



## **A New Sea Surface Topography Model for the Persian Gulf and Oman Sea Based on the High Resolution Local and Global Geoid Models**

R. Kiamehr (1), M.T. Sadatipour (2), and M. Abrehdari (2)

(1) Zanzan University, Department of Cartography, Zanzan, Iran (ramin@infra.kth.se), (2) College of Marine Science and Technology, Tehran Azad University, North Unit, Tehran, Iran

In this paper, gravimetric and altimetric data are used to assess an estimation of the sea surface topography in the Persian Gulf and Oman Sea. This is a complex area from different points of view, due to the presence of several islands, coastal lines and shallow waters. The local gravimetric geoid model IRG04 and EGM2008 global geopotential model was used for determinations of the geoid height in the study area. We also used sea surface height data (SSH) generated from repeat ERS-1 altimeter data and DMSC08 global mean sea surface model with the resolution of the one minute was used for estimation of the sea surface topography. We present the comparisons between the gravimetric and local geoidal heights and the adjusted sea surface. This is a way to obtain a rough estimation of the sea surface topography (SST). The differences obtained are physically reasonable. The result indicates an interesting overview on the general pattern of sea circulation on the study area.