

ITRF2014 Evaluation (GSC)

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2016 IDS AWG Meeting

Delft, The Netherlands

May 25-26, 2016



Station complement SLR+DORIS POD test sets

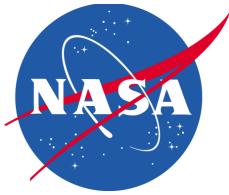


SLR Test	Description / Number stations
slrf2008	SLRF2008 / 169
itrf2014	ITRF2014 (IGN) / 139
dtrf2014	DTRF2014 (DGFI) / 100
jtrf2014	JTRF2014 (JPL) / 71 (weekly time series)

DORIS Test	Description / Number stations
dpod2008	DPOD2008_v15 / 187 (v14 + 9 new sites)
itrf2014	ITRF2014 (IGN) / 160
dtrf2014	DTRF2014 (DGFI) / 153
jtrf2014	JTRF2014 (JPL) / 159 (weekly time series)

* Note. itrf2008: slrf2008+dpod2008

Lemoine et al. ITRF2014 Evaluation, Delft, Netherlands, May 25-26, 2016

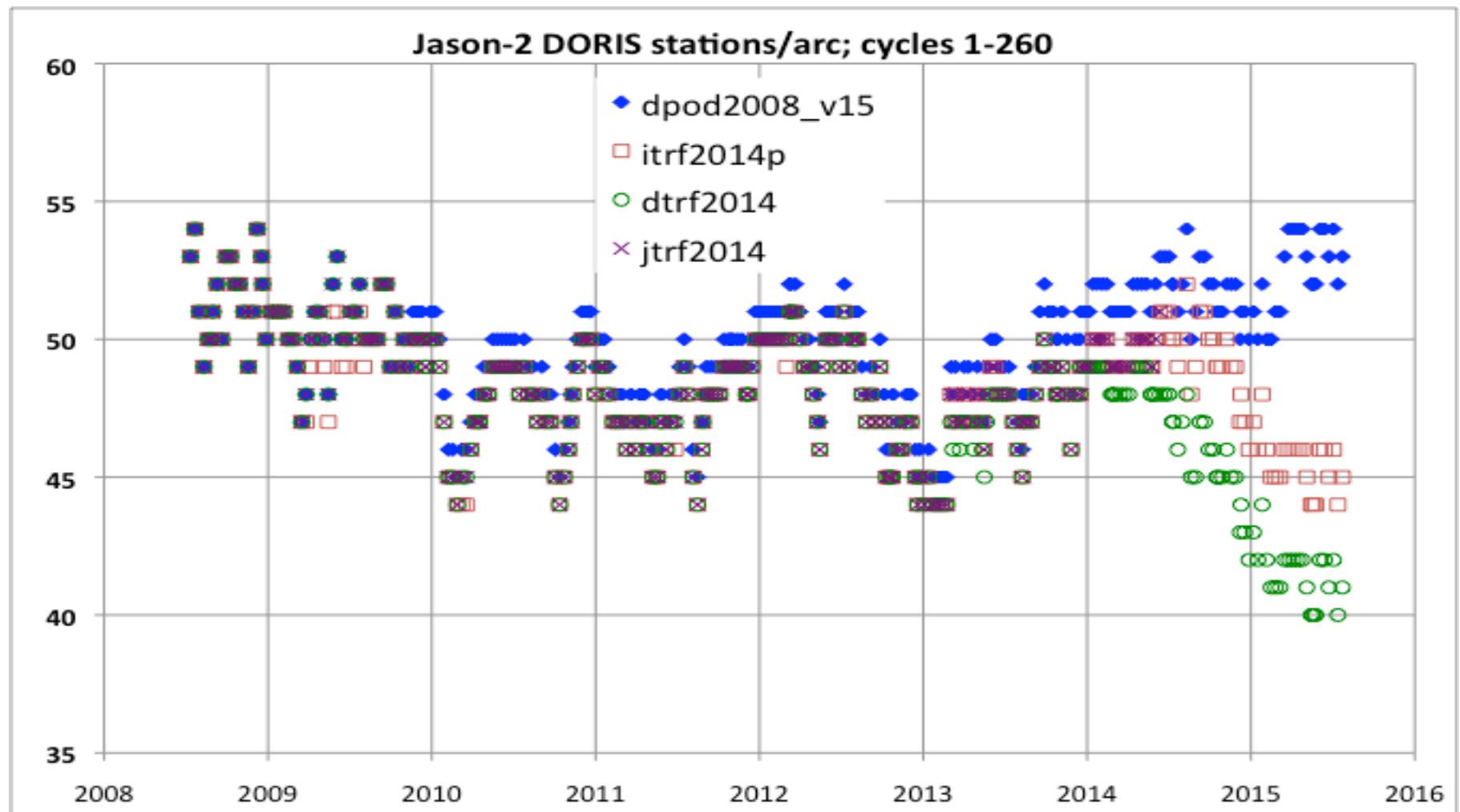


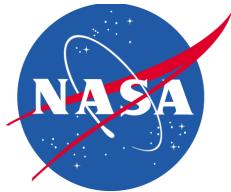
JTRF2014 SLR/DORIS time series

March 24, 2016



The JTRF2014 weekly series from 1979 through 2014, consists of a constant number of 972 station positions of which 71 are SLR and 159 DORIS. A given station may be active or inactive over any one weekly period.





Summary Jason-2 SLR+DORIS POD tests



Satellite	Test	Total stations		Average RMS residuals			RMS orbit differences (mm)		
		DORIS	SLR	DORIS (mm/s)	SLR (cm)	Xover (cm)	radial	cross-trk	along-trk
Jason-2 080712 – 150810	itrf2008	91	39	0.3796	0.869	5.280	---	---	---
	itrf2014	83	45	0.3771	0.813	5.277	1.6	5.7	5.7
	dtrf2014	78	43	0.3775	0.847	5.276	1.8	7.5	6.8

