



GPS Observations of Contemporary Deformation and Kinematics of Izmir, Western Anatolia

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Both seismological and geodynamic research emphasize that the Aegean Region, which comprises the Hellenic Arc, the Greek mainland and Western Turkey is the most seismically active region in Western Eurasia. This region is mainly under pure shear stress from an internally deforming counter-clockwise rotation of the Anatolian Plate relative to the Eurasian Plate. In order to investigate contemporary deformation in Izmir and its vicinity, a Global Positioning System (GPS) monitoring network was established newly on August 2009. The network consists of 13 GPS stations. GPS measurements to present recent crustal deformation of the region have been started and first GPS campaign was performed. Izmir is a large city in this region in Turkey with a population of about 2.5 million that is at great risk from big earthquakes. The Tuzla Fault, which is aligned trending NE–SW between the town of Menderes and Cape Doganbey, is an important fault in terms of seismic activity and its proximity to the city of Izmir. This paper presents the study and the current results obtained from GPS observations.