center for Envisat, Jason-1, Spot-2, Spot-3, Spot-4, Spot-5, Topex from the start of the missions until the end of April 2008

maneuver-archive/

for earlier versions of sssman.txt (sssman.yymmdd)

mass-archive/

for earlier versions of sssmass.txt (sssmass.yymmdd)

statpoe/

statpoe_global_*yyyy*.pdf

RMS of POE residuals of the whole network for each satellite for year yyyy

statpoe_sat_*ssssss_yyyy*.pdf

RMS of POE residuals of each station for one satellite ssssss for year yyyy

VTS-projects/

This directory provides predefined scenarios for the DORIS missions to be used with the software VTS to animate the satellites in 2D or 3D environments

stations/

[documents]

3rdGenerationFrequencyShifts.pdf

frequency shifts of the 3rd beacons

AboutStationEquipmentAndFrequency.pdf

DORIS station equipment / impact on the frequency

antennas.pdf

ground antennas geometrical characteristics

DORIS_beacon_RF_characteristics.pdf

Definition of the radio-frequency characteristics of a DORIS beacon

doris_phase_law_antex_readme.txt

Description of the phase law antex files

DORIS_Site_Standard_Configurations.pdf

Description of the standard configurations compliant with the DORIS system requirements applicable to the management of the DORIS station network

DORIS_System_Ground_Segment_Models.pdf

Modelling parameters for DORIS ground equipments (for all generation beacons) used for DORIS measurements ground processing

Interface_Specification_Between_Beacons_And_Onboard_Instrument.pdf
Definition of the interface specifications between the DORIS network beacons and the onboard receiver.

Interface_Specification_Between_Beacons_And_Onboard_Instrument_extract.pdf
Extract of the document ""Interface Specification Between the DORIS Network beacons and the onboard instrument".

System_Requirements_For_Management_Of_The_DORIS_Station_Network.pdf
Description of the DORIS system requirements applicable to the management of the DORIS station network

jason-visibility.jpg
Visibility circles for the Jasons satellites

spot4-visibility.jpg
Visibility circles for the Spot-4 satellite

[files of data]
DORIS_ext_ties.txt
DORIS tie vectors between DORIS and others IERS techniques, current file

DORIS_int_ties.txt
DORIS internal ties - vectors between different antennas on the same site, current file

doris_phase_law_antex_alcatel.txt
Latest version of the phase law for Alcatel antennas

doris_phase_law_antex_alcatel13.txt
Phase law for Alcatel antennas based on the characterization performed in 2013

doris_phase_law_antex_alcatel17.txt
Phase law for Alcatel antennas based on the characterization performed in 2017

doris_phase_law_antex_starec.txt
Latest version of the phase law for Starec antennas

doris_phase_law_antex_starec13.txt
Phase law for Starec antennas based on the characterization performed in 2017

ids.snx
Historical Sinex master file (station IDs, antenna type, eccentricity)

itrf2000_doris.snx
ITRF2000 DORIS station positions at epoch 1997.0 and velocities

ITRF2008-TRF.SNX.gz
ITRF2008 station positions at epoch 2005.0 and velocities

[directories]
archives/
archive of previous document versions

DORIS_int_ties_PreviousVersions/
DORIS_int_ties_yyymmdd
DORIS internal ties of date yyymmdd

events/

station_frequency_shift.txt

Latest version of the list of the stations using the shifted mode and the corresponding K factor

archive/

Archive of the successive versions of the file station_frequency_shift.txt

IDS_recommendations_for_ITRF2004/

files recoms for ITRF2004, period to delete, station breaks..

network/

colocation_GNSS_Nov2010.pdf (A EFFACER ?; elle est sur le site)

DORIS and GNSS colocations

colocation_IERS_Nov2013.pdf (A EFFACER ?; on a plus récent sur le site)

DORIS stations co-located with other techniques (VLBI, SLR, GNSS)

coloc_Earthquake_Nov2010.pdf (A EFFACER ? elle est sur le site)

DORIS Network and Earthquakes since 1900 (USGC Database)

coloc_IERS_Nov2010.pdf (A EFFACER ?; on a plus récent sur le site)

DORIS stations co-located with other techniques (VLBI, SLR, GNSS)

coloc_Tide_Gauge_Nov2010.pdf (A EFFACER ?; elle est sur le site)

DORIS and tide-gauges colocations

OLD_files/

Archives of files no longer updated

sitelogs/

Collection of DORIS site description forms

SSSS.LOG

DORIS site description forms for the station SSSS

archive/

Archive of the previous versions

statpoe/

statpoe_sta_*SSSS_yyyy*.pdf

RMS of POE residuals of one station SSSS for each satellite for year yyyy

Note 12: The cb_mirror/ directory at CDDIS and IGN results from the mirroring by the DC of the [CB ftp site](#)

