

## ITRF2014

# EVALUATION OF PRELIMINARY VERSION

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# ITRF2014P EVALUATION, PROCESSING METHOD

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Impact of updating the position and velocity coordinates of the DORIS and SLR stations (from ITRF2008 to ITRF2014P) on Jason-2 orbits

Orbits computed :

- DORIS-only GDR-E dynamic orbits

- DORIS + SLR GDR-E dynamic orbits

Evaluation on JASON-2 reference mission, cycles 147 → 253

Available Earth Orientation Parameters only consistent with ITRF2008 (C04 series)

## ITRF2014P EVALUATION, MISSING DATA

DORIS stations not provided in the ITRF2014P solution:

ADHC AJAB GONC KEUC KRVB LAOB  
OWEC PASB PAUB PDNC ROWC TLIA

DORIS stations provided in ITRF2014P, but not for the whole Jason-2 period:

ASEB GR3B GR4B

*Example*

*JASON-2 cycle 076, July 25, 2010 → August 4, 2010, ASEB used*

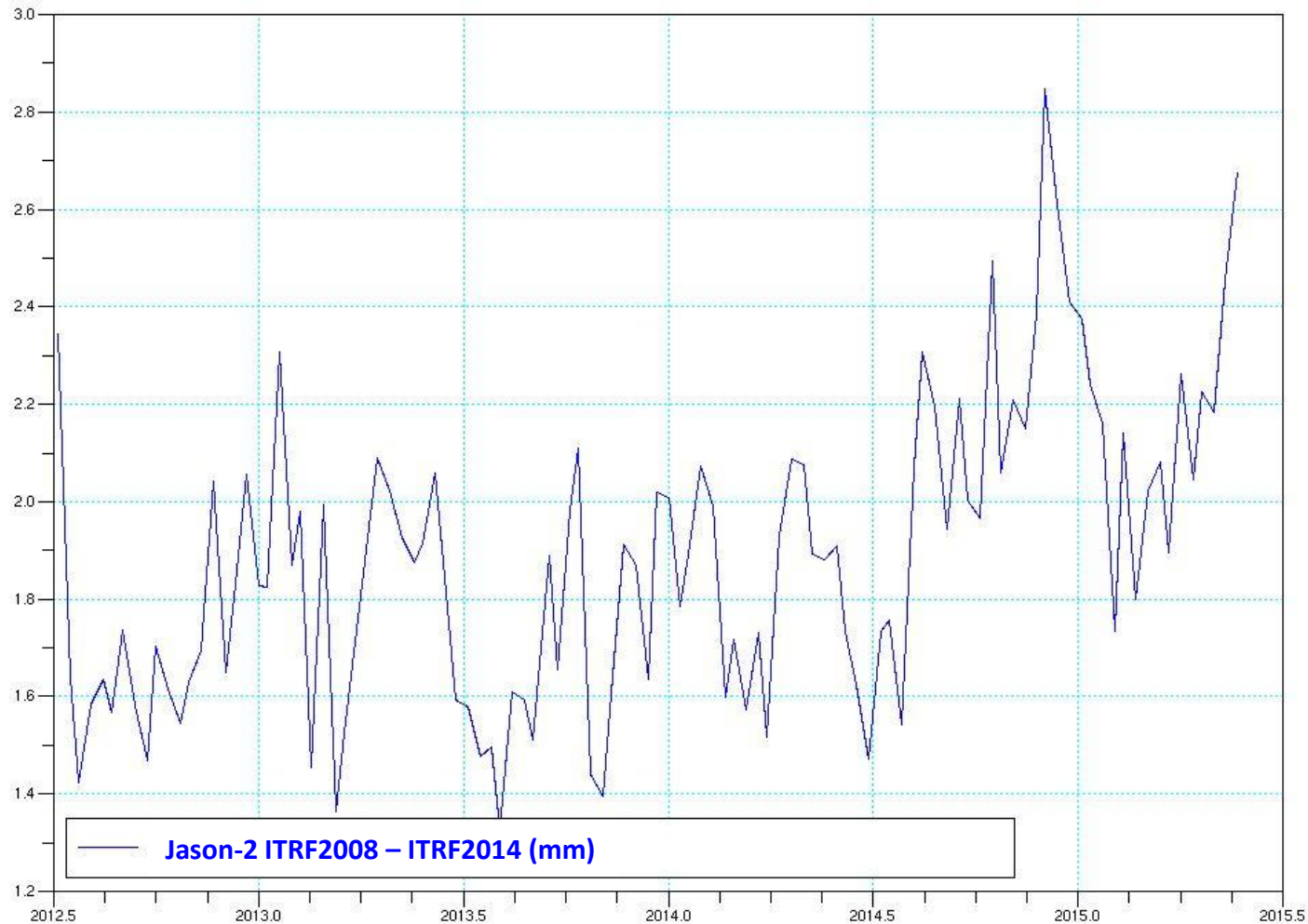
*ITRF2014P solution, one period for ASEB, August 10, 2010 → December 28, 2014*

