

Solutions (42,43,52,53), data span : 2005

Description:

solutions 4X – without Jason-1 data,

solutions 5X – with Jason-1,

solutions X2 – 1 along track and 1 cross track harmonics per daily arc

solutions X3 – 1 along track harmonic per daily arc (cross track harmonics not applied et all)

Two pairs of the solutions (42,43 vs. 52,53) are compared to estimate the impact of Jason-1

RMS w.r.t. DPOD 2008

Sol.	North (mm)	East (mm)	Up (mm)
42	14.5	18.9	14.7
43	14.4	18.8	14.7
52	16.7	24.0	17.1
53	16.7	24.4	17.3

Repeatability RMS

Sol.	North (mm)	East (mm)	Up (mm)
42	12.7	18.5	12.4
43	12.5	18.4	12.4
52	13.8	21.2	14.2
53	13.8	21.7	14.6

Repeatability WRMS

Sol.	North (mm)	East (mm)	Up (mm)
42	10.0	12.7	10.6
43	10.1	12.7	10.8
52	10.3	14.2	11.1
53	10.3	14.3	11.1

Helmert parameters w.r.t. DPOD08

Sol.	Tx (mm)		Ty (mm)		Tz (mm)		Scale (mm)	
	Mean	RMS	Mean	RMS	Mean	RMS	Mean	RMS
42	-1.1	4.9	2.0	5.0	-45.7	15.6	14.2	2.2
43	-1.2	5.0	2.1	5.1	-46.0	16.4	14.0	2.2
52	-1.7	5.0	0.9	4.7	-24.2	18.4	15.6	2.2
53	-1.8	4.9	1.0	4.7	-25.5	17.6	15.5	2.4

EOP w.r.t. C04

Sol.	Xp (mas)		Yp (mas)	
	Mean	RMS	Mean	RMS
42	-0.30	1.92	0.27	0.91
43	0.10	0.60	0.33	0.57
52	-0.42	1.58	0.36	0.79
53	0.03	0.64	0.49	0.58

Summary of Jason-1 data impact

- slightly improves stability of Ty, but degrades stability of Tz. Tz offset is reduced.
- degrades the accuracy of the station coordinates estimation (after 7 par. Helmert transformation)
- impact on estimated pole coordinates depends on applied orbit model. When cross track harmonics adjusted, then Jason-1 improves the solution. When cross track harmonics are not adjusted (model better suited for EOP estimation), there is no improvement but minor degradation.