



SARAL/AltiKa Project Overview

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The SARAL-AltiKa satellite mission is an India-France ISRO-CNES joint project. The satellite has been put into orbit by a PSLV vehicle supplied by ISRO, and launched from Sriharikota, the main ISRO launch base, on Feb. 25, 2013.

The SARAL (Satellite for ARGos and ALtika) payload consists of an ARGOS instrument, and an altimetry payload including the AltiKa radiometer-altimeter. SARAL/AltiKa is intended to be a gap filler mission between the RA-2 on-board ENVISAT and Sentinel-3. As such, SARAL/AltiKa is flying on the same orbit as ENVISAT. The special feature of SARAL/AltiKa is mainly related to a wideband Ka-band altimeter (35.75 GHz, 500 MHz), which is the very first satellite altimeter dedicated to oceanography to operate at such a high frequency. The AltiKa instrument consists in a Ka-band altimeter based on already developed subsystems inherited from Siral (CRYOSAT) and Poseidon-3 (JASON-2) in particular, and an embedded dual frequency radiometer. The altimeter and the radiometer share the same antenna. Due to the single frequency Ka-band altimeter, the enhanced bandwidth leads to a better vertical resolution. The spatial resolution is also improved, thanks to the Ka-band smaller footprint and the increased PRF.

This talk will present the main characteristics of the mission and the main outcome regarding the data availability and overall quality after 2 years of mission. In particular, we will focus on the main advantages and/or drawbacks of the Ka band frequency compared to the classical Ku band used on other missions like Jason-2. A specific point will be performed on the rain attenuation and corresponding impacts on the altimeter data quality.