SLR stations provided in the ITRF2014P solution, but with different DOMES numbers:

	ITFR2014	ILRS
station 7119:	40445M004	40445S009
station 7358:	21749S001	21749M001

# ITRF2014P EVALUATION, RADIAL DIFFERENCES

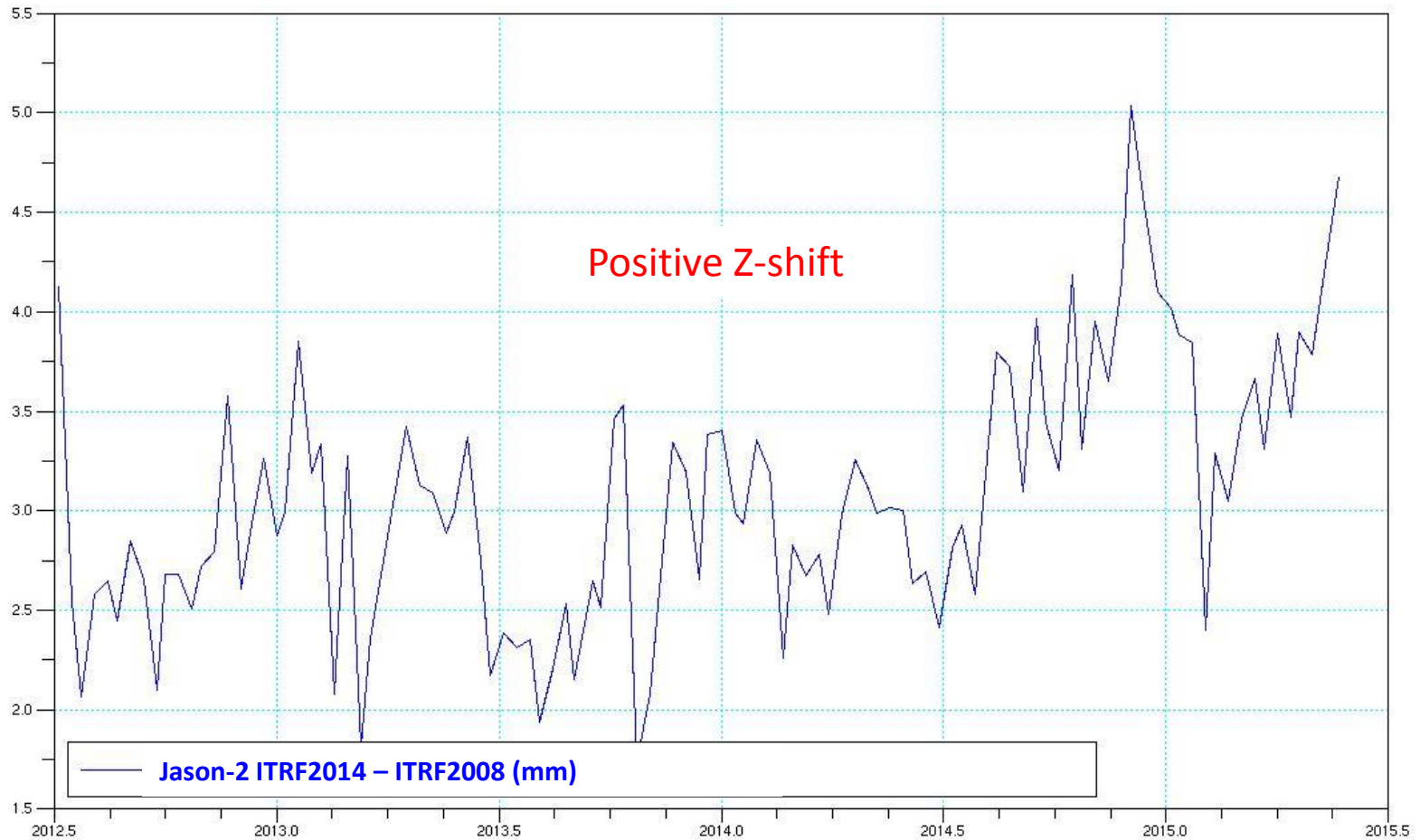
JASON-2 GDR-E DORIS+SLR dynamic orbits, RMS of radial orbit differences



