IDS Workshop

INVESTIGATION KITAB-TASHKENT BASELINE ON THE COMBINATION OF DIFFERENT GEODETIC TECHNIQUES

D.Fazilova[1], J.-F. Crétaux [2], A.Fazilov[3]
[1]A*stronomical Institute of Uzbek Academy of Sciences, Kitab,Uzbekistan,* kitab@intal.uz
[2]*Centre National d'Etudes Spatiale, Toulouse, France*
[3]*Architecturally-build Institute, Tashkent, Uzbekistan*

Abstract

State Geodetic Network of Uzbekistan was developed with ground-based means per the scheme and program suggested by F.N. Krasovsky throughout more than 50 years. Still Uzbek geodetic services use CS-42 system as reference. Precision of geodetic point coordinates in this system is not sufficient to solve with most of economics tasks. Distortions in the current datum up to 10 m have been recognized. With the purpose of improving the national geodetic reference frame an establishment of the new space geodetic network now carried out in Uzbekistan under the management of the State Committee for Land Recourses, Geodesy, Cartography and State Cadastre in collaboration with the Academy of Sciences. This network will be widely used by federal, state, county, city and private parties for routine surveying applications. At present reference stations network constructed and it includes both permanently working points and passive points. The primary function of these stations will be to connect the Uzbekistan survey system to global geodetic networks (ITRF), which will increasingly be used by modern survey technology. These stations will be located on secure stable rock sites and will be used as base stations for developing of geodetic networks follow classes. Former astronomical observatories Kitab and Tashkent were chosen as permanently stations of the network. The objectives of the current investigations focus on the initial task of constructing a local