



The 2013 Ibiza calibration campaign of Jason-2 and Saral altimeters: preliminary results

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An altimetry calibration campaign was achieved in the Mediterranean Sea, close to the Ibiza island (Balears) area, last September in the framework of a Spanish-French cooperation. Its goal was to provide absolute biases for the Jason-2 and AltiKa/Saral altimeters through comparisons with GNSS measurements on buoys. A similar Spanish/French experiment was already performed for Jason-1 in June 2003 in this geographical area under the name IBIZA 2003 campaign. Direct absolute altimeter calibration, estimating the Jason-2 and AltiKa/Saral biases, was made from direct overflights using GPS buoys. This method does not require any modeling of geoid and tidal error. The Spanish/French Jason-2 and AltiKa/Saral calibration campaign IBIZA 2013 was carried out in June 14-16, 2013 in the area of Ibiza Island in the NW Mediterranean Sea. The experiment was composed of two phases: i) the pre-calibration of the 5 buoys by reference with the Ibiza tide gauge to level the GPS antennas above the sea level, and ii) the absolute calibration of the altimeters at the cross-over point. The crossover point between Jason-2 and Saral North of Ibiza (around 40 nm) and West of Mallorca island was found to be optimal for our purposes as it allows measurements at a one-day time-lag and a similar configuration of buoys for each satellite pass. Five buoys were deployed near a Jason-2/AltiKA Saral crossover point to determine the sea surface in the along-track and cross-track directions, to estimate by interpolation the exact nadir point of the satellite. Here, we present the experimental settings of the campaign and the datasets used in this study, the methods used for comparing altimetry data with GNSS measurements, and the first results of the absolute calibration.