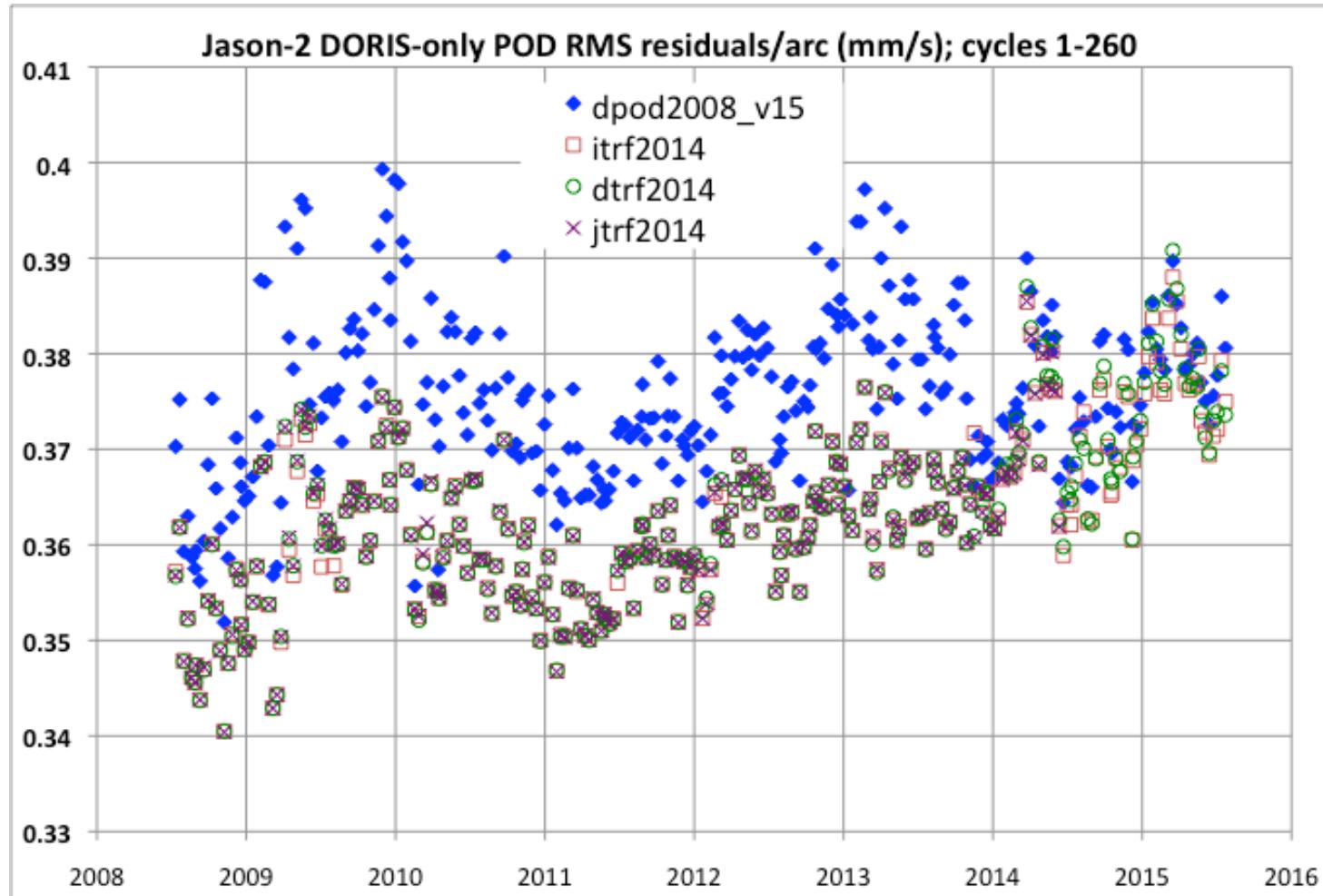


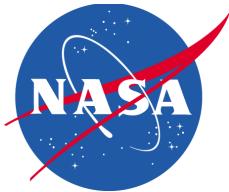
Jason-2 SLR, DORIS residuals using jpl14a orbit

July 2008 – August 2015 (cycles 1-260)

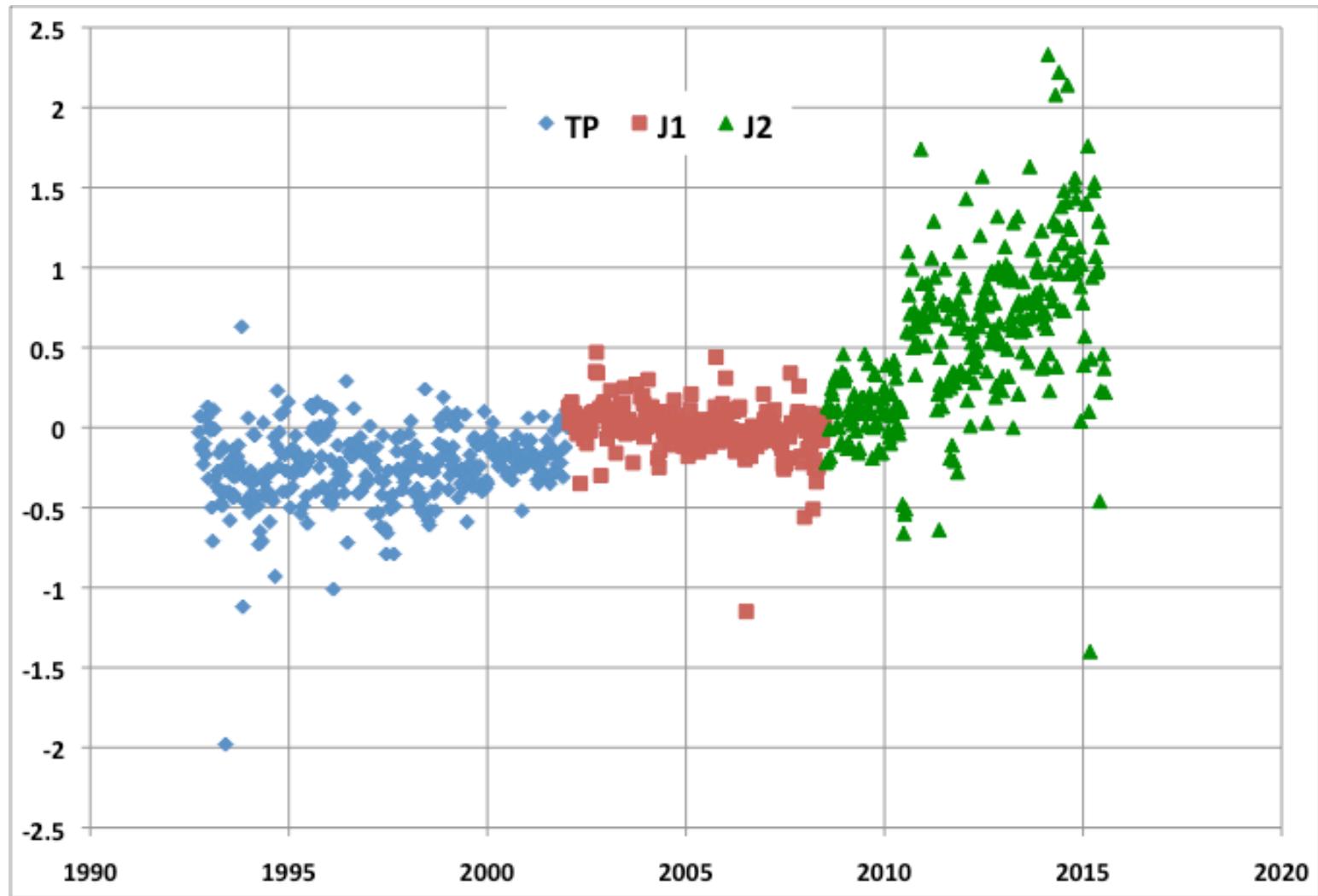


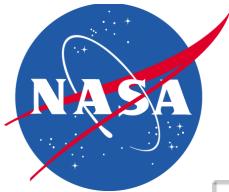
Test	Total DORIS stations	Total SLR stations	DORIS residuals (mm/s)	SLR residuals (cm)
itrf2008	91	39	0.3666	1.057
itrf2014	83	45	0.3639	0.981
dtrf2014	78	43	0.3642	1.020