2.2 Data

Data are mainly stored and maintained at the Data Centers
  * CDDIS: ftp site
  * IGN: ftp sites at doris.ign.fr or at doris.ensg.eu

Note: some other data files (mass, maneuvers, attitude…) are stored at the CB ftp site (see 2.1)

The main directories are:

ancillary/ *DORIS ancillary data (e.g. quaternions)*
campdata/ *DORIS campaign data*
data/ *DORIS data*
general *General information about DORIS data*

Material:

/pub/doris/
  ancillary/
    quaternions/
(document)
      README_QUATERNIONS.txt
Quick content description of the folder

(directories)
      sss/
for the satellite sss = ja1, ja2, ja3
        sssqbodyYYYYMMDDHHMMSS_yyyymmddhhmnss.LLL
body quaternions data file per 24h

        sssqsolpYYYYMMDDHHMMSS_yyyymmddhhmnss.LLL
if any, solar panel angle file per 24h

  campdata/
(empty directory)

  data/
(file)
    doris.files
DORIS files by satellite for each year

(directories)
    campaign/
DORIS observations for dedicated campaigns

      lambert2002/
Lambert campaign 2002 for Geoscience Australia (readme file + data files)

      sorsdal2001/
Sorsdal campaign 2001-2002 for Geoscience Australia (readme file + data files)

sorsdal2003/

Sorsdal campaign 2003-2004 for Geoscience Australia (readme file + data files)

sss/

for each satellites sss

(document)

README_*SATELLITE*_data.txt

information about the DORIS data for the satellite SATELLITE

(files)

sss.files

DORIS data holdings for satellite sss

*sss*data*MMM.LLL*.Z

data file per arc/cycle, in preprocessed format (doris1.0, doris2.1 or doris2.2)

(directories)

saacorrection/

SAA-corrected data for the satellite sss = ja1, sp5

*sss*data*MMM*.saa.Z

data file per arc/cycle, in preprocessed format (doris1.0, doris2.1 or doris2.2)

YYYY/

Data for year YYYY (from 2008 for satellites with the DGXX generation DORIS receiver)

*sss*rx*YYDDD.LLL*.Z

raw daily data file in RINEX/DORIS format

RINEX_PANDOR/

Archive of raw daily data file in RINEX/DORIS format with PANDOR time tagging (no updates after January 2017), organized by year YYYY

sum/

*sss*data*MMM.LLL*.sum

summary file per arc/cycle MMM of preprocessed observations per station

general/

(files)

doris.files

DORIS files by satellite for each year

doris.*YYYY*

DORIS data holdings for year YYYY

sss.files

DORIS data holdings for satellite sss

2.3 Products

Products are stored and maintained at the Data Centers
* CDDIS: ftp site
* IGN: ftp sites at doris.ign.fr or at doris.ensg.eu

The main directories are:

products /		*IDS product archive*
	2002campaign/	*archive for 2002 IDS analysis campaign*
	2003campaign/	*archive for 2003 IDS analysis campaign*
	2010campaign/	*archive for 2010 IDS analysis campaign*
	dpod/	*DPOD solutions (DORIS extension of the ITRF for Precise Orbit Determination)*
	eop/	*Earth Orientation Parameters*
	geoc/	*geocenter motion*
	iono/	*ionospheric corrections*
	orbits/	*orbit ephemerides*
	sinex_global/	*solutions of station coordinates and velocities*
	sinex_series/	*series of station coordinate solutions*
	stcd/	*time series of station coordinates differences*

Material:

/pub/doris/products/

2002campaign/
(products stored as received)

2003campaign/
(products stored per analysis center)

2010campaign/
(products stored per analysis center)

dpod/
(document)
dpod.readme
description of the folder

(product files)
dpod2014_current.snx.Z
latest version of the DPOD2014 solution in sinex format

dpod2014_current.txt.Z
latest version of the DPOD2014 solution in text format

(directories)

dpod2000/
subdirectory containing all the DPOD2000 solutions

dpod2005/
subdirectory containing all the DPOD2005 solutions

dpod2008/
subdirectory containing all the DPOD2008 solutions

dpod2014/
subdirectory containing all the DPOD2014 solutions

eop/
(documents)

ccc.eop.readme
ccc description of their series of products

cccWWtuVV.eop.dsc
analysis description

(product files)

cccWWtuVV.eop.Z
time series

Note: production center *ccc* provides two files per solution (description and time series)

geoc/
(documents)

ccc.geoc.readme
ccc description of their series of products

cccWWtuVV.geoc.dsc
analysis description

(product files)

cccWWtuVV.geoc.Z
time series

Note: production center *ccc* provides two files per solution (description and time series)

iono/
(directories)

ccc/
directory for the product of analysis center ccc

(document)

ccc.iono.readme
ccc description of their series of products

(subdirectories)

        sss/

subdirectory for the satellite sss

(document)

        cccsssVV.iono.dsc

analysis description

(product files)

        cccsssVV.YYDDD.iono.Z

results for day DDD of year YY

orbits/

        ccc/

directory for the product of analysis center ccc

(document)

        ccc.sp1.readme

ccc description of their series of sp1 products

        ccc.sp3.readme

ccc description of their series of sp3 products

        sss/

subdirectory for the satellite sss

(documents)

        cccsssVV.sp1.dsc

analysis description

        cccsssVV.sp3.dsc

analysis description

(product files)

        cccsssVV.b*XXDDD*.e*YYEEE*.sp1.*LLL*.Z

sp1 file

        cccsssVV.b*XXDDD*.e*YYEEE*.*dgs*.sp3.*LLL*.Z

sp3 file

sinex_global/

        ccc/

directory for the product of analysis center ccc

(document)

        ccc.snx_global.readme

ccc description of their series of products

(documents)

        cccWWuVV.snx.dsc

analysis description

(product files)
                    cccWWuVV.snx.Z
sinex file

sinex_series/
(document)
                    ccc.snx_series.readme
ccc description of their series of products

(directories)
                    ccctu/
directory for the product of analysis center ccc for series of type tu

(documents)
                    ccctuVV.snx.dsc
analysis description

                    cccYYDDDtuVV.sum
summary file for solution cccYYDDDtuVV.snx.Z

(product files)
                    cccYYDDDtuVV.snx.Z
weekly solution starting with YYDDD

stcd/
(document)
                    ccc.stcd.readme
ccc description of their series of products

(directories)
                    cccWWtuVV/
directory for the product of analysis center ccc for series WW of type tu and version VV

(documents)
                    cccWWtuVV.stcd.dsc
analysis description

(product files)
                    cccYYDDDtuVV.stcd.*aaaa*.Z
time series for station aaaa

                    cccYYDDDtuVV.stcd.*aaaa*.gif
plot of station aaaa coordinates

3. Formats

3.1 Data

For DORIS data format description, see https://ids-doris.org/analysis-coordination/documents-related-to-data-analysis.html#observations

3.2 Products

3.2.1 Orbits

The standard format is SP1 or SP3.
See https://ids-doris.org/analysis-coordination/documents-related-to-data-analysis.html#products

3.2.2 Global Sinex solutions, DPOD solutions, Time series of Sinex solutions

The Sinex format is known and accessible.
See https://ids-doris.org/analysis-coordination/documents-related-to-data-analysis.html#products

3.2.3 Time series of specific products

For description and data access to:
-Station coordinates,
-Coordinates of the TRF origin (geocenter),
-Earth orientation parameters (EOP),
see https://ids-doris.org/analysis-coordination/documents-related-to-data-analysis.html#products

3.2.4 Products documentation files

As mentioned in section 1.3, the description of the analysis strategy must be provided with every set of products under a normalized form. Analysts are invited to use the proposed template. (See Analysis summary blank form at https://ids-doris.org/analysis-coordination/documents-related-to-data-analysis.html#analysis_centers)

Change history

Date	Modifications
2004-02-19	First version
2004-07-06	updates
2007-09-19	updates
2009-02-11	updates
2010-05-10	updates
2016-11-29	updates
2017-11-29	complete review of the document
2018-05-29	added Sentinel-3B
2018-09-11	added document POD_configuration_POEF.pdf
2018-10-02	added documents Jason-3_CharacteristicsForPODprocessing.pdf and HY2_InputDataForPOD.pdf
2018-12-04	added Sinex master file ids.snx
2019-02-01	added link to the second IGN ftp site
2019-04-01	updated directories for SAA-corrected data of Jason1 and SPOT-5
2021-01-12	added HY-2C and Sentinel-6A corrected description of the content of the directory stcd at Data Centers added documents: - jason1_2_3_quaternion_solar_panel.pdf (replacing jason1_2_quaternion_solar_panel.pdf) -sentinel-3_quaternions_ESA_description.pdf - HY2C_InputDataForPOD.pdf
2021-11-03	added HY-2D added documents: - HY2D_InputDataForPOD.pdf - Sentinel6A_PODcontext.pdf
2023-01-03	added SWOT added link to access the documents on the web site + minor updates in 2.1 (information)
2023-08-09	added documents: - SwotAndSentinel6AttitudeLaws.pdf - swot_quaternions_CNES_product_description.pdf added Swot's quaternions and solar panel angles
2023-11-21	added document - Swot_CharacteristicsForPODprocessing.pdf