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The SARAL program is a joint mission conducted by ISRO and CNES dedicated to environment monitoring. The satellite, which was successfully launched on the 25th of February this year, carries the first altimeter using the Ka band: AltiKa. This instrument provides new opportunities for understanding altimetry in the coastal region thanks to its reduced footprint, improved range resolution and excellent measurement noise but it also poses new challenges linked to the new frequency band. The Cal/Val phase of the system has been conducted successfully and the first results are very promising. We analyse the inversion of waveforms provided by the AltiKa instrument over various surfaces covering the whole range of applications of radar altimetry (ocean with strong non uniformities of the sigma0, coastal regions, hydrology and glaciology) and compare the result of these inversions (height and sigma0) with those of the classical retrackers. The application to other missions is also analyzed.

This work is performed in the frame of the OSTST/TOSCA project RESIPE/AltiWaveforms. OSTS session Instrument Processing

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