



→ 25 YEARS OF PROGRESS IN RADAR ALTIMETRY SYMPOSIUM

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

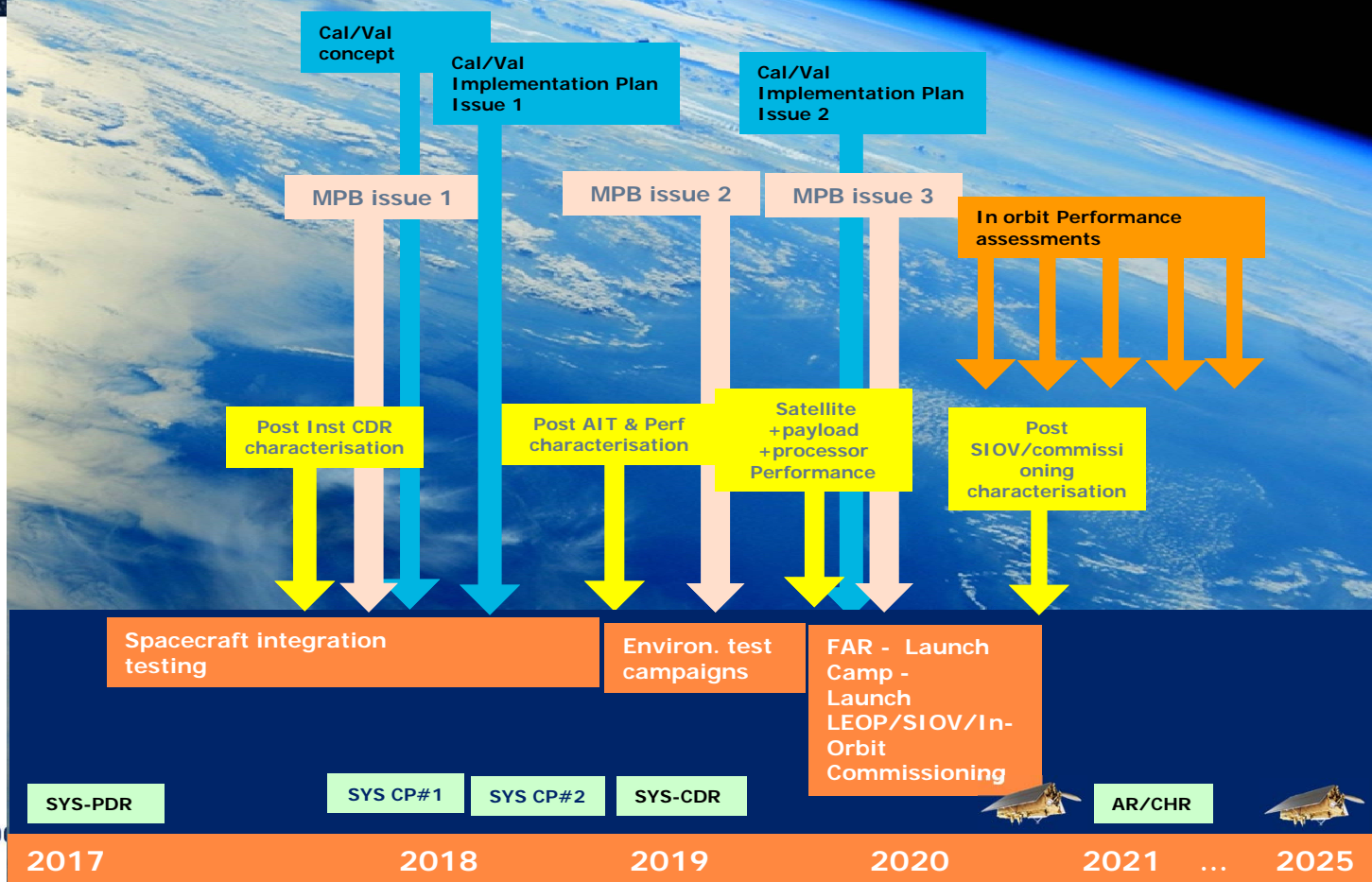
Topics to be discussed in the
Spinters

Remko Scharroo¹ on behalf of the
Partner Project Scientist
(with thanks to session co-chairs)

¹EUMETSAT

Sentinel-6/Jason-CS

Mission Performance Working Group Long-term Planning



→ 25 YEARS OF PRO

Key Points to be Discussed



Commissioning of Sentinel-6A/Jason-CS-A

- During the tandem phase with Jason-3, should the radar operate in RAW SAR mode to validate the Range Migration Correction (RMC)?
- If so, what locations and time periods should be a priority for RAW versus RMC cal/val (e.g. areas with large slopes, low/high waves, low/high variability, near tide gauges)?
- The Sentinel-6A project invites you to send in requests (e.g. KML file of area outline), so they can be considered for commissioning phase planning.

