







Status of the IDS Combination Center activities

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Latest Series Available

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http://doi-doils.org						
AC	Series Nb	Time period	Comments			
ESA	10	1993:003 – 2015:179	2014:166 – 2014:362 missing Not available at IDS Data Centers			
GOP	43 50 51 52	1993:003 - 2017:176 2015:270 - 2018:182 2017:365 - 2018:182 2018:084 - 2018:182	wd50: No more use of CNES preprocessing indicators and downweighting of the observations wd51 = wd50 + cross track in onboard modeling wd52 = wd51 + phase center offset form nominal macromodel			
GRG	40 41	1993:003 – 2017:274 2008:209 – 2018:273	wd41: new DORIS data processing, Jason-2 SAA strategy, new HY- 2A CoM-CoP value, Jason-3 (SAA strategy, since 2016:045) + Sentinel-3A (since 2016:066)			
GSC	28 29 30 31 32	2008:195 - 2016:360 2008:020 - 2017:176 2016:010 - 2017:176 2016:003 - 2018:273 2016:003 - 2018:168	Modeling improvements on Jason-2 solar array (quaternions) wd29 = wd28 with DPOD2014 as apriori wd30 = wd29 + Jason-3 (no special handling for SAA stations) wd31 = wd29 + Jason-3 (special handling for SAA stations) wd32 = wd31 + new version of GEODYN + new Hy2A offset			
IGN	15	1993:003 – 2018:273	Since 2008:188 : without CADB, SANB and KRUB for Jason-2			
INA	10	1992:292 - 2018:294				
IDS	12 13	1993:003 - 2018:091 1993:003 - 2018:273	ESA10 + GOP43 /50 + GRG40/41 + GSC26/28/31 + IGN15 + INA10 wd13 = wd12 - ESA 10 + new preprocessing of the AC solutions			



Mission List as from SINEX files

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DORIS satellites



IDS 13 Combined Solution



2017

2018



Time span: 2016:003-2018:273

IDS 13:

a) 2016:276 – From GOP 43 to GOP 50
b) 2017:001 – From GSC 28 to GSC 29

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- c) 2017:190 From GSC 29 to GSC 31
- d) 2017:281 From GRG 40 to GRG 41
- e) 2018:084 From GOP 50 to GOP 52

Strong variations from GOP with a period of nearly 170-180 days

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2016



IDS 13 Combined Solution

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C :	serie	# days	X pole (mas)			Y pole (mas)			
			trend	mean	std	trend	mean	std	
ор	50	893	0.048	-0.002	0.565	0.030	0.001	0.327	
rg	41	855	0.029	-0.002	0.251	-0.020	0.003	0.235	
SC	31	994	0.063	0.001	0.321	0.000	-0.001	0.306	
in	15	946	0.021	-0.002	0.340	-0.010	0.000	0.378	
a	10	952	0.117	-0.000	0.336	-0.070	0.001	0.397	
op	52	105	1.322	0.000	0.364	-1.070	800.0	0.310	
is	13	998	0.029	0.00.0-	0.208	0.020	0.000	0.206	
	op rg sc n a op	C serie op 50 rg 41 sc 31 n 15 a 10 op 52 s 13	C serie # days op 50 893 rg 41 855 sc 31 994 n 15 946 a 10 952 op 52 105 s 13 998	C serie # days trend op 50 893 0.048 rg 41 855 0.029 sc 31 994 0.063 n 15 946 0.021 a 10 952 0.117 op 52 105 1.322 s 13 998 0.029	C serie # days X pole (mas) trend op 50 893 0.048 -0.002 rg 41 855 0.029 -0.002 sc 31 994 0.063 0.001 n 15 946 0.021 -0.002 a 10 952 0.117 -0.000 op 52 105 1.322 0.000 s 13 998 0.029 -0.000	C serie # days X pole (mas) trend mean std op 50 893 0.048 -0.002 0.565 rg 41 855 0.029 -0.002 0.251 sc 31 994 0.063 0.001 0.321 n 15 946 0.021 -0.002 0.340 a 10 952 0.117 -0.000 0.336 op 52 105 1.322 0.000 0.364 s 13 998 0.029 -0.000 0.208	C serie # days X pole (mas) trend mean std trend op 50 893 0.048 -0.002 0.565 0.030 rg 41 855 0.029 -0.002 0.251 -0.020 sc 31 994 0.063 0.001 0.321 0.000 n 15 946 0.021 -0.002 0.340 -0.010 a 10 952 0.117 -0.000 0.336 -0.070 op 52 105 1.322 0.000 0.208 0.020	C serie # days X pole (mas) Y pole (mas) trend mean std trend mean op 50 893 0.048 -0.002 0.565 0.030 0.001 rg 41 855 0.029 -0.002 0.251 -0.020 0.003 sc 31 994 0.063 0.001 0.321 0.000 -0.001 n 15 946 0.021 -0.002 0.340 -0.010 0.000 a 10 952 0.117 -0.000 0.336 -0.070 0.001 op 52 105 1.322 0.000 0.364 -1.070 0.008 s 13 998 0.029 -0.000 0.208 0.020 0.000	

