



A New Moho Depth Model for Iran Based on the High Resolution EGM2008 Global Geopotential Model

Ramin Kiamehr

Zanjan University, Zanjan, Iran (kiamehr@kth.se, +98 241 2283201)

In 2009 a new gravimetric Moho depth model computed for Iran based on the Parker-Oldenburg method. However, the distribution of the gravity data was not homogenous and there was a great lack in quantity of gravity data in most part of country. Also, the gravity data gathered from different recourses which indicates present of systematic errors and datum problems. However, the new Earth Gravitational Model (EGM2008) published up to degree/order 2160 with the availability of improved versions of worldwide $5' \times 5'$ gravity databases and GRACE-derived satellite solutions which can be suitable for crustal depth analysis. In general, we think there is a good agreement between the Moho geometry obtained using both land and EGM08 models. Basically, different in higher frequency content in EGM08 Moho model, is due to the fact that the algorithm is able to converge and obtain a good fit implying higher frequencies than the land Moho model. Also, the general geometry and the maximum depths are quite similar. The main difference is that the land data provide lower minimum values. We consider that three small areas, located at 40N 48E, 37N 50E and 26N 58E exhibit too higher frequency contents resulting in too shallow Moho depth values. It is normally due to the occurrence of gravity lows or highs related to sedimentary basins or geological bodies whose wavelength is similar to the one for the Moho.