



**→ 25 YEARS OF PROGRESS
IN RADAR ALTIMETRY SYMPOSIUM**

24–29 September 2018
Ponta Delgada, São Miguel Island
Azores Archipelago, Portugal*

Topics to be discussed in the
Spinters

Remko Scharroo¹ on behalf of all
Splinter chairs

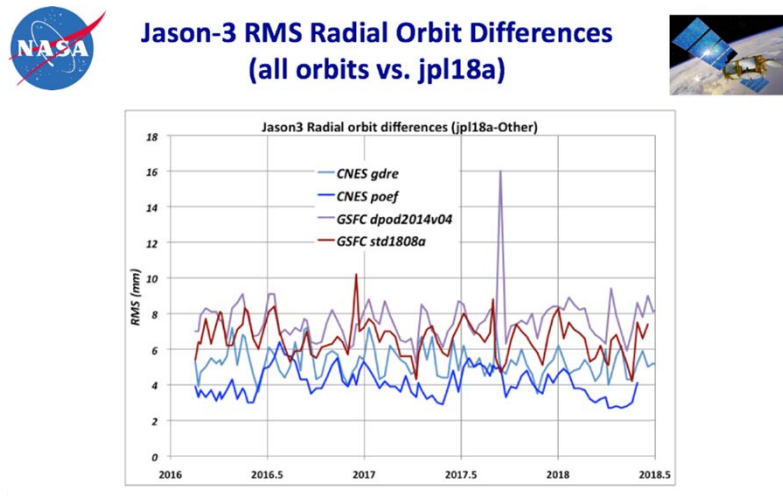
¹EUMETSAT

Precise Orbit Determination

Sean Bruinsma, Alexandre Couhert, Frank Lemoine — Thu 14:00 - 18:00

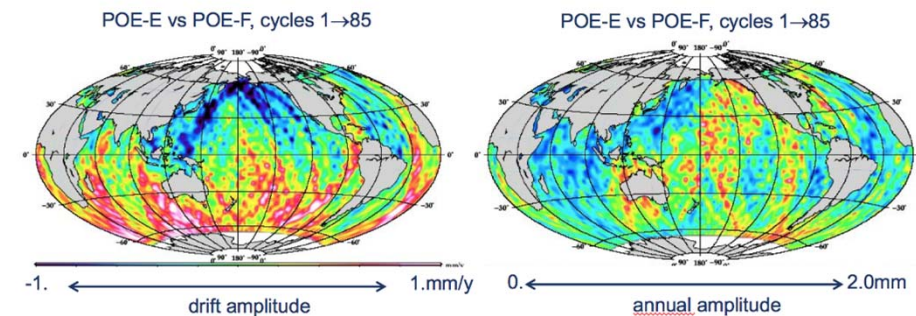
Session Summary

- New orbits for Jason-2, Jason-3, have been provided by CNES (POE-F), JPL (JPL18a), and NASA GSFC (std1808a). The orbits implement different updates to the models, including (a) IGS14 reference frame for GPS-derived orbits; (b) ITRF2014 – new definition of linear mean pole and new SRP model(NASA GSFC); (c) implementation of ambiguity fixing for GPS-processing in POE-F (CNES).
- All orbit tests (comparisons, independent SLR tests at high elevation) indicate that radial orbit quality is at level of 8 mm radial RMS in a global sense.
- However, orbit differences continue to show radial orbit different rates of up to and slightly larger than 1 mm/yr which impacts interpretation of regional rates of mean sea level.



OSTST 2018, [Precise Orbit Determination Splitter](#), POD Status

JASON-3, GEOGRAPHICALLY CORRELATED RADIAL DIFF.



24–29 September 2018 | Ponta Delgada, São Miguel Island | Azores Archipelago, Portugal

Precise Orbit Determination

Future outlook and issues.

- Availability of data from multi-GNSS receivers (e.g. GPS + Galileo; Jason-CS); Change in availability of new GPS frequencies (L2C, L5). Improvements in quality of SLR data (new systems) and DORIS (new models for USO).
- We need geophysical data from a variety of sources with a suitable latency in order to do precise orbit determination. It is a challenge to satisfy demands of latency and consistency.
- We have very high radial orbit accuracy, but we need to be sure the measurement systems can discriminate and validate our orbit quality and stability. We ask the OSTST to support the continued improvement in the geodetic data and geodetic networks in the coming decade; ---
- Review and reflect on new and improved methods of validating orbit accuracy.

