

Status of ITRF2020 and IDS Contribution

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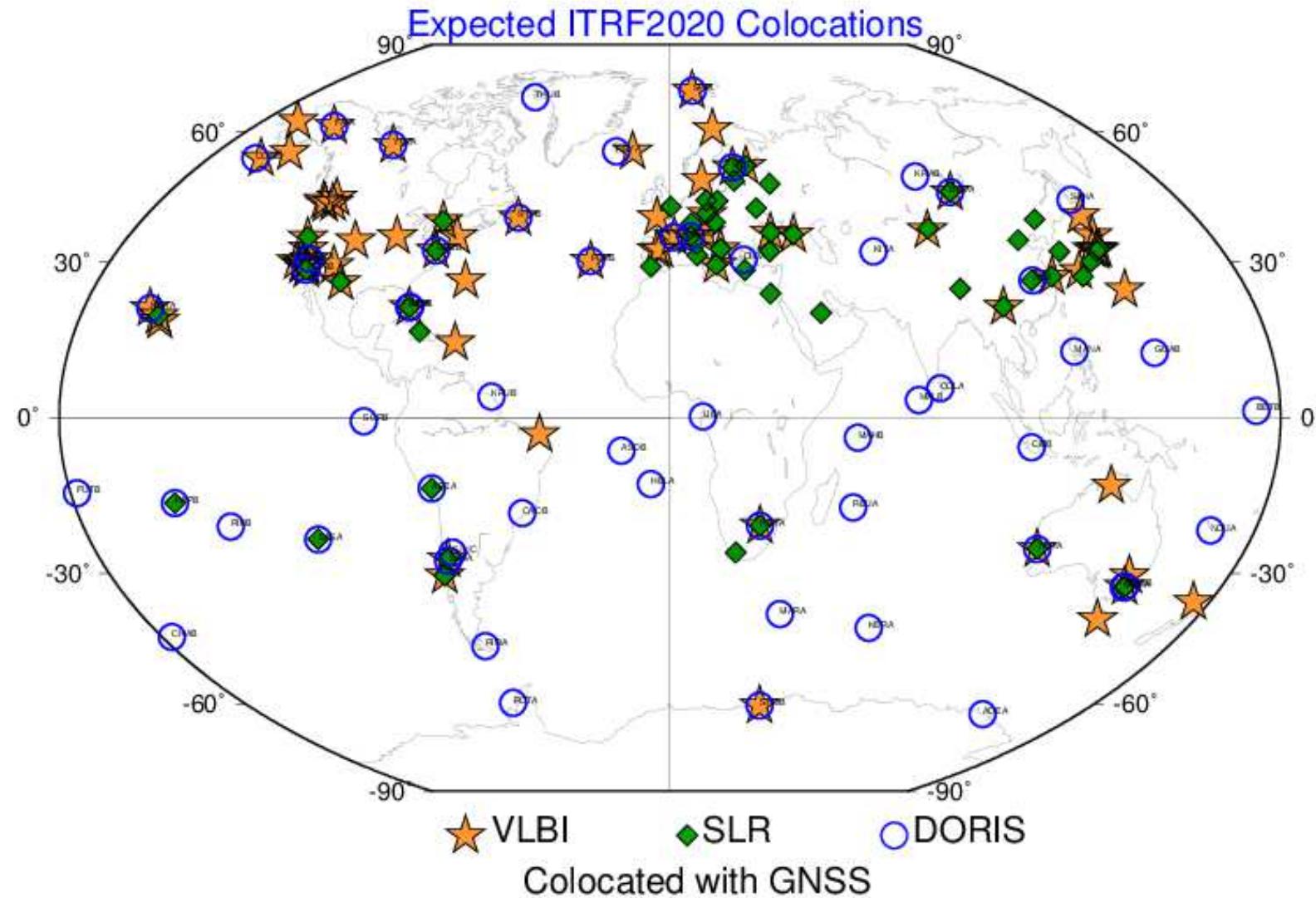
Outline

- ITRF2020 : Status of input data
- ITRF2020: an augmented reference frame
- Some preliminary “early” results using ITRF2020 input data
IGS Repro3 & IDS 2020
- IDS Contribution to ITRF2020
 - Quality of the IDS time series (WRMS)
 - Origin & Scale
- Post Seismic Deformation for stations subject to major earthquakes

