Iranian Permanent GPS Network for Geodynamics (IPGN)

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Iran is one of the most tectonically active zone in Alpine-Himalayan seismic belt where has been shaken by largely destroying historical and instrumental earthquakes. Iran is located in the convergence zone between Arabia and Eurasia with a velocity of 22 mm/yr nearly to the North. The shortening between Arabian and Eurasian plates in Iran is mainly distributed on Zagros and Alborz belts. Despite the historical and scientific awareness of seismic hazard in Iran, unfortunately this country lacked a Continuous GPS network to study geodynamic and tectonic movements. Such geodetic measurement can play an important role to understand the tectonic deformation then to evaluate the seismic hazard on Iran. Since early 2005 National Cartographic Center of Iran (NCC) is establishing a continuous GPS network named Iranian Permanent GPS Network for Geodynamics (IPGN).

Taking into account the number of provided GPS receivers, (108) we made a priority based on two factors of seismicity and population. At the first, in order to study general tectonic behavior in Iran 41 stations, globally distributed in whole of Iran, were been considered. Three other areas in the priority list were: Central Alborz, North-West of Iran and North-East of Iran. The rest of receivers, i.e. 60, were considered for these areas as local networks. These four networks are daily processed and give us a continuous monitoring of any surface deformation. In this paper we try to present the results obtained from the network.