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Key Points to be Discussed



Copernicus Polar Ice and Snow Topography Mission

- What are the recommendations to its Mission Advisory Group for ocean applications?
- If the mission carries a dual-band Ka/Ku radar, are there operating modes over the ocean that should be considered?
- What orbits should be avoided or preferred?

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Key Points to be Discussed



Jason-2 Extension of Life

- If the Jason-2 is still healthy enough by the end of the second geodetic phase that just started, what ought to be the next orbit?
 - Repeat the first geodetic orbit
 - Repeat the second geodetic orbit
 - Interleave again

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Key Points to be Discussed



Jason-3 Extension of Life

- What are the recommendations for the Jason-3 orbit after tandem cal/val phase with Sentinel-6A and SWOT will also be on orbit
- Continue an interleaved orbit (as per usual) or something different?

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Key Points to be Discussed



Data services

- As data volumes, protocols, tools change:
 - What features do you consider as a must-have for a data service (today)?
 - What is the best way to present all the existing services today (or will be soon)?
Demos, presentations, posters, interactive posters, something else?

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Splinter Summaries



Friday 15:30-17:10

- Each Splinter has 10 minutes, and not a minute more!
- 5 minutes, 2 slides
 - The slide with questions most of the co-chairs provided already
 - Add the answers interleaved
- 5 minutes of questions/discussion

Discussions for each splinter are organized at the end of each session.
Plenary discussion and recommendations will take place on Friday afternoon.

Outreach, Education and Altimetric Data Services



Jessica Hausman - Vinca Rosmorduc - Margaret Srinivasan — Thu 14:00-15:45

- For both outreach and data services :
 - What is missing?
 - What new method/ways/material would you like?
- Outreach
 - What would you consider as an incentive to outreach (more)
 - Do you find outreach has too much/too little space/visibility in OSTST?
- Data services
 - What features do you consider as a must-have for a data service (today)?
 - What is the best way to present all the existing services today(will be soon)? Demos, presentations, posters, interactive posters, something else?
- At the cross-road : training
 - Which content, public, frequency, modality...? (face to face vs on line, theory vs practice, material to be re-used in teachers'lectures...)
 - What would you think useful in the specific case of altimetry / ocean topography / your own field of research?
 - What kind of material are you missing for your own lectures?

Precise Orbit Determination



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

■ Current issues

- Although the radial orbit accuracy is probably < 8 mm radial RMS, we still observe radial orbit drifts between different orbits that, regionally, can reach several mm/yr. How do we understand the source of this problem, which is related in part to the proper centering of the orbits?
- Delivery of input data for orbit processing within a short enough latency for use in altimeter satellite POD (e.g. time-variable gravity information).
- How do we validate orbits and prove unambiguously that they do have < 8 mm radial RMS accuracy?

■ Future outlook

- Availability of data from multi-GNSS receivers (e.g. GPS + Galileo; Jason-CS).
- Use data from next generation SLR systems in the next decade (more data, and reduced biases).
- Improvements in quality of DORIS data through improved Ultra stable oscillator modelling and other improvements.

Quantifying Errors and Uncertainties in Altimetry data



Michael Ablain, Joel Dorandeu, Remko Scharroo — Thu 16:15-18:00

- Current issues

- How do LRM and SAR errors compare?
- What is the impact of swell on SAR mode retrievals?
- How do tides (still) alias into our sea surface height retrievals?
- Can we quantify and qualify the improvements of SAR mode measurements in coastal areas versus LRM?
- Is there consensus on the source of the spectral bump on LRM mode measurements?
- Should we wait for the on-going TOPEX reprocessing before officially correcting the reference GMSL?

- Future outlook

- Where can we most reduce the errors in satellite altimetry? e.g Retracking, internal tides, sea state bias, wet troposphere correction stability, etc ...
- How to better characterize and homogenize the estimation of uncertainties in our altimetry community?

Y Faugere and O. Andersen

- Current issues
 - MSS accuracy (LRM vs SAR) and what next (Shaeffer presentation)?
 - MSS/MDT Averaging Period (when to update (20->25 or 30y or more)?
 - How to improve Coastal and Polar MDT (again LRM vs SAR)?
 - Future
 - Continuation of J2 LRO past 2nd cycle? -> fill in gaps or continue with interleaved.
- >recommendations

Application development for Operations



Gérald Dibarboure, Carolina Nogueira Loddó and Joseph Sienkiewicz — Fri 09:00-10:30

- Data accuracy, latency, precision topics. Where do we foresee significant advantages to be gained for the observations?
 - Sentinel 3A SARM recommendations
 - Satellite management during degradation/ end of life periods (Jason 2)
 - What are the prioritized advancements the group would advocate?
- Use of data applications
 - What demonstrations of applications are needed to support future developments in sensors and streams?
 - Are end users adequately familiar with the capabilities of the various instruments to make educated decisions?
- Expectations of future missions, and requirements for applications
 - What are some of the details of orbit, repeat period, ground track spacing, accuracy, precision, latency, ...?
 - Relative to applications of the future, what gaps exist in expected coverage? What should be done to address those gaps?