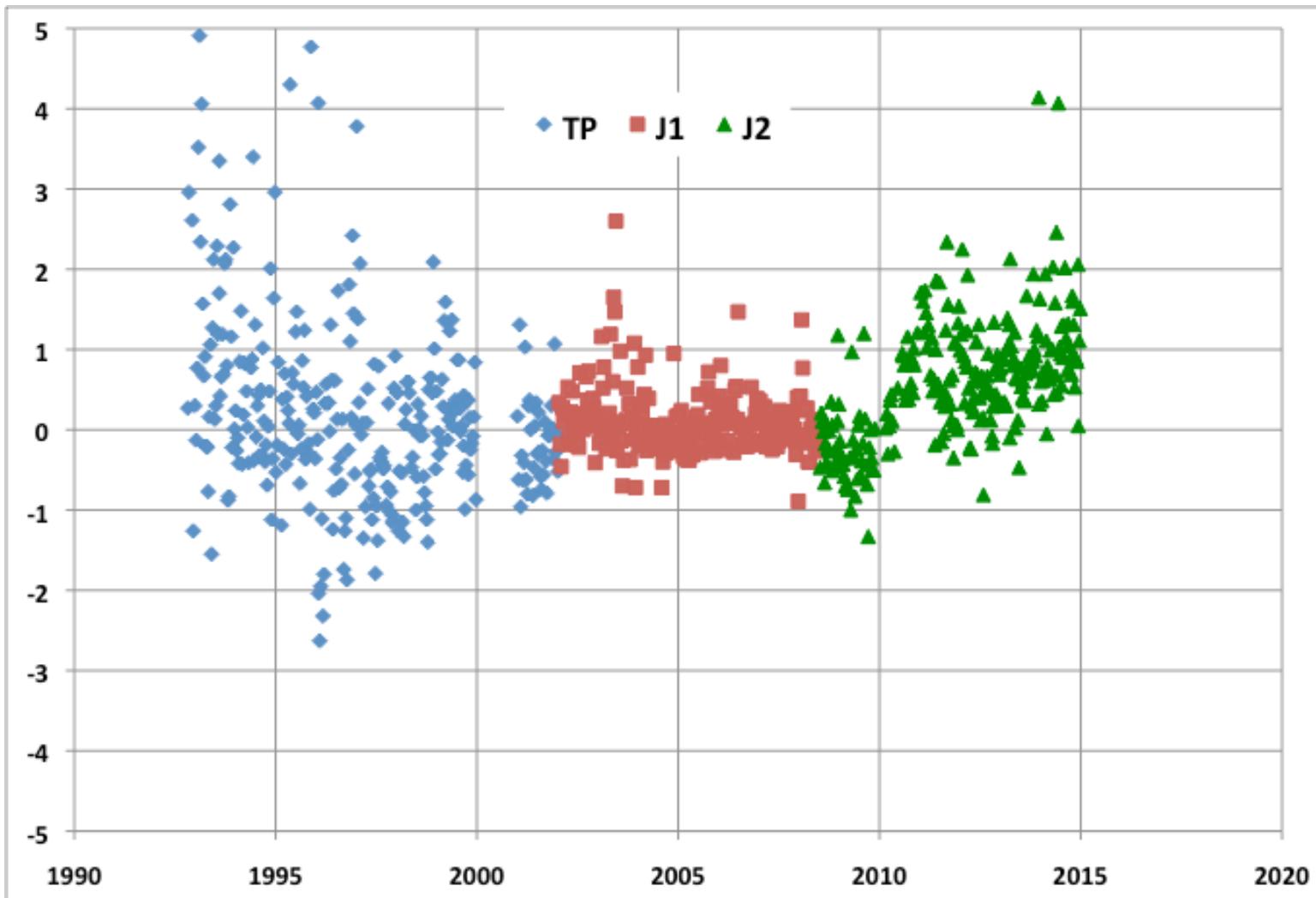


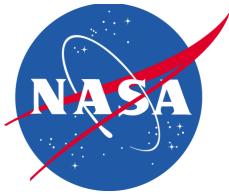
SLR+DORIS POD (itrf2008 – itrf2014)
SLR RMS residual differences (mm)
positive => improvement for itrf2014





SLR+DORIS POD (itrf2008 – jtrf2014)
SLR RMS residual differences (mm)
positive => improvement for jtrf2014 (JPL)

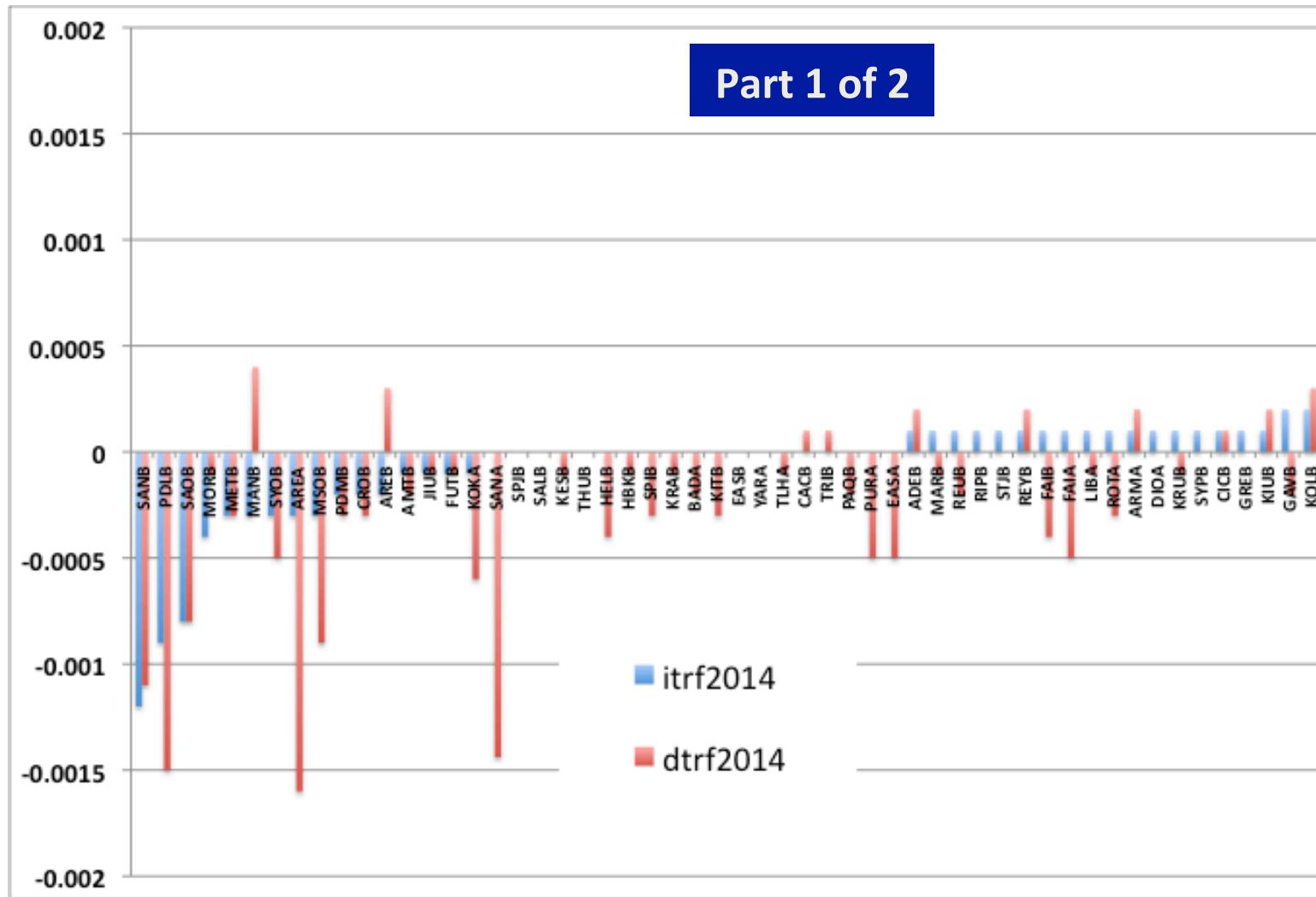


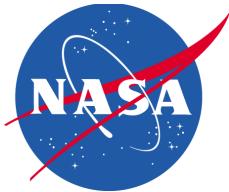


TOPEX/Poseidon POD DORIS dpod2008 - Test

RMS residual differences (mm/s)

positive => improvement for Test

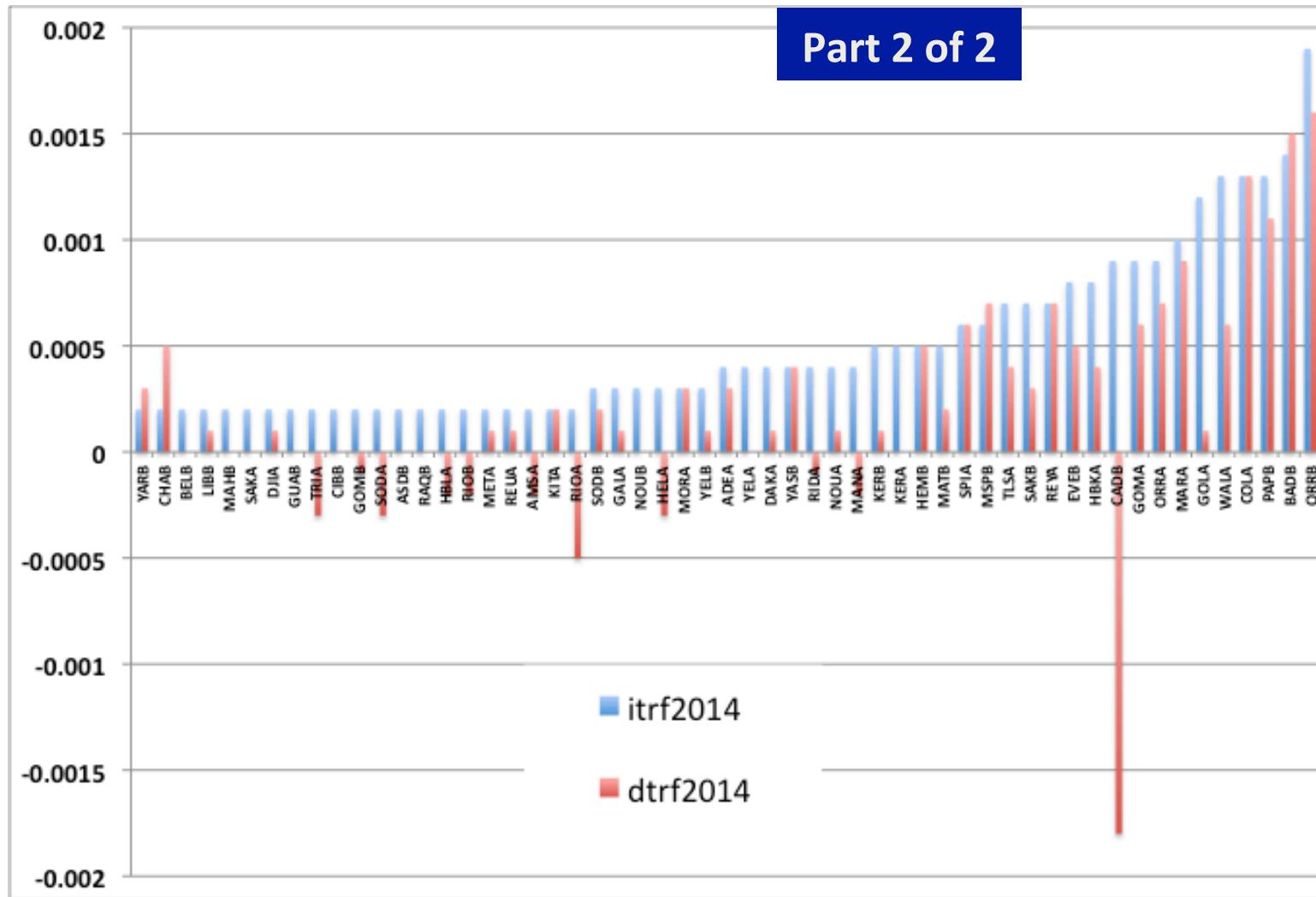


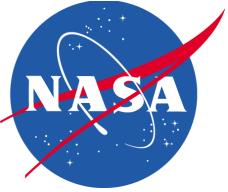


TOPEX/Poseidon POD DORIS dpod2008 - Test

RMS residual differences (mm/s)