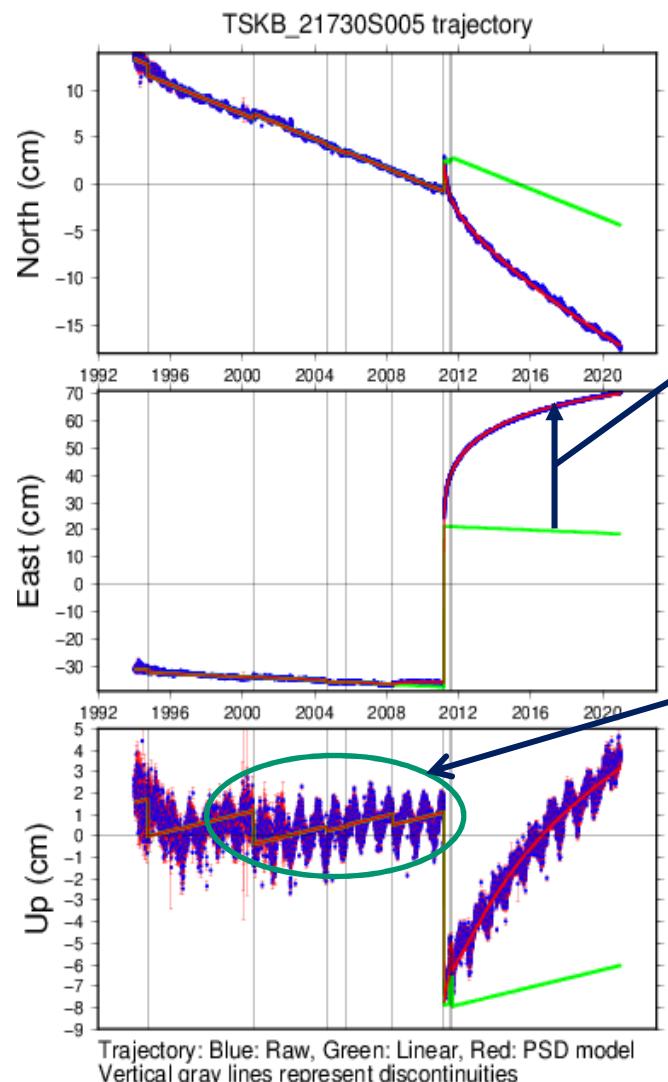
ITRF2020 : Status of input data

- Initial deadline: February 10, 2021
- Consultation with the 4 techniques before the deadline:
 - Most techniques indicated some delay
 - Deadline extended to April 10 (end of this week)
- IDS & IGS delivered preliminary solutions (tested here)
- Hope to have all final input data by the new deadline.

Expected ITRF2020 co-locations



ITRF2020: Augmented Parametric Reference Frame



Regularized position

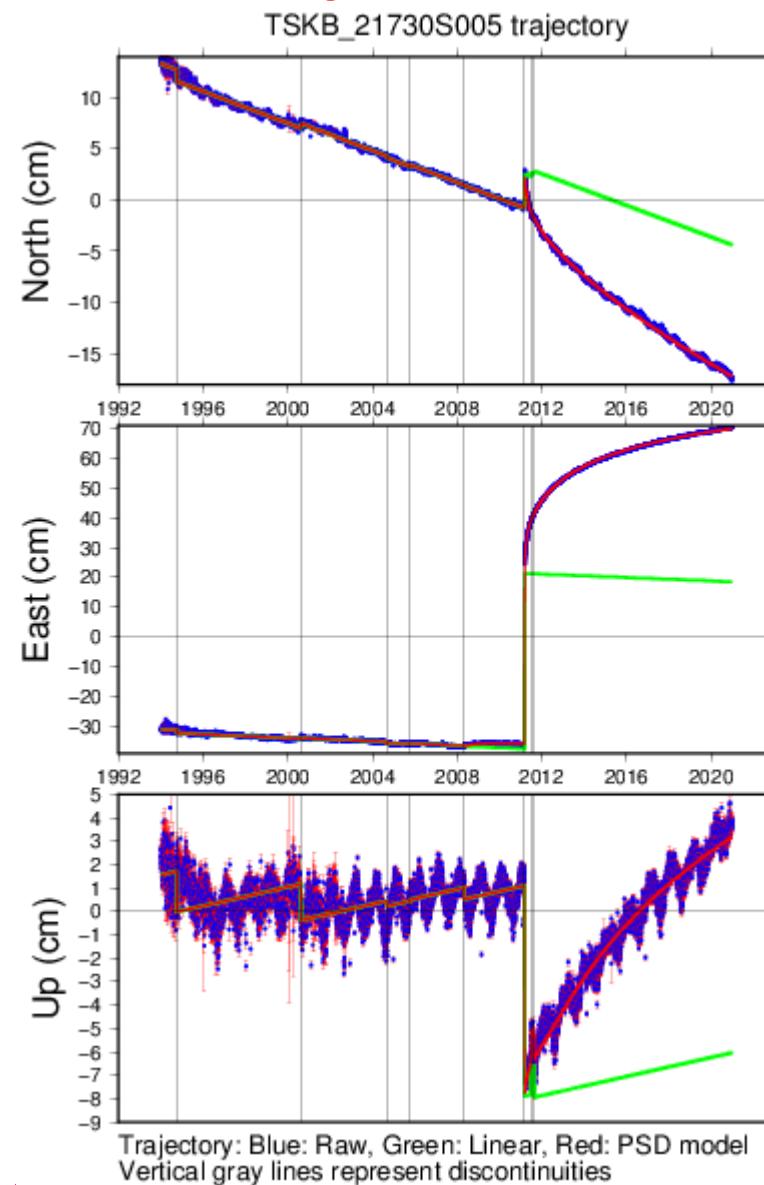
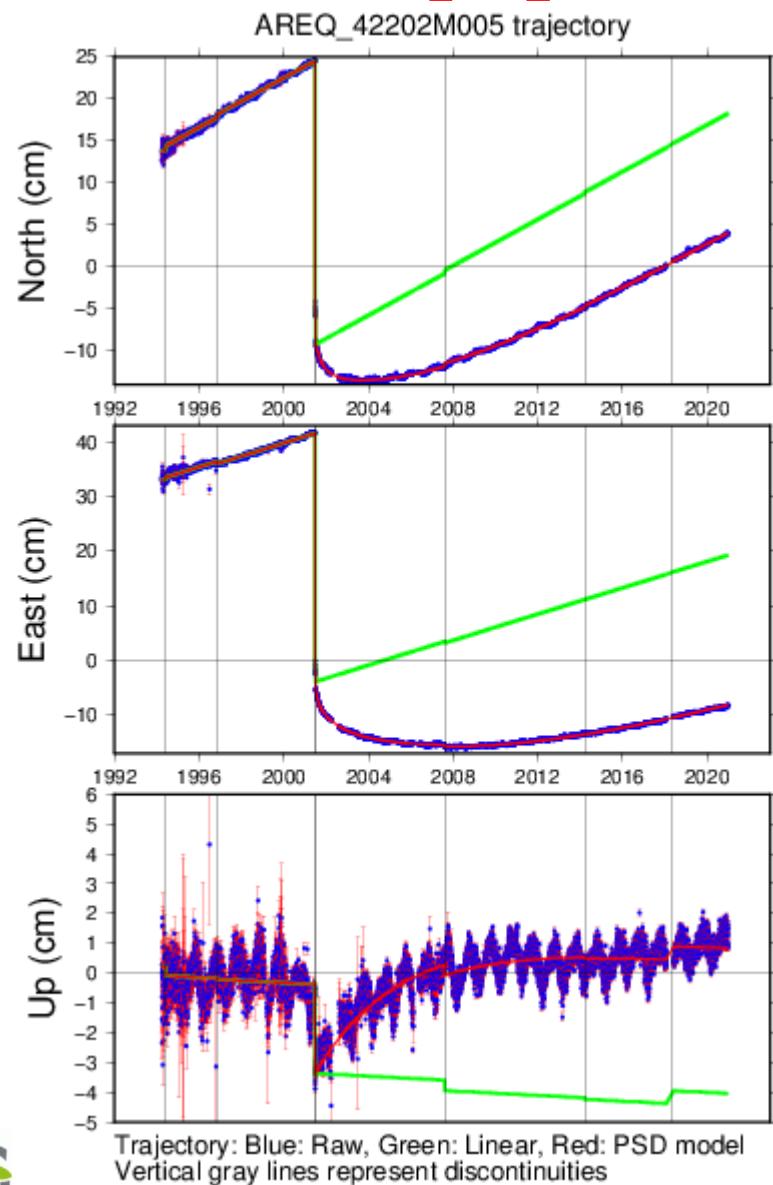
$$X(t) = X(t_0) + \dot{X} \cdot (t - t_0) + \delta X(t)_{PSD} + \delta X(t)_S$$

