عنوان مقاله:

Tidal components along the north of Oman Gulf and Persian Gulf

محل انتشار:

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خلاصه مقاله:

This study concentrates on the ۶۱tidal constituents of ۱۷stations on the north of Oman Gulf(OG),Strait of Hormuz(SH)and Persian Gulf(PG).Five-years tidal data(۲۰۱۴-۲۰۱۸,۳۰-minutes intervals) was achieved by Iran National Cartographic Center to calculate mean levels of stations.Then,t_tide library was used to calculate ۶۱ tidal constituents by ۹۵%of confidence in Matlab for ۲۰۱۸ data.Then, they sorted by the magnitude of the amplitude to express the most significant ones in each stations. Results shows that the mean levels of the northwest and northeast of PG are mirror images.Although the major diurnal and semidiurnal tidal constituents of ۱۱stations areM۲,K۱,S۲andO۱,by changes in order of importance; in ۶stations,N۲ constituent is more important than O۱. These exceptions go back to the stations of SH and northwest ofPG, which shows the importance of the SH bending and the shallowing of the northwest of PG. Moreover, the top ten components of all stations are not ۱۰ unique components and they include ۲۱ components.Due to the Form factor,F,all the studied stations are mainly mixed semidiurnal type. The predicted t-tide tides show small errors compare with the original ones. The results also showed that the range and components of harmonic astronomical tides are influenced by local geography. On the head of PG,the EmamKhomeini's tides is sharp due to the shallow water, and the semidiurnal components(S۲andN۲)are much stronger than the diurnal components(O۱andP۱).The Pol Port's tides is effected by narrowing of SH.Therefore, in some ports, non-tidal parameters such as geographical shape or shallow water are effective while considering astronomical components of moon and sun.

کلمات کلیدی:

Tides, Tidal constituents, Persian Gulf, t-tide Library, MATLAB