



Assessing SARAL/AltiKa delayed-time Ssalto/Duacs data in the coastal zone: comparisons with HF radar observations in the Ibiza Channel

Ananda Pascual (1), Arancha Lana (1), Charles Troupin (2), Simón Ruiz (1), Yannice Faugère (3), Romain Escudier (1), Joaquín Tintoré (1,2)

(1) IMEDEA (CSIC-UIB), Esporles, Spain (ananda.pascual@imedea.uib-csic.es), (2) SOCIB, Palma de Mallorca, Spain, (3) CLS, Toulouse, France

We present an initial assessment of SARAL/AltiKa Ssalto/Duacs data in the coastal band. The study focuses on the Ibiza Channel where the north-south water exchanges play a key role in controlling the circulation variability in the Western Mediterranean at a wide range of scales. In this area, the track 16 of SARAL/AltiKa intercepts the domain covered by a coastal high-frequency (HF) radar system, which provides hourly surface currents, with a range up to 60 km. We evaluate the performance of the new altimeter when compared to the HF radar surface velocity fields. The Ssalto/Duacs delayed-time along-track products evidence the emerging capabilities of SARAL/AltiKa in the coastal zone: data are retrieved at a distance of only 7 km from the coast. Additionally, SARAL/AltiKa derived velocities reveal coherent mesoscale features among the different cycles and with reasonable agreement with HF radar fields (significant correlations of 0.54). Root mean square (rms) differences between the estimated SARAL and the HF radar velocities are of about 13 cm/s, which the same magnitude of the altimetric rms (14 cm/s) and slightly larger than HF radar (10 cm/s). These results are consistent with recent studies in other parts of the ocean applying similar approaches to Topex/Poseidon and Jason-1 missions and using dedicated coastal-oriented altimeter corrections.