\sum Post-Seismic Deformations
Parametric models will be refined

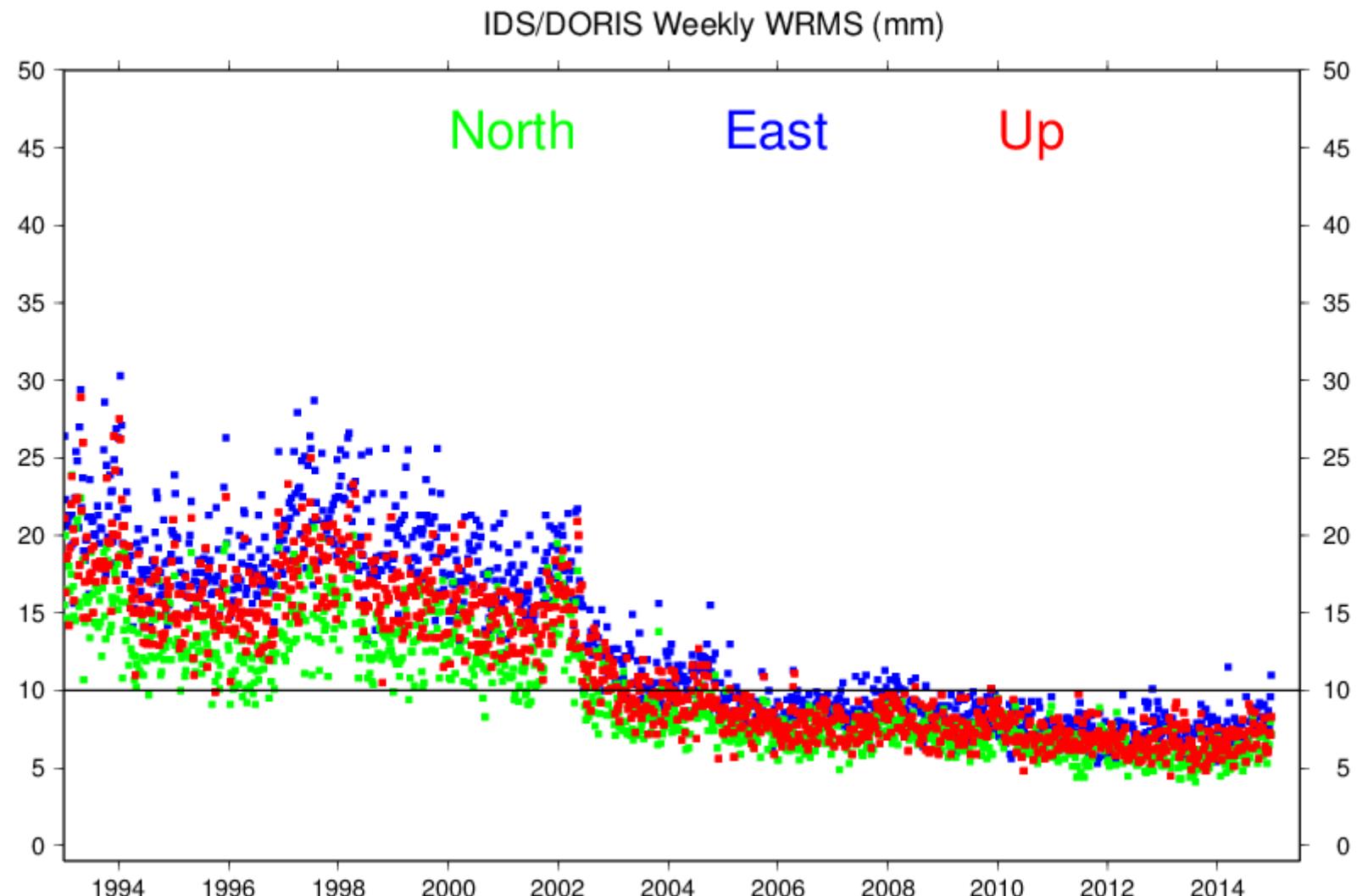
\sum Periodic Signals
Will be provided in
the CM-SLR frame

But there are discrepancies in the
annual signal between techniques at
some colocation sites.

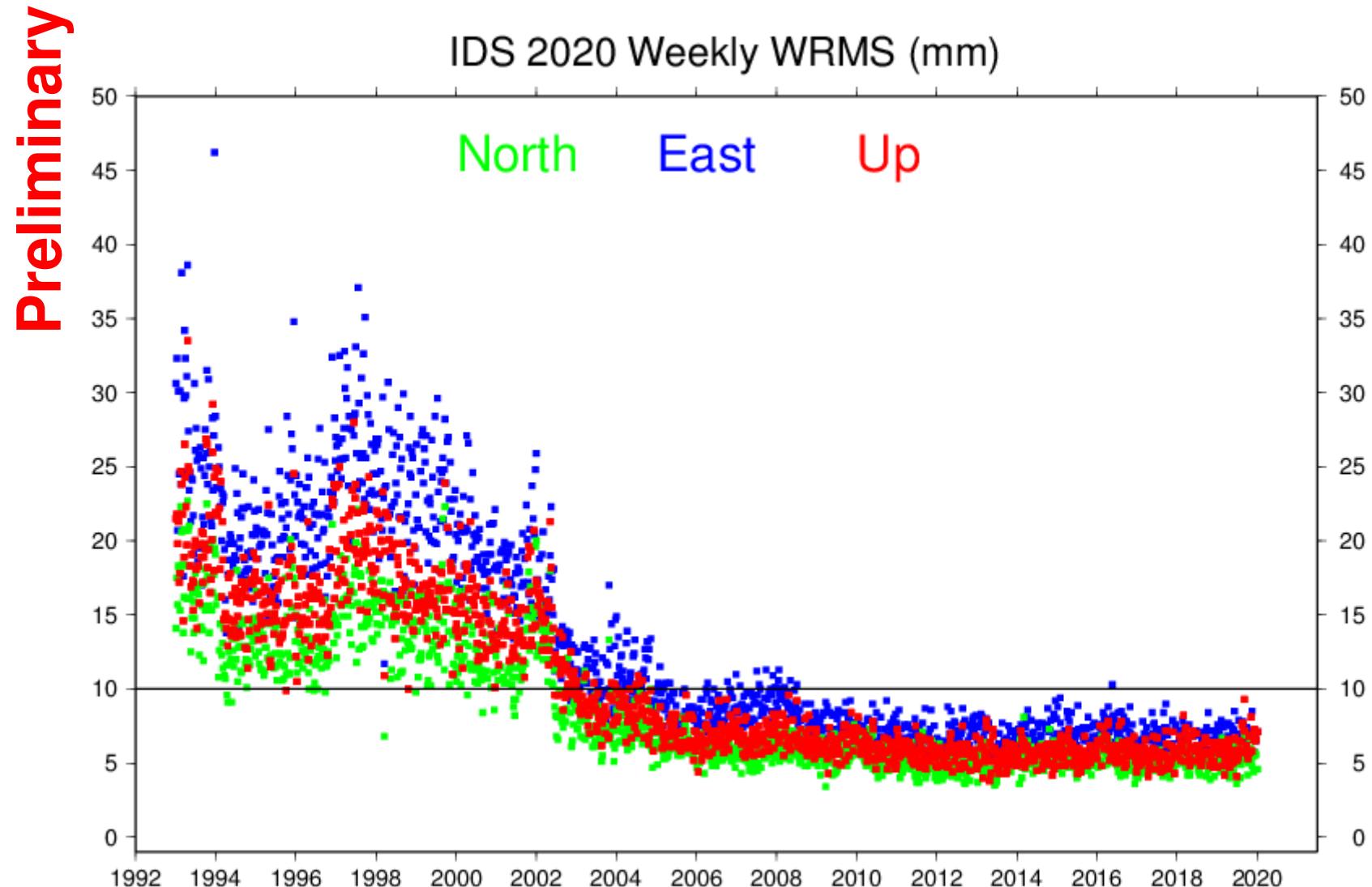
Arequipa & Tsukuba trajectories



IDS 2014 WRMS

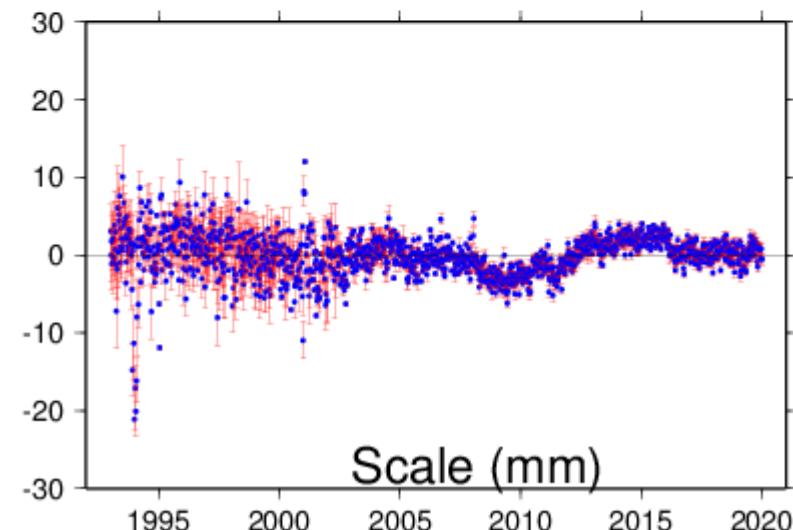
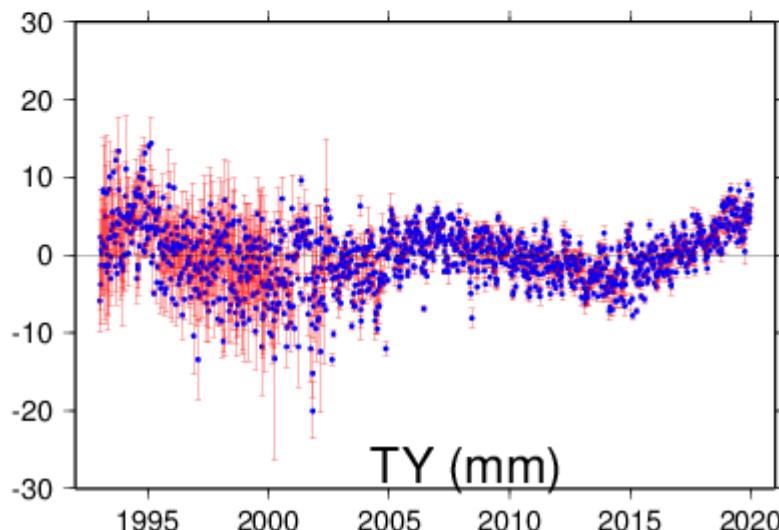
