4th International Conference on GEOLOGY AND GEOSCIENCE

April 27-28, 2017 Dubai, UAE

Considering the patterns of barotropic tidal currents in Persian Gulf and Oman Sea

Fatemeh Sadat Sharifi, A A Bidokhti, M Ezam and F Ahmadi Givi Islamic Azad University, Iran

In this research, a barotropic model was used to consider the tidal studies in Persian Gulf and Oman Sea where the only effective force was the tidal force. To do that, a finite-difference, free surface model called ROMS, was employed on the data over the Persian Gulf and Oman Sea. The two places were chosen since both are one of the most important water bodies in case of economy, biology, fishery, navigation and petroleum extraction. The modeled result was validated by the OTPS tidal data and also the data gathered from some stations. Next, tidal elevation and speed, and tidal analysis were rendered. The preliminary result shows a significant accuracy in the tidal elevation compared with the tidal stations and OTPS, revealing that tidal currents are highest in Hormuz Strait, and the narrow and shallow region between Kish Island and other Iranian coasts. Moreover, tidal analysis clears that the M2 component has the greatest value. Finally, the tidal currents entering Persian Gulf are divided into two branches: the first branch turns from south to Qatar and via United Arab Emirate returns to Hormuz Strait. The second branch, in north and west, continues up to the highest point in Persian Gulf and in the head of Gulf turns counterclockwise.

Biography

Fatemeh Sadat Sharifi is a PhD student at Azad Islamic University of Iran working in the field of Physical Oceanography. She is interested in areas of tidal currents and waves, oceanic circulation, upwelling and down welling, fronts, seasonal monsoons and modeling.

Fateme.sharifi1391@gmail.com

Notes: