Instrument Processing:

Measurement and Retracking

Phil Callahan, Jean-Damien Desjonqueres, Alejandro Egido,
Cristina Martin-Puig and Walter H.F. Smith

Instrument Processing Morning Session Summary

10 presentations

5 posters

Topics discussed:

- Instrument calibration and its importance for geophysical retrievals (TOPEX, Sentinel-3A and Altika)
  - Full understanding and use of Cal data removes most instrument artefacts from TOPEX data
- The effects of surface motion in high resolution altimetry leads to bias and noise increment in the geophysical retrievals; explains most of the difference between SAR and PLRM
- High-frequency SWH noise reduction techniques (ESA CCI on Sea State)
- Results from the S3A/B tandem phase > how these support in the better instrument/processing understanding
- Extending new processing techniques to sea-ice freeboard, and building new recommendations for coastal processing
- (From the posters) Performance assessment of new processing techniques: FF-SAR, pulse-pair and LR-RMC

Discussion Topics – Recommendations

- The instrument calibrations applied to the data (CAL1, CAL2, other parameters/biases) should be provided in operational products.
- Additional variables should be added to GDR-F standards (e.g., Swell (wave model), Platform Attitude (complete/quaternions)).
- Reprocessing more frequently is OK as long as consistency among all missions is ensured.
- Numerical retracking should be considered for all missions (enhanced performance and flexibility)
- Jason-3 interleaved orbit is recommended.
- Define a benchmark for algorithm comparison, acceptance

- Combining meetings would be good