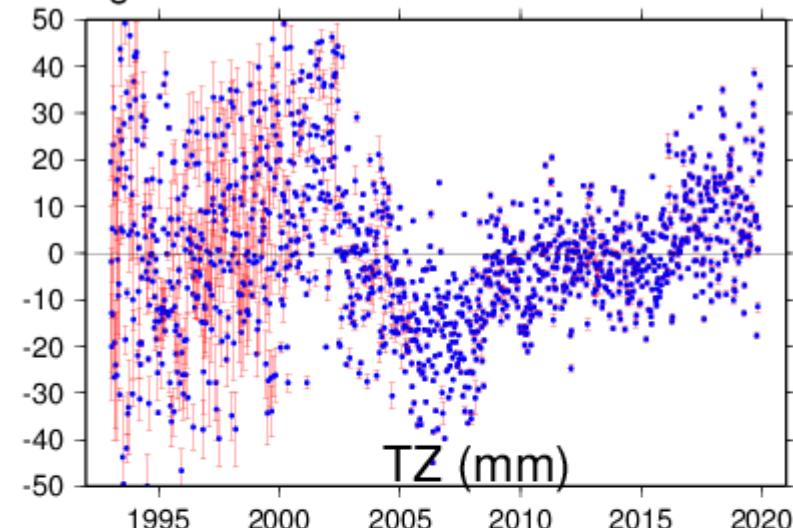
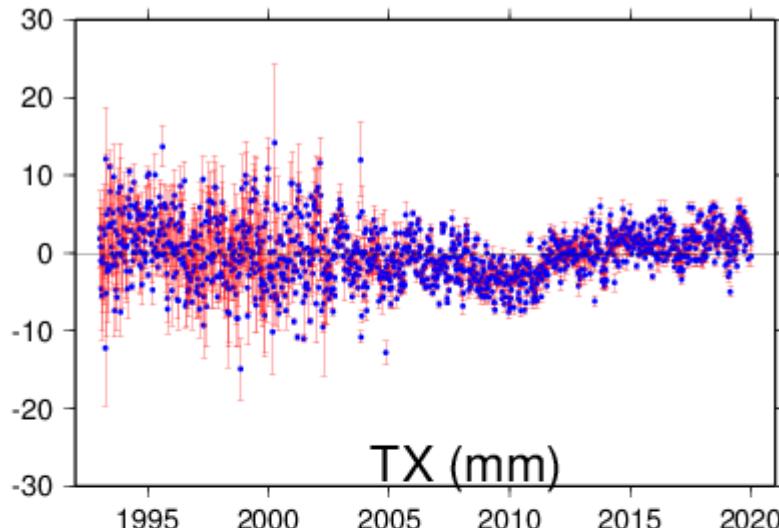


IDS 2020 WRMS



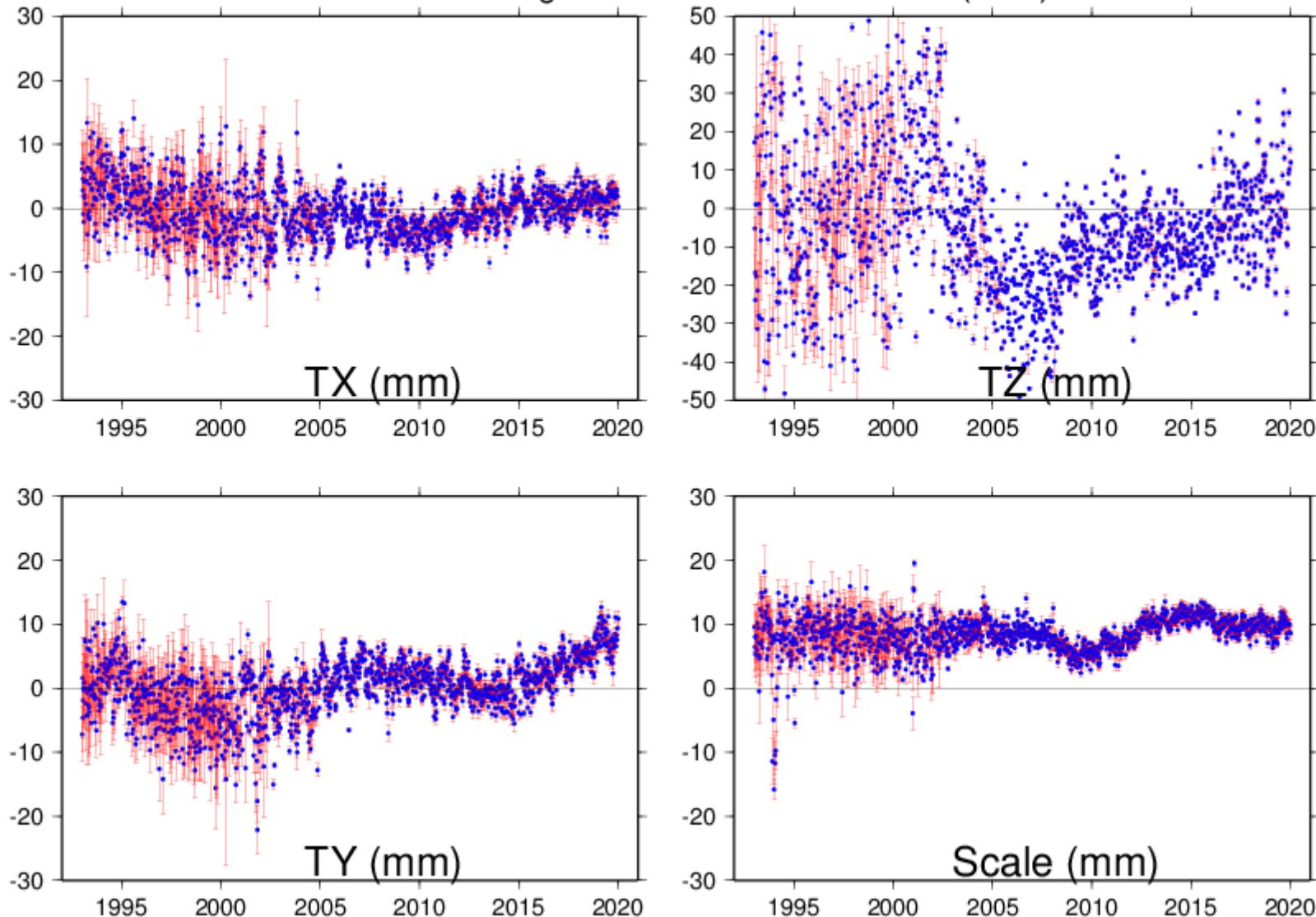
IDS 2020 intrinsic origin & scale (STD)

DORIS/IDS WD15 intrinsic origin and scale



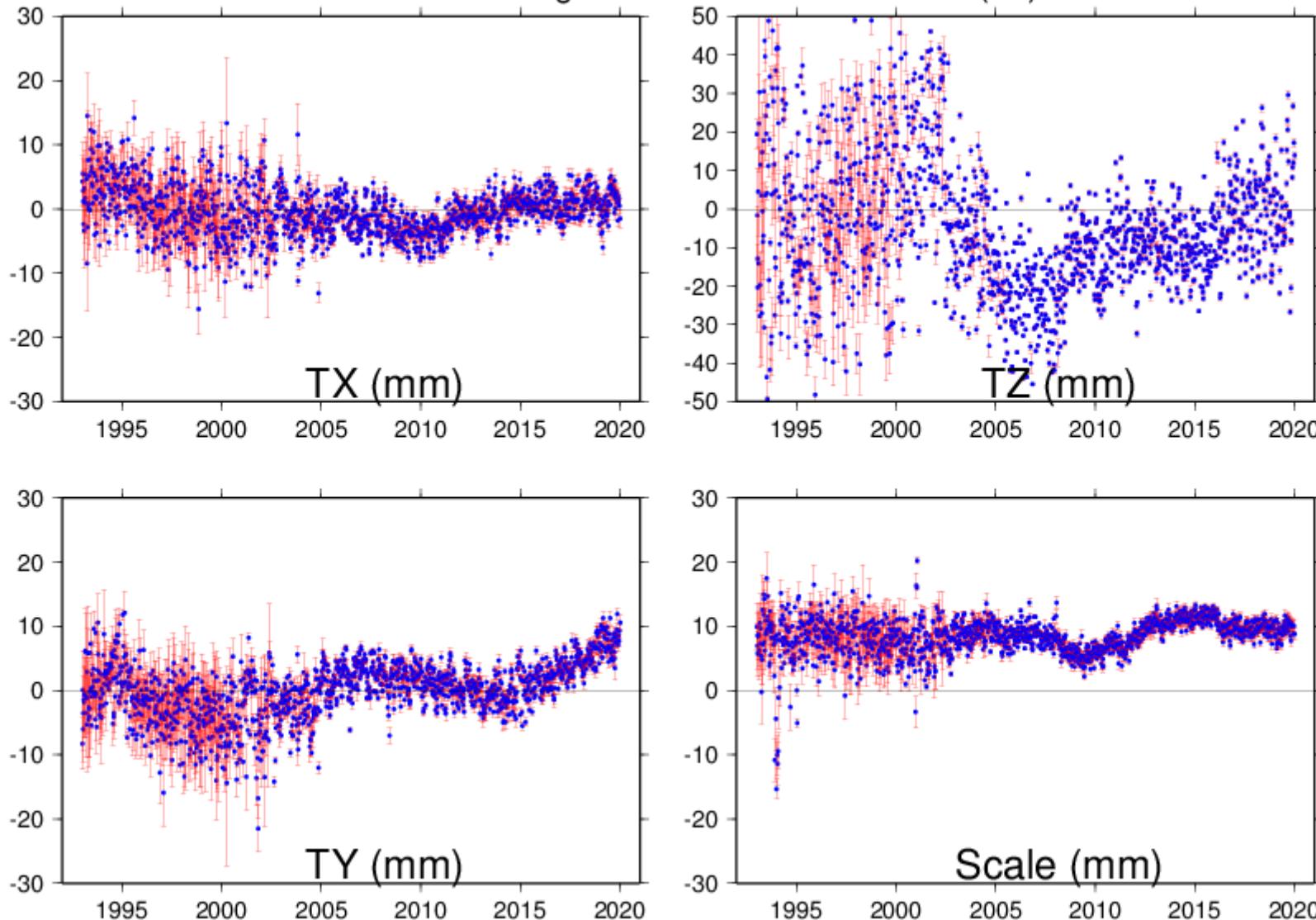
IDS 2020 wrt to ITRF2014 (STD)

DORIS/IDS WD15 origin and scale wrt ITRF2014 (STD)



IDS 2020 WRT ITRF2014 (F2)

DORIS/IDS WD15 origin and scale wrt ITRF2014 (F2)