Orbit change  
below 3 mm  
radial RMS

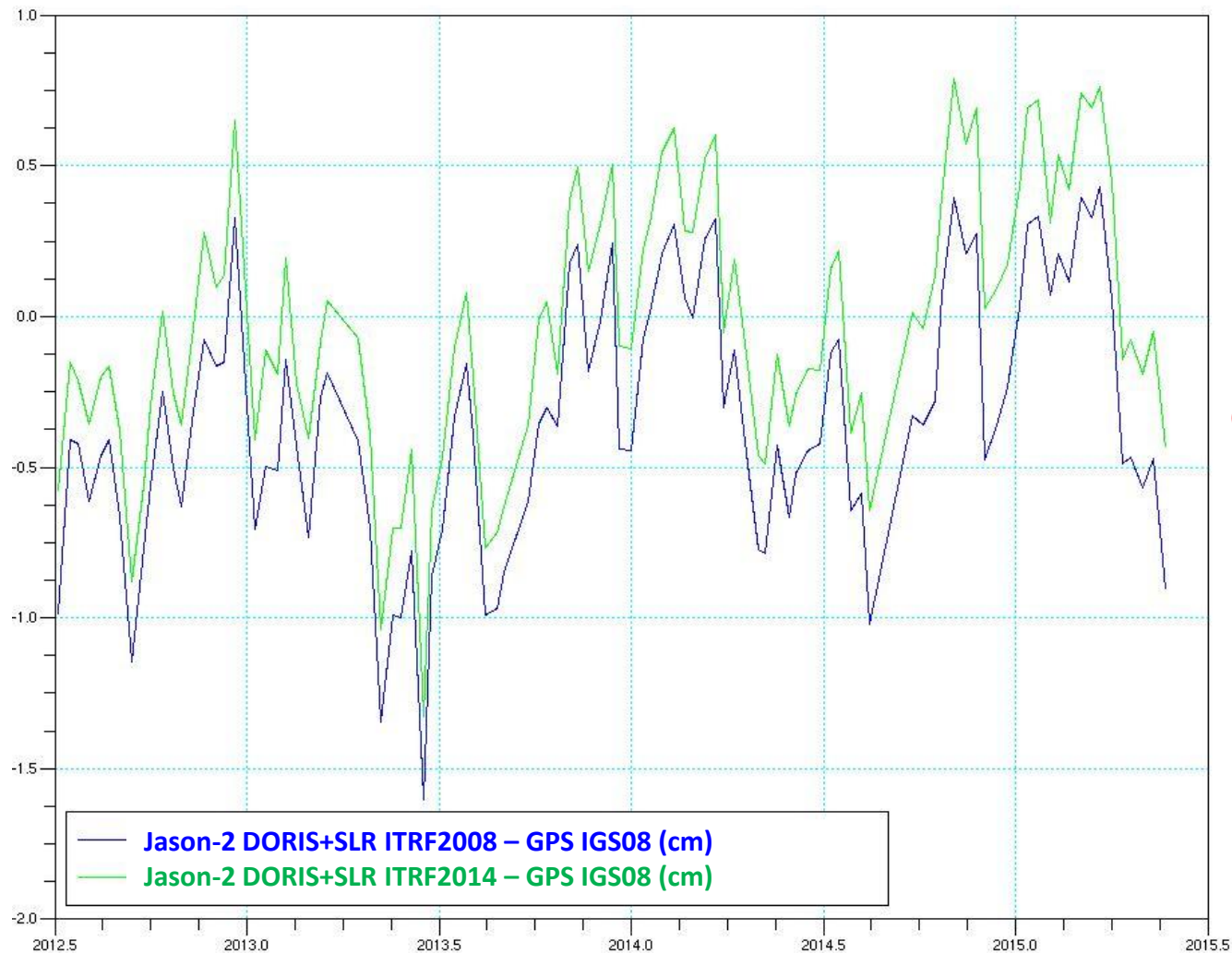
# ITRF2014P EVALUATION, MEAN Z DIFFERENCES

JASON-2 GDR-E DORIS+SLR dynamic orbits, mean of Z orbit differences



# ITRF2014P EVALUATION, MEAN Z DIFFERENCES W.R.T. GPS-BASED DYNAMIC ORBITS

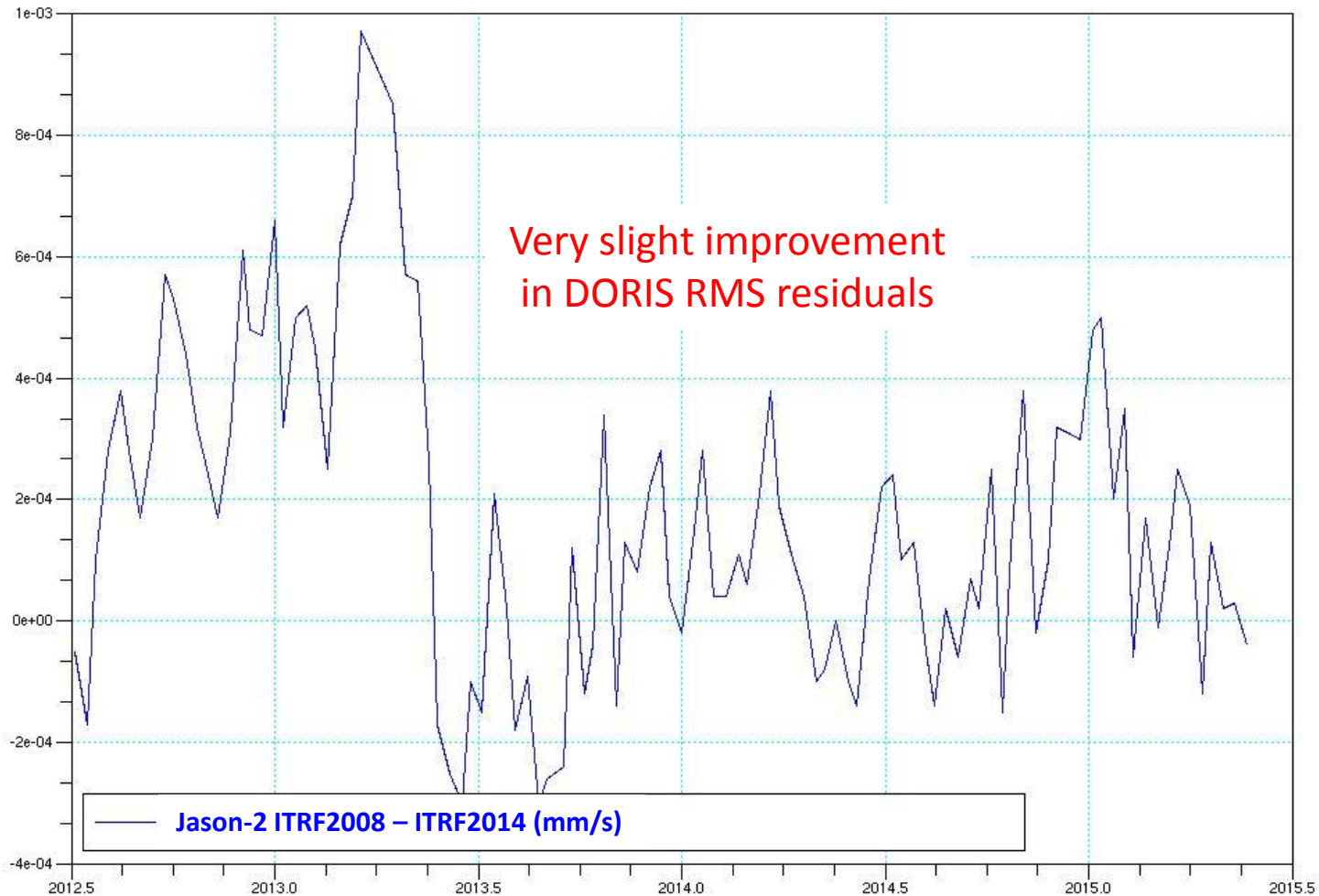
JASON-2 GDR-E DORIS+SLR vs GPS-based dynamic orbits, mean of Z orbit differences



DORIS+SLR  
orbits closer to  
GPS-only orbits

# ITRF2014P EVALUATION, DORIS POST-FIT RMS RESIDUALS

JASON-2 GDR-E DORIS-only dynamic orbits, differences of DORIS RMS residuals  
*positive values mean improvement*



# ITRF2014P EVALUATION, INDEPENDENT SLR VALIDATION

JASON-2 GDR-E DORIS-only dynamic orbits, difference of independent  
high elevation SLR RMS residuals

*positive values mean improvement, mean difference 0.35 mm*

