



## **Estimation of Tavaksay polygon deformation on the based of GPS datas**

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Central Asia region and, particularly, the territory of Uzbekistan are non-uniformly provided high accuracy geodetic networks because of complex relief. An establishment of the Fiducial Geodetic network, based mainly on the use of space geodesy technique is a principal objective of the national program carried out in Uzbekistan. The objective is to provide a terrestrial reference frame in this region, and to help answering various question about Earth deformation on one side and hydrology on the other side. Tavaksay geodynamical polygon was choosed as model of local network properties in this work. It was created in south-west part of Karzhantau depression after strong eathquake in 1977 ( $M=5.3$ ) for geodynamical purpose. Large cities (Tashkent, Chirchik), Charvak hydro-electric station (about 40 km), industrial enterprises are located here also. Beginning from 2003 systematic GPS measurements were done in this polygon. The current investigation focuses on construction of the local geodetic network. The combined astronomical, geological and space results of two international stations Kitab and Tashkent are used as reference points for estimation regional deformation of Tavaksay polygon.