

## عنوان مقاله:

A New Approach of Waveform Re-Tracking for Monitoring Sea Surface Topography in the Strait of Hormuz

## محل انتشار:

اولین کنفرانس بین المللی و دومین کنفرانس ملی فناوری ها و کاربردهای نوین ژئوماتیک (سال: 1399)

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## خلاصه مقاله:

Satellite altimetry techniques has many challenges over inland water bodies and coastal area due to none-water reflected pulses which cause waveform corruption. Consequently, standard waveform shape which have been designed for open oceans monitoring are no longer valid in these areas. This makes specially designed new re-tracking algorithm development essential delegated for these regions. In this study apart from available re-trackers in Level-2 data, three other re-tracking approaches including: original waveform, first meaningful sub-waveform and mean waveform per each pass and cycle have compared with the new developed method called maximum correlation with mean waveform. Sentinel-3 (SRAL) altimetry data over Strait of Hormuz located in Persian Gulf during ۲۰۱۶/۰۶/۰۷ to ۲۰۱۹/۰۶/۱۱ examined with the available Tide Gauge (TG) station data record in study area. Analysis of distorted waveform showed that three passes (۱۵۴, ۵۹۵, ۷۰۹) have the highest corruption rates compare to the other available passes in this area (۴۵.۹۲%, ۳۸.۶% and ۳۰.۹۷%). Consequently they have been selected for further steps of the study. Sea Surface Topography (SST) time series estimated from with proposed re-tracking approach in terms of RMSE with respect to TG records. Our assessments showed ۳۴ and ۲۹ cm improvement in RMSE for pass ۵۹۹ and ۷۰۹ comparing to level-2 data. Overall time series also showed ۱۷ cm improvement in RMSE of SST derived from the proposed approach in compare with level-2 data.

## کلمات کلیدی:

Satellite Altimetry, Coastal Area, Waveform Re-tracking, Threshold, Maximum Correlation

## لینک ثابت مقاله در پایگاه سیویلیکا:

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