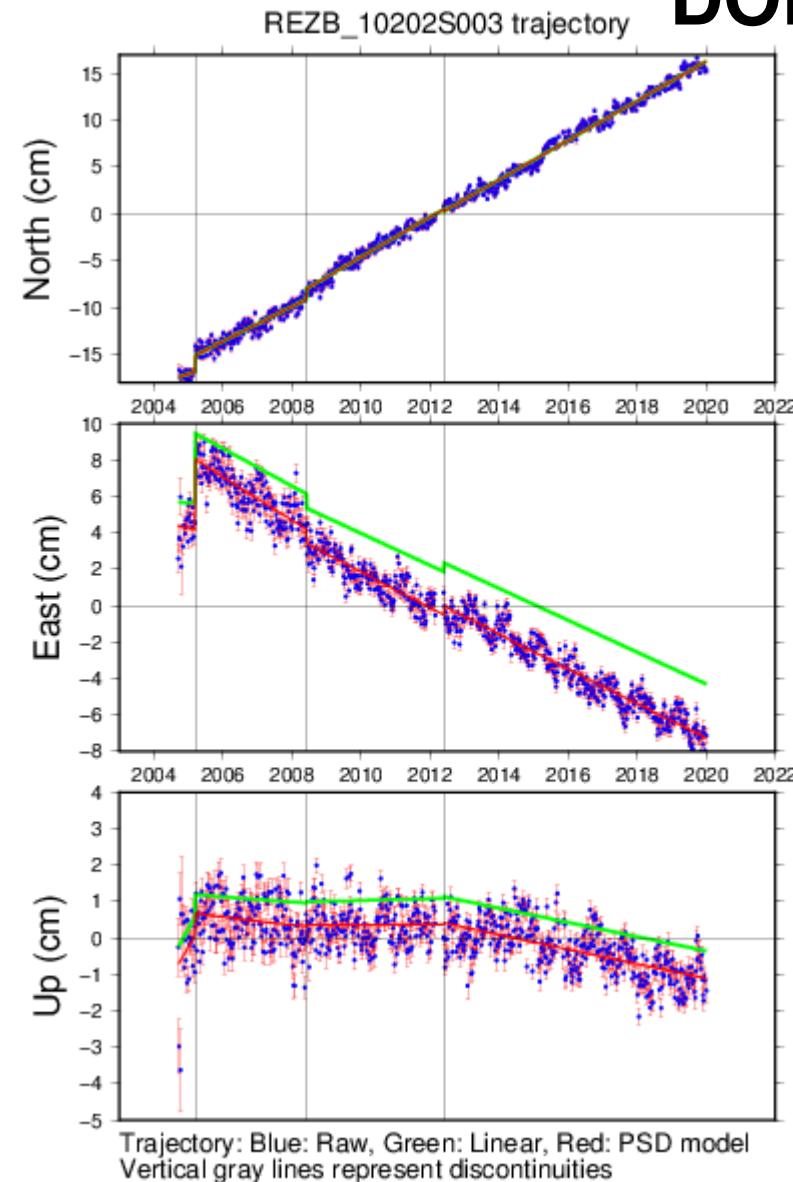
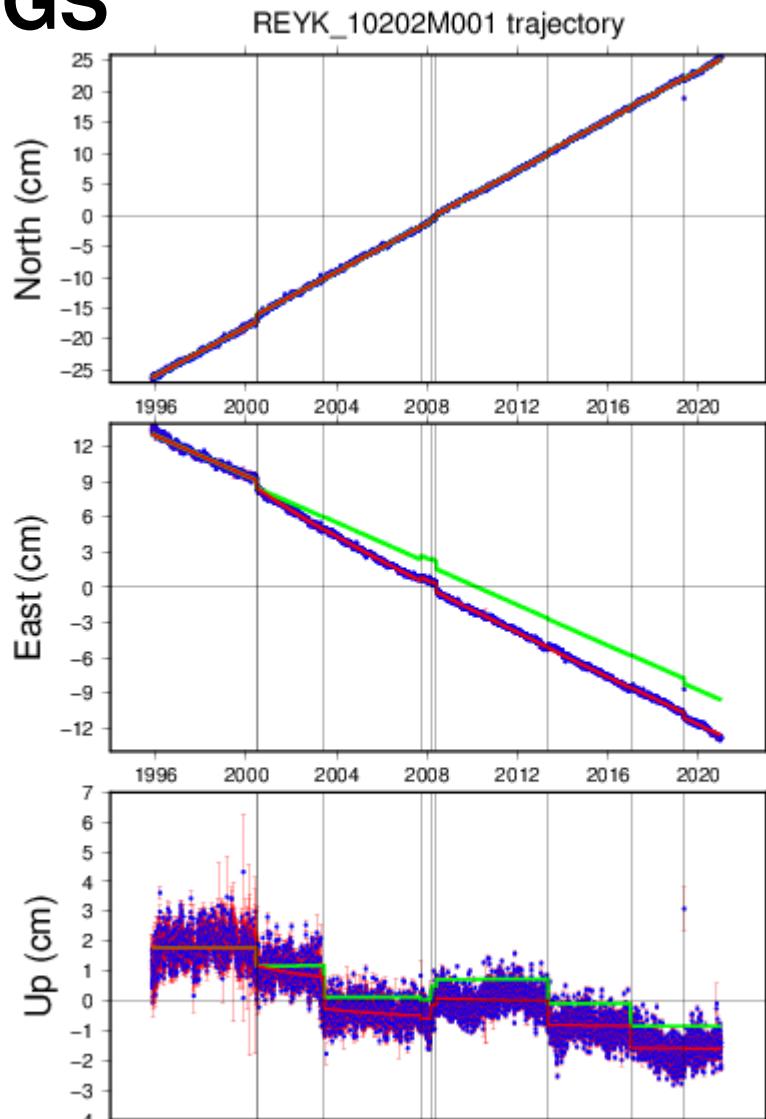