positive => improvement for Test

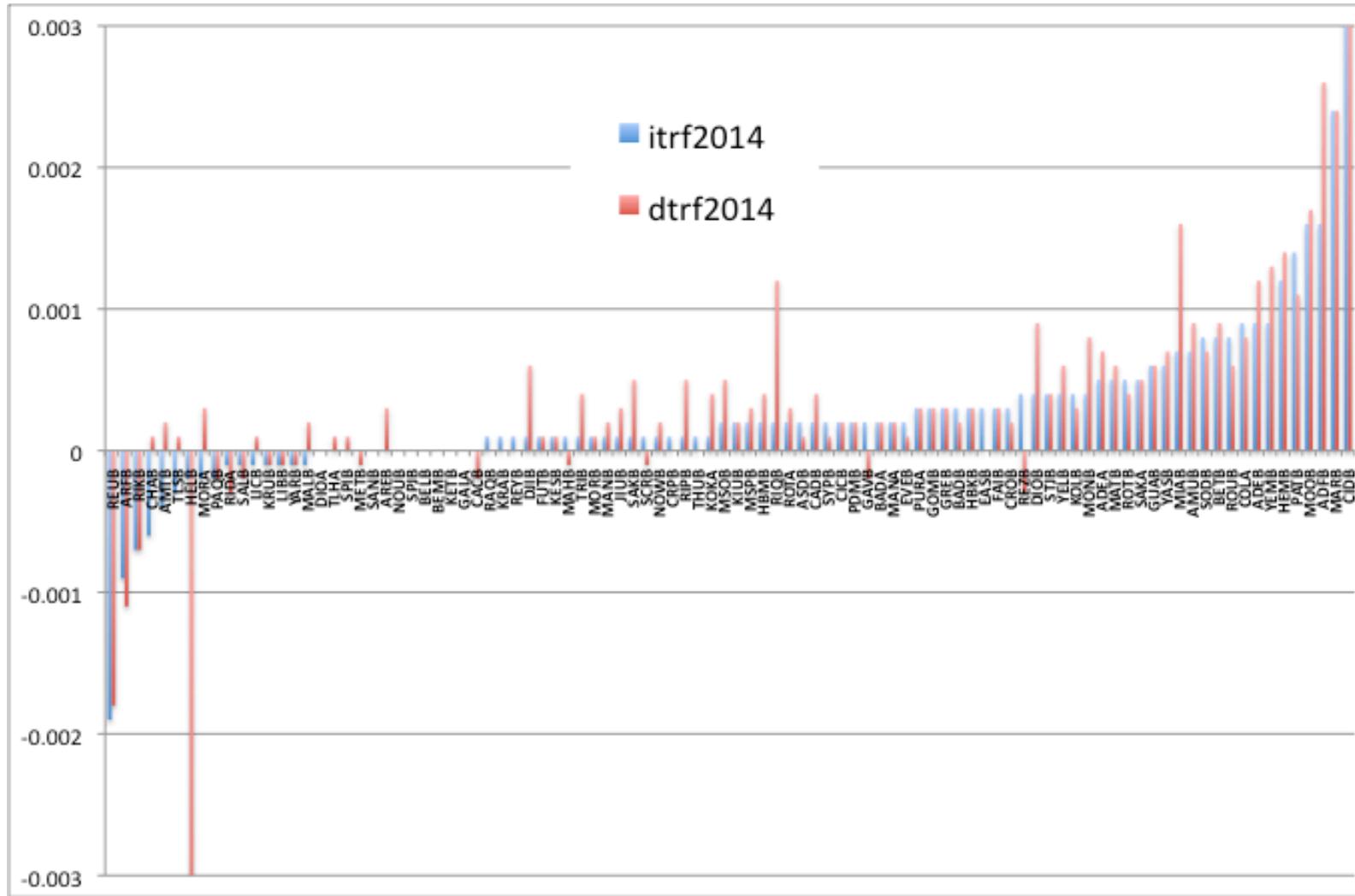




Jason-1 POD DORIS dpod2008 - *Test*

RMS residual differences (mm/s)

positive => improvement for Test

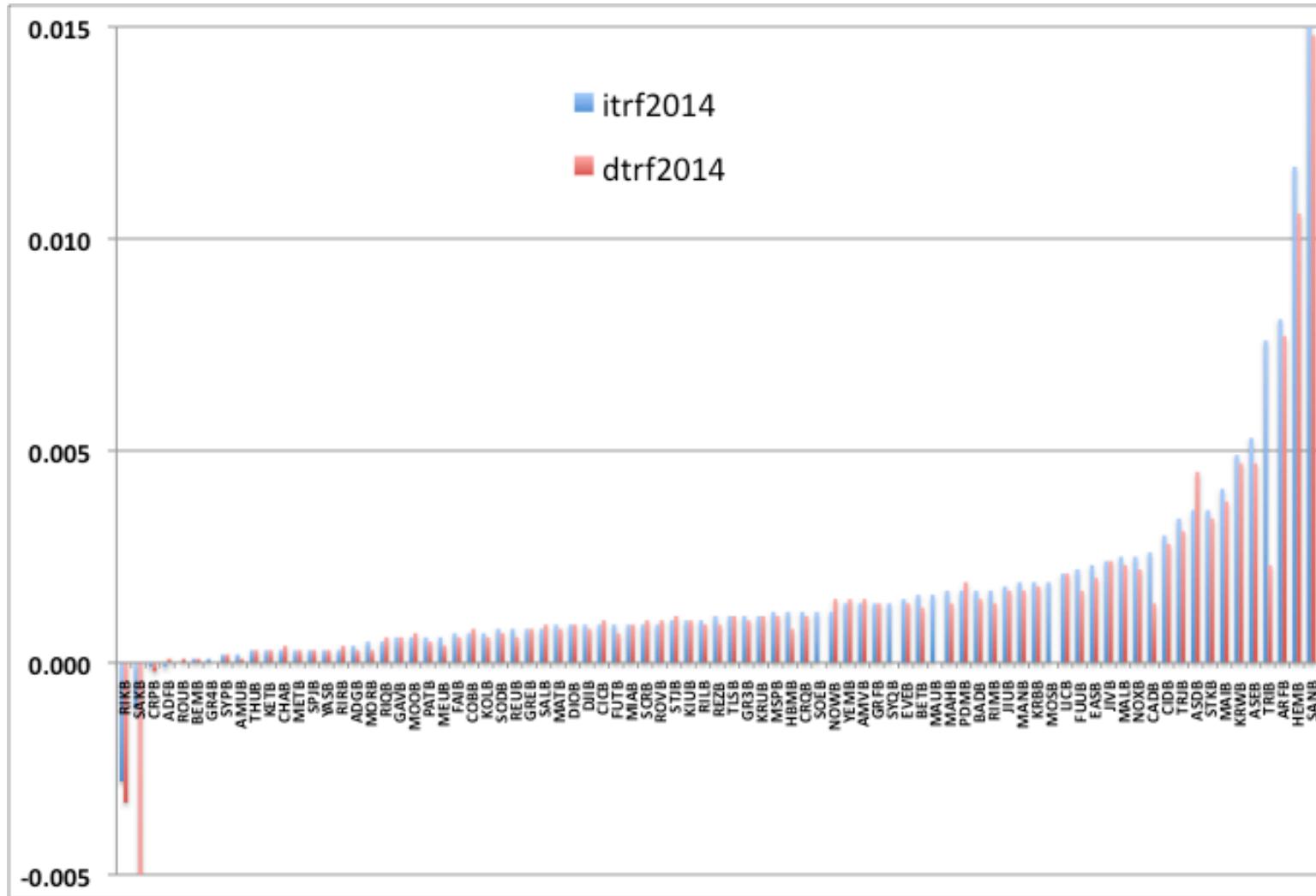


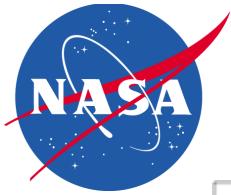


Jason-2 DORIS dpod2008 - *Test*

RMS residual differences using jpl14a orbit (mm/s)

