Guillaume
Valladeau
CLS
Pierre Thibaut, CLS
Nicolas Picot, CNES
Amandine Guillot, CNES
Poster
SARAL/AltiKa ground processing and associated user products are directly derived from the Jason-2 ground processing chains (GDR-D standards). Even if this standard is state of the art for current altimeter systems in orbits and for deep ocean applications, the processing of the innovative Ka-band altimeter (40 Hz variable PRF system and mono-frequency) coupled with dual frequency radiometer slightly differs from the Jason-2 one (typically their frequencies and associated bandwidths). Thus, one of the challenges concerning SARAL is to benefit from other in-flight or past missions to improve our knowledge on altimetry and further investigate climate systems derived from Ka-band measurements. Consequently, the ground processing has to be enhanced to provide to the altimeter community the most reliable and relevant data for scientific studies and applications.

In particular, the reliability of AltiKa measurements for coastal and hydrology studies is of main interest in the frame of the PEACHI project (Prototype for Expertise on AltiKa for Coastal Hydrology and Ice). This project is a CNES (Centre National d'Etudes Spatiales) initiative to provide end-users reliable Ka altimeter measurements over coastal areas and in open ocean but also in continental and sea ice domains, and also linked to the CNES PISTACH and ESA Coastalt projects.

The prototype developed in the frame of the PEACHI project first aims at improving the reliability and the accuracy of the geophysical parameters thanks to new or improved algorithms. Preliminary results of the improvements performed on the main corrections (retracking algorithms, new radiometer corrections, improved tide models …) applied to SARAL/AltiKa measurements in the frame of the PEACHI project are presented here and especially focus on coastal zones.

The good quality of the measurements obtained with SARAL mission is compared with previous (ESA ENVISAT) and/or current missions like Jason-2 and the ESA CryoSat mission. These developments intend to demonstrate the advantage of the innovative Ka band for scientific studies.
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