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CryoSat SAR/SARin Level1b products: expected quality improvements for BaselineD

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CryoSat was launched on the 8th April 2010 and is the first European ice mission dedicated to the monitoring of precise changes in the thickness of polar ice sheets and floating sea ice. Cryosat carries an innovative radar altimeter called the Synthetic Aperture Interferometric Altimeter (SIRAL), that transmits pulses at a high pulse repetition frequency thus making the received echoes phase coherent and suitable for azimuth processing. This allows to reach a significantly improved along track resolution with respect to traditional pulse-width limited altimeters.
CryoSat is the first altimetry mission operating in SAR mode and continuous improvements in the Level1 Instrument Processing Facility (IPF1) are being identified, tested and validated in order to improve the quality of the Level1b products.
Towards the release of the BaselineD of the CryoSat Level1b SAR/SARin products, that is expected during 2018, various improvements have been identified:
• The accuracy of the mispointing angles in L1b products is improved
• The window delay is corrected for the drift of the on-board Ultra Stable Oscillator from the expected frequency
• Additional parameters for sea ice lead discrimination are included in L1b products, as an example the stack peakiness
• The accuracy of the PLRM waveforms at 1Hz has been improved
This poster will detail the evolutions that are currently planned for the CryoSat BaselineD SAR/SARin Level1b products and the corresponding quality improvements that are expected.