

عنوان مقاله:

2D HYDRODYNAMIC MODELING AND DEVELOPMENT OF CO-TIDAL/CO-RANGE CHARTS OF THE PERSIAN GULF

محل انتشار:

دوازدهمین همایش بین المللی سواحل، بنادر و سازه های دریایی (سال: 1395)

تعداد صفحات اصل مقاله: 2

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خلاصه مقاله:

Tidal waves propagation are mainly controlled by the Coriolis, reflection, shoaling and friction effects, which the last two factors are restricted to shallow water basins. On the other hand, the boundaries of basin geometry and the Coriolis effect result to the development of amphidromic systems with zero tidal range at amphidromic points. These can be depicted by co-tidal lines, which link all the points with the same tidal phase, and co-range lines which connect points having the same tidal range [1]. Literature shows few derived co-tidal and co-range maps for the Persian Gulf. One series of the wellknown maps, based on direct observations over the sea and shallow waters, has been provided by the United Kingdom hydrographic office (Admiralty) [2]. These charts are not the outputs of the propagation of the tidal waves and they have been developed by applying the well-established mathematical relations between stream and surface-gradient [3]. Applying the water level data of Admiralty at the open boundary of Hormuz Strait, Sabbagh-Yazdi et al (2007) used NASIR model to extract the co-tidal charts of the Persian Gulf [4]. Pous et al (2012) also applied a 2D shallow water model over the northwestern Indian Ocean, forced by 7 tidal components at the southern boundary, to derive the co-tidal and co-range maps of harmonic constituents [5]. Using a state of art hydrodynamic model with a detailed bathymetry and shoreline, the present study offers the tidal regime and co-tidal/co-range maps of the Persian Gulf.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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