Post-Seismic deformation

IGS

Revkjavik

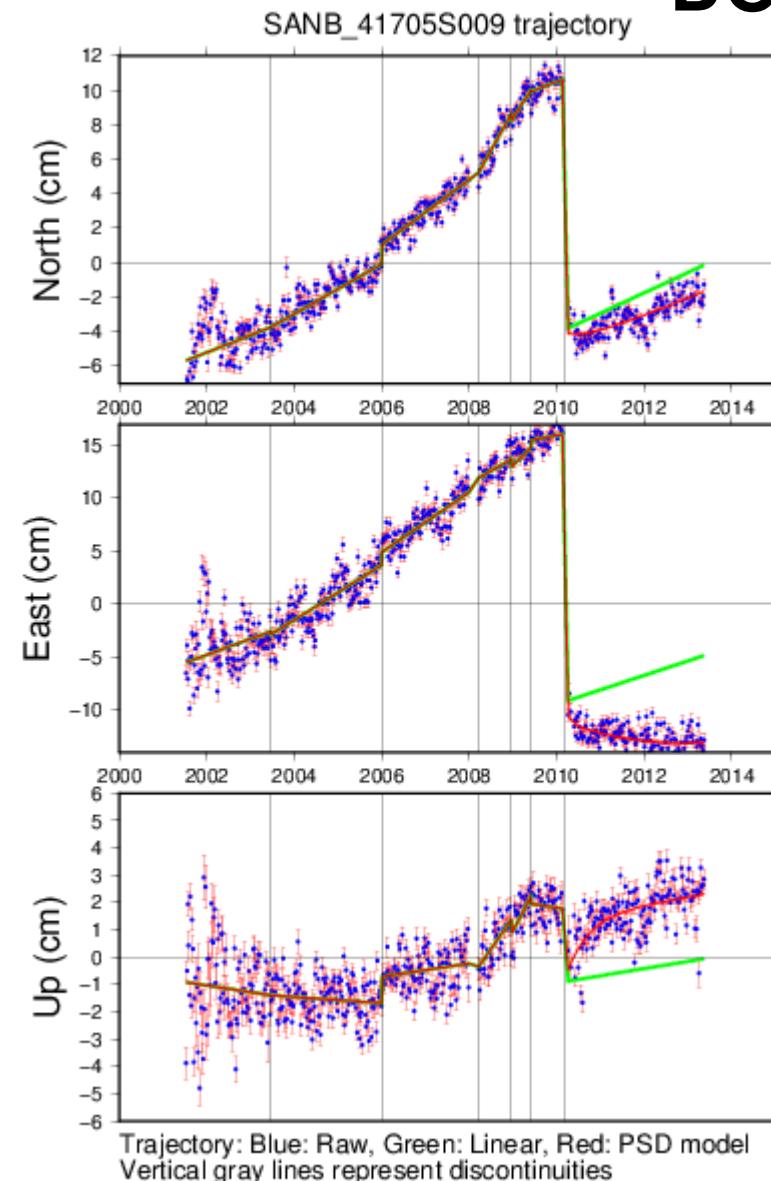
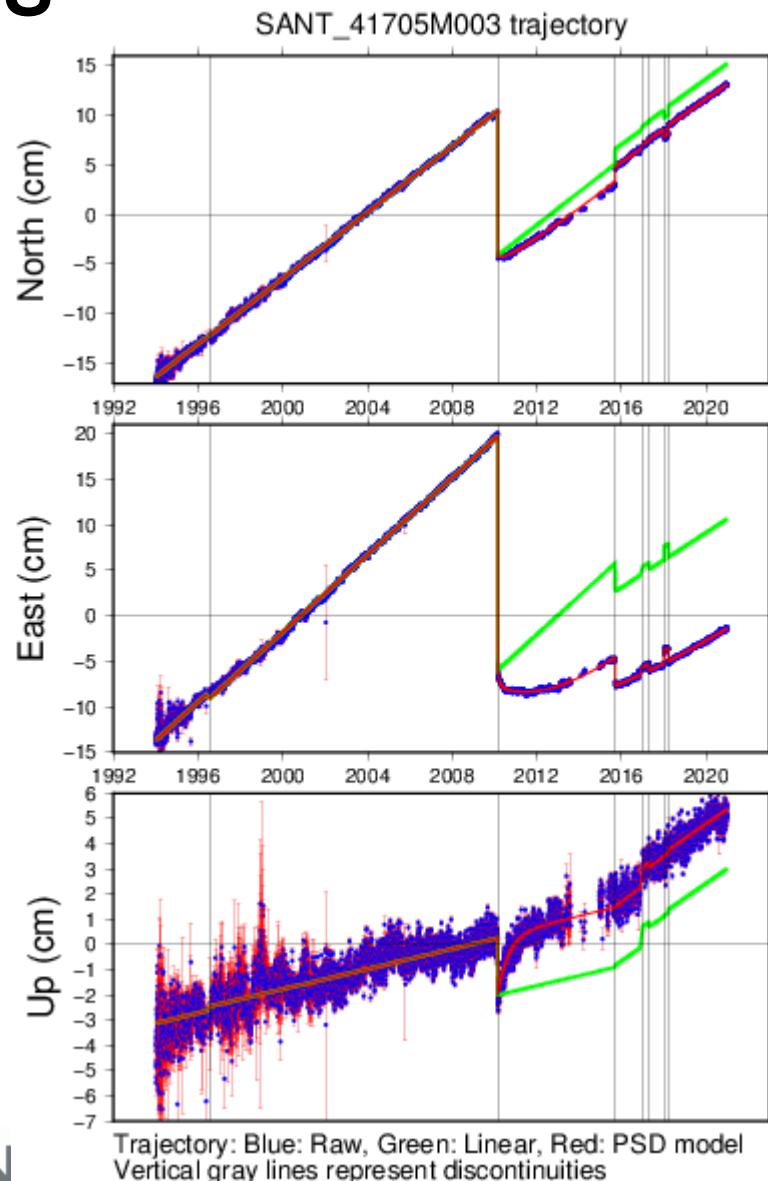
DORIS



IGS

Santiago

DORIS



Conclusion

- ITRF2020: an augmented parametric frame
 - Enhanced PSD parametric functions
 - Periodic signals in the CM Frame
- IDS contribution to ITRF2020 (still preliminary)
 - Quality (WRMS) improves with time
 - Non-linearity of IDS origin and scale needs to be investigated
 - ITRF2020 PSD parametric models (still to come) need to be taken into account by the IDS