positive => improvement for Test

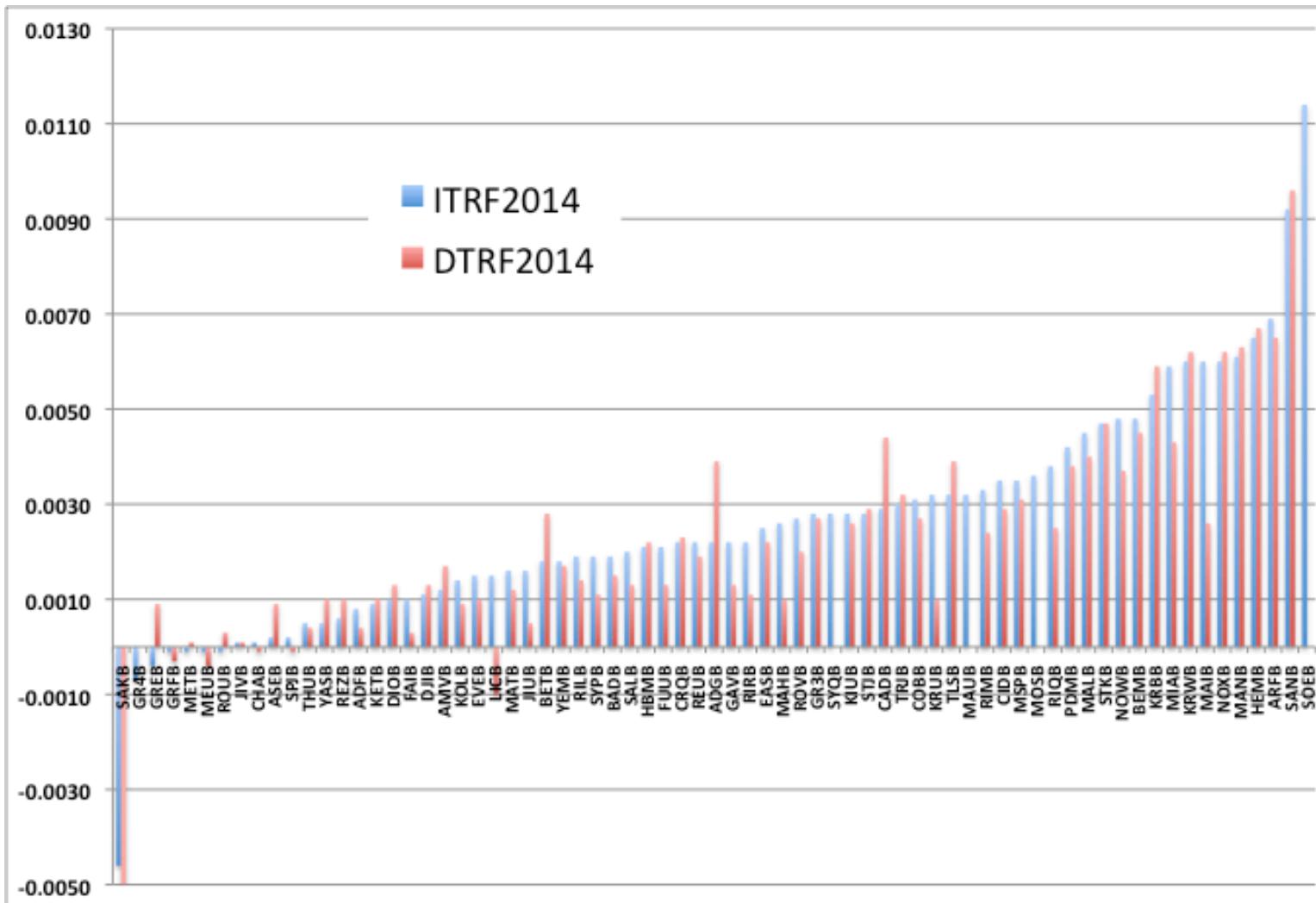


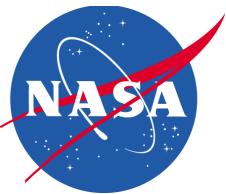


Cryosat-2 POD DORIS dpod2008 - *Test*

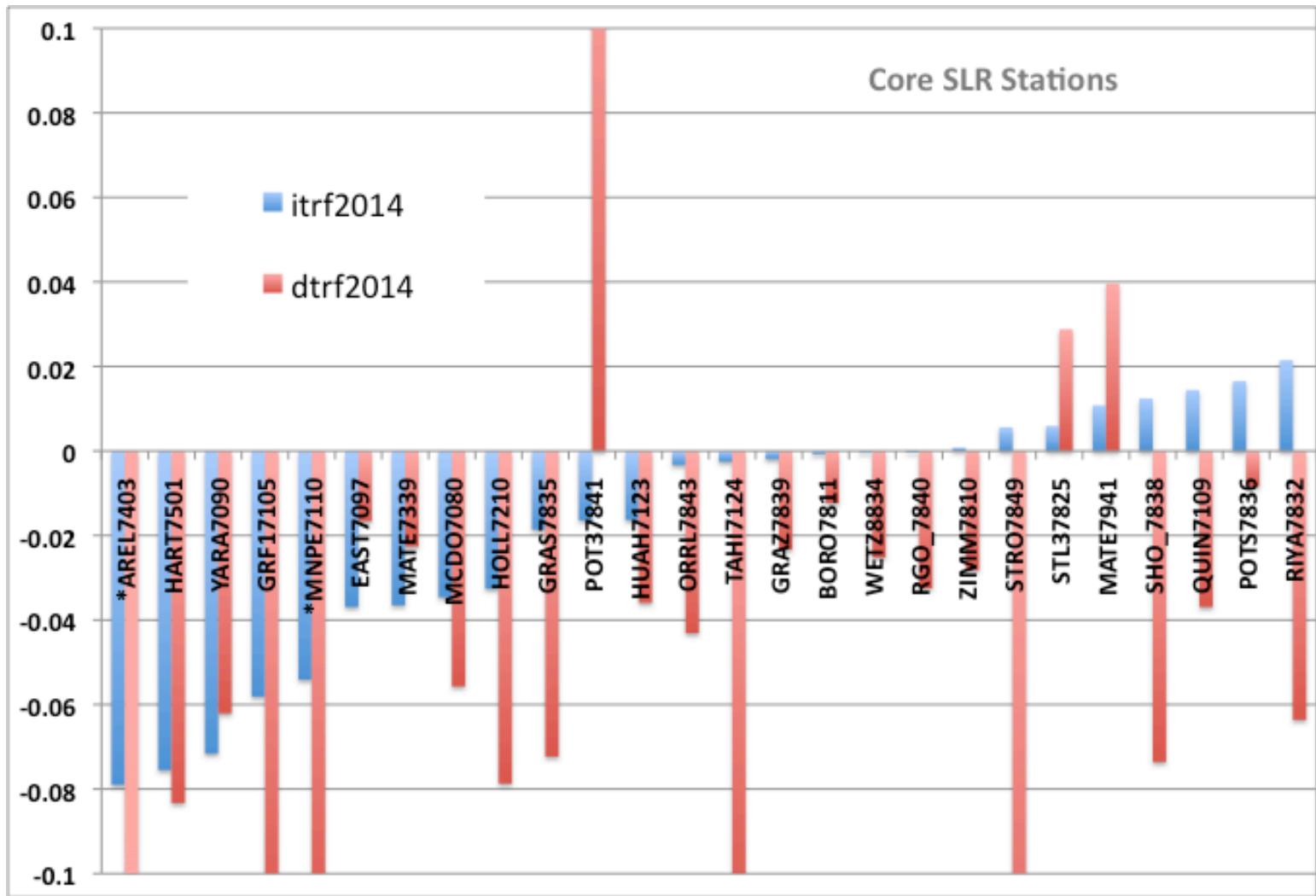
RMS residual differences (mm/s)

