Instrument Processing Summary

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Outcomes and recommendations (I)

Excellent session with high quality presentations and outstanding results.

Great advances in the understanding of surface motion impact on UF-SAR mode performance:

- Look-Up Tables (A. Egido) for correcting HR SWH from the vertical velocities impact are fully validated and ready for operational implementation (S6/PDAP end Q2 or end Q4 2023, eligible to S3 & CS2).

- Good progress on 2D retracking (C. Buchhaupt), vertical and horizontal velocities are estimated, explaining differences between HR and LR related to surface motion (VV & Meridional winds)
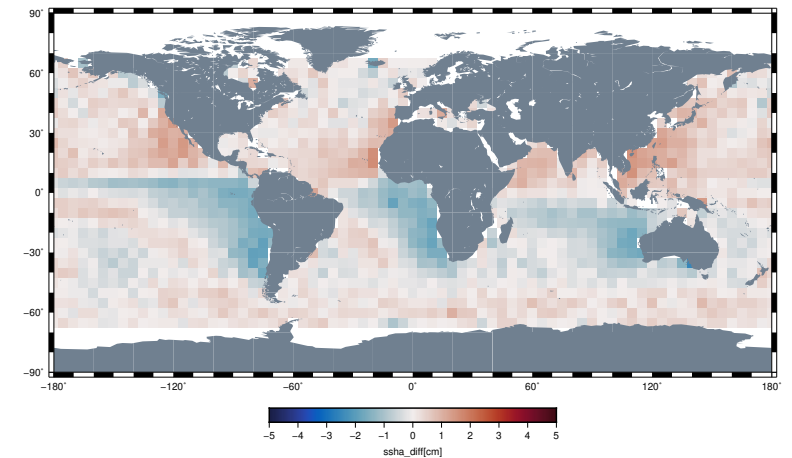
Discussion on **the need to increase the posting rates** (F. Ehlers):

- At least 40Hz, to compute unaliased spectra in case of a perfect sinc2 decorrelation. Additional efforts needed to better quantify the gain.

Outcomes and recommendations (II)

Fully-Focused SAR processing progress:

- SAMOSA model (adapted) could be used to retrack fully-focused SAR data (F. Ehlers)

- Replicas in the S6 data over hydrology targets and sea ice arise from gaps in the radargram (CAL + C-band pulses) (S. Amraoui). Removing those is challenging, further investigation is needed.

- FF-SAR offers new science perspectives as swell detection/characterization (O. Altiparmaki)!

Sentinel-6 radargram of sea-ice, Antarctica
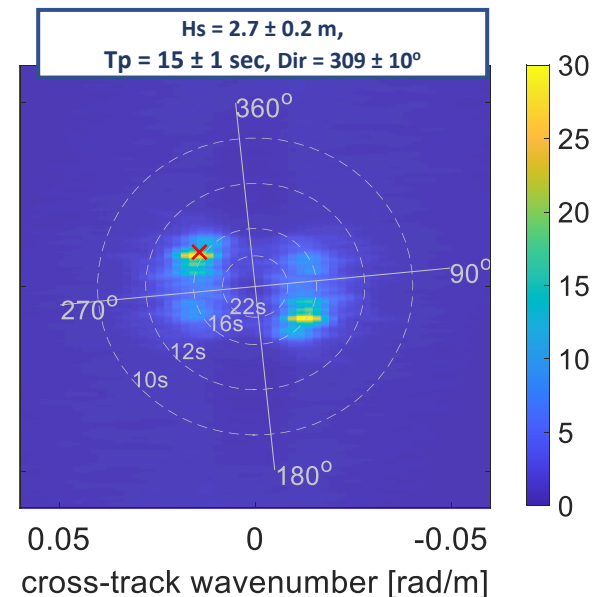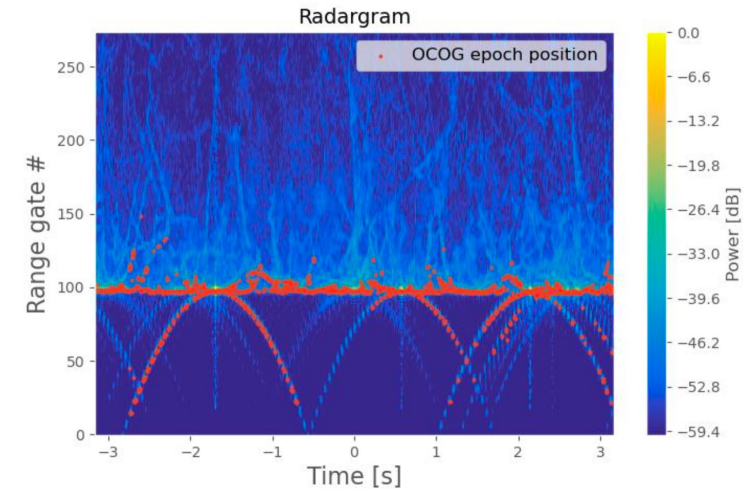
Outcomes and recommendations (III)

Adaptive retracking for conventional altimetry:

- 20 years of homogeneous data (J1,J2,J3,EN1,CFOSAT) reprocessed with the Adaptive retracker soon available (FDR4Alt, F. Piras)

- New formulation can make it faster with equivalent performance (FastAdaptive, A. Mangilli)