Legend: gopwd50 ● grgwd41 ● gscwd31 ● ignwd15 ● inawd10 gopwd52 ★ idswd13

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Time span: 2016:003-2018:273





GOP 52 vs 51



GOP 51: GOP 50 + cross track in onboard modeling GOP 52: GOP 51 + phase center offset from nominal micromodel

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[mm]	Scale	Scale Tx		Tz	WRMS		
GOP 50	13.9 ± 1.0	0.7 ± 3.5	-0.5 ± 2.8	-28.8 ± 20.8	3 13.4 ± 1.8		
GOP 51	13.7 ± 0.9	0.7 ± 3.7	-0.3 ± 2.7	-22.1 ± 20.6	6 13.0 ± 1.7		
GOP 52	8.7 ± 0.9	0.7 ± 3.6	-0.3 ± 2.8	-17.6 ± 22.8	3 13.2 ± 1.8		
AC serie # days		X pol	e (mas) san std	Y pole (mas) trend mean std			
gop 5 gop 5 gop 5	50 107 51 109 52 98	2.532 0.0 1.118 0.0 1.449 -0.0	003 0.415 000 0.371 000 0.362	-1.120 0 -1.040 0 -0.990 0	.008 0.331 .007 0.314 .008 0.311		

Scale decrease of nearly 5.2 mm over the 14 weeks. Better centering of Tz (+11.2 mm). 10% reduction of EOP differences wrt IERS C04.

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GSC 32 vs 31



GSC 32: GSC 31

+ new version of GEODYN+ new Hy2A offset

[mm] Scale		Тх		Ту	Tz		WRMS		
GSC 31 6.3 ± 2.7		-2.0 ± 2.6 -8.2 ± 3.3		-8.2 ± 3.3	-0.3 ± 10.5		14.0 ± 1.4		
GSC 32		3.5 ± 2.9	-2.6 :	± 2.9	-9.6 ± 3.6 -1.2 ± 11.6		± 11.6	14.7 ± 1.5	
AC	serie	# days	trend	X pole (r mean	mas) std	trend	Y pole (ma mean	s) std	The second second
gsc gsc	31	720 726	0.012	0.000	0.325	0.020	-0.001	0.303	

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Scale decrease of nearly 2.8mm over the 104 weeks



Conclusions

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- According to the new GOP, GRG and GSC series, we observe a nice reduction of the DORIS scale wrt ITRF2014 due:
 - □ Use of a new HY-2A CoM-CoF vector
 - □ Including Jason-3
 - □ Implementation of SAA special handling
- I kindly ask all the ACs to include and update the DORIS mission list in their weekly SINEX files
 - → easier understanding of the AC solution performance evolution.



New IDS CC Products

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• DORIS SINEX master file

From the SITE/ID, SITE/ATENNA and ANTENNA/ECCENTRICITY blocks of the DPOD2014 SINEX solution file.

Will be updated two times a year.

Available from the IDS Central Bureau ftp site

ftp://ftp.ids-doris.org/pub/ids/stations/ids.snx

EOP Time series: ids18d01.eop (idswd12) & ids18d02.eop (idswd13)
 XPO and YPO time series aligned to ITRF2014.
 Available from the IDS Data Centers.