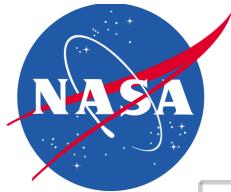
positive => improvement for Test



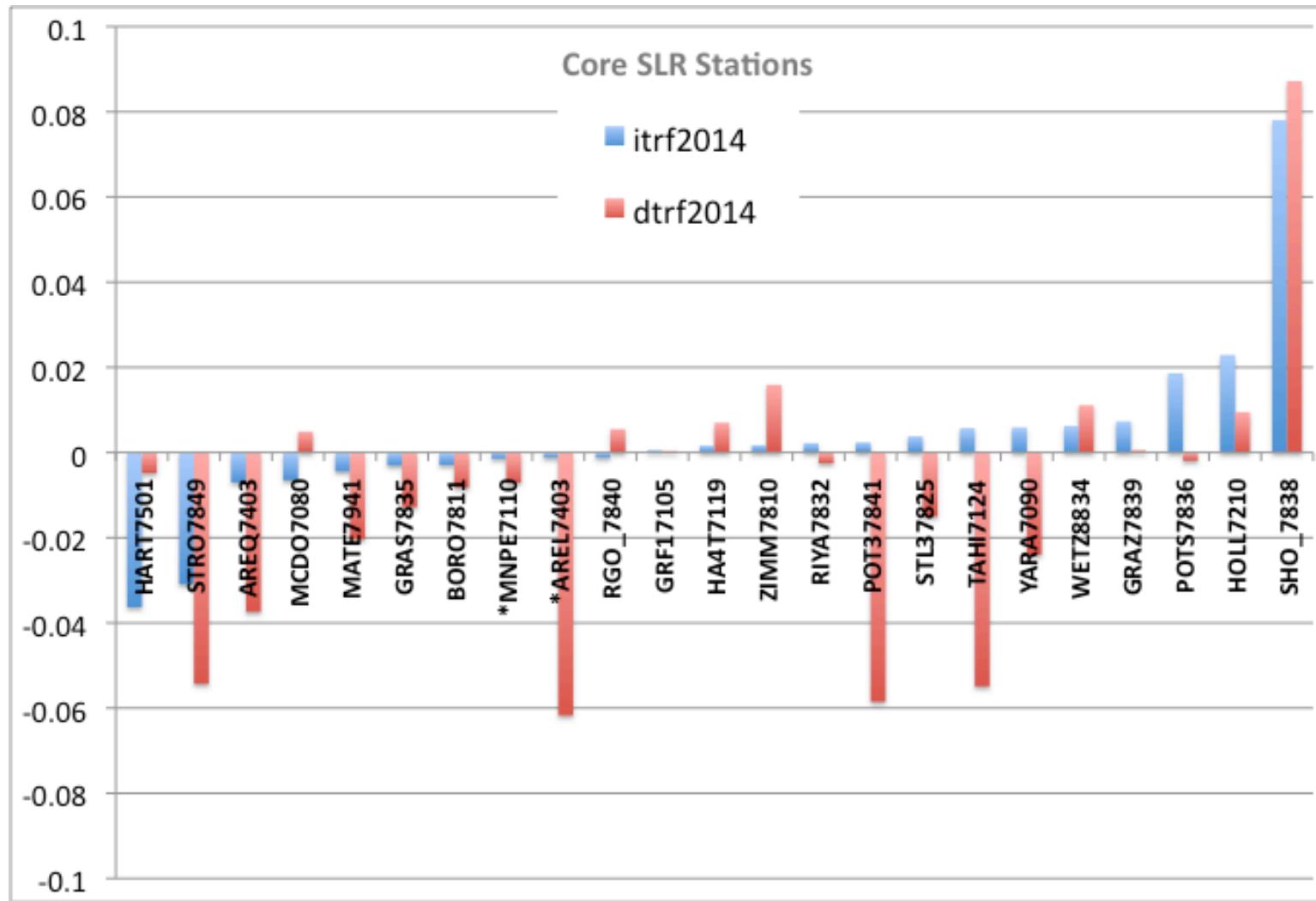


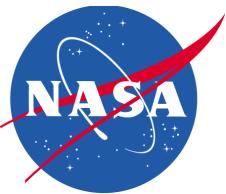
TOPEX/Poseidon POD SLR slrf2008 – *Test* station RMS residual differences (cm) positive => improvement for Test



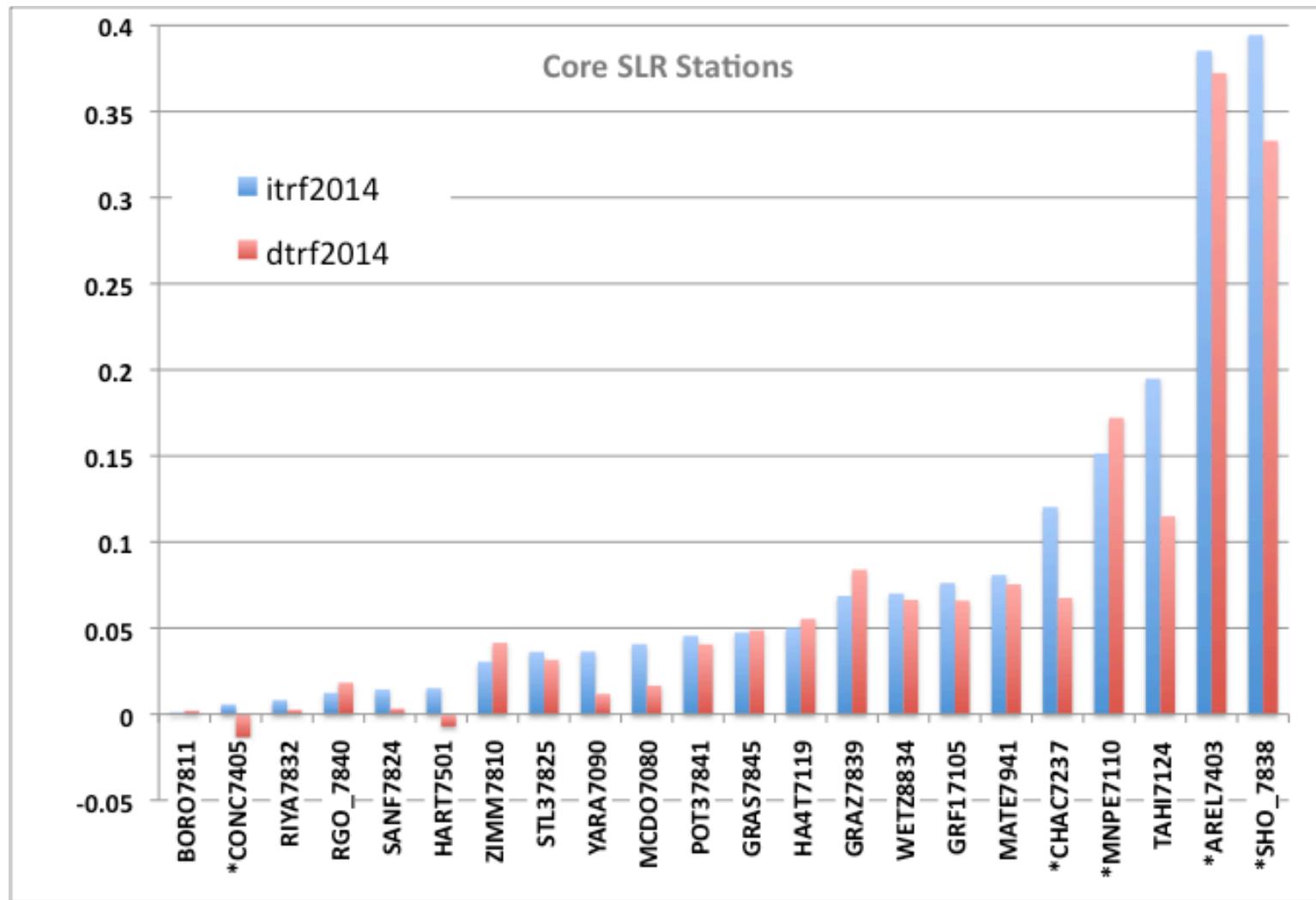


Jason-1 POD SLR slrf2008 – *Test* station RMS residual differences (cm) positive => improvement for Test



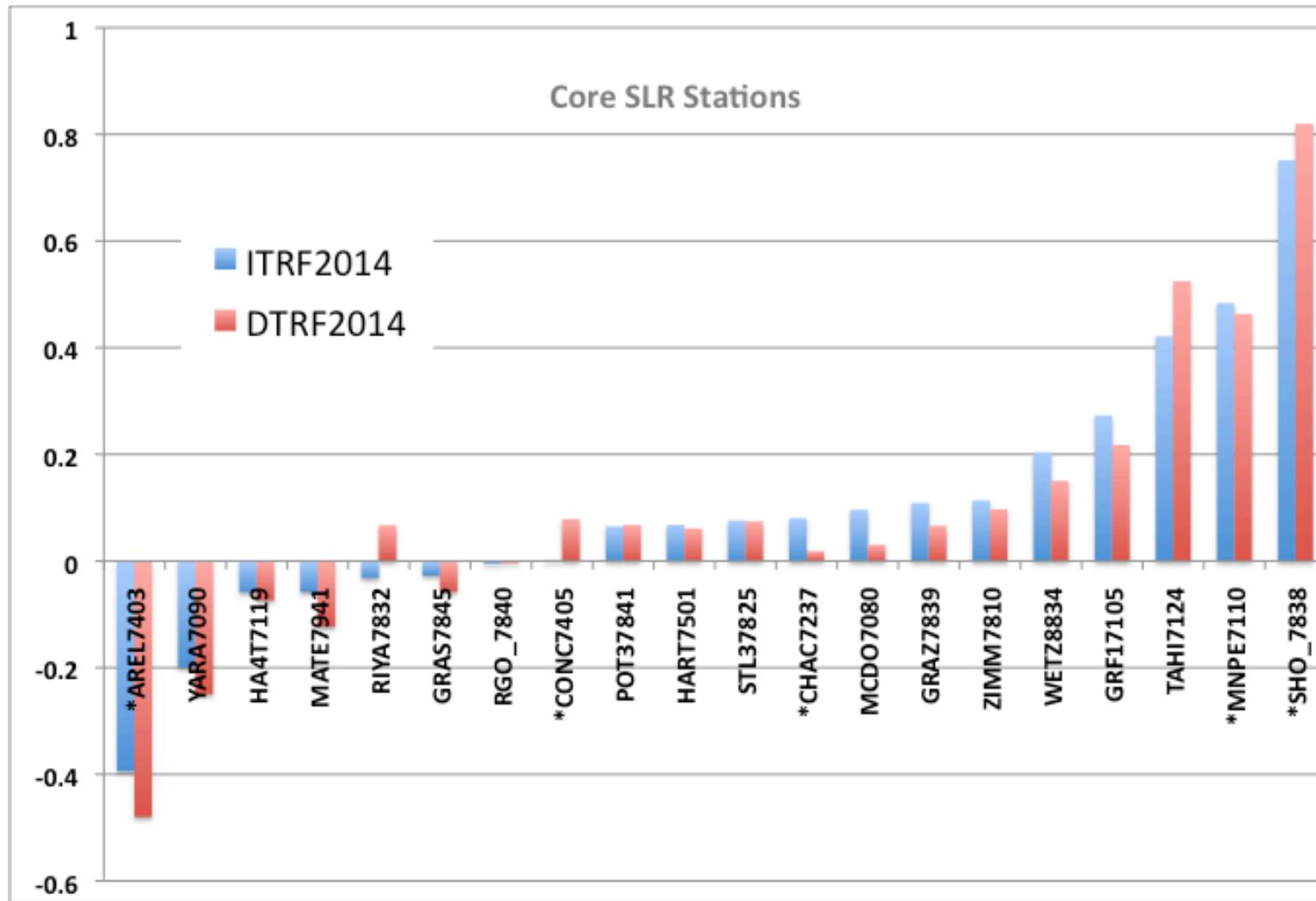


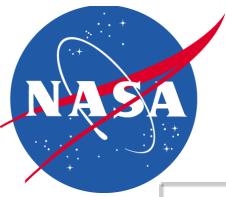
Jason-2 POD SLR slrf2008 – *Test* station RMS residual differences (cm) positive => improvement for Test





Cryosat-2 POD SLR slrf2008 – *Test* station RMS residual differences (cm) positive => improvement for Test





Jason-2 SLR SLRF2008 – *Test* station RMS residual differences using jpl14a orbit (cm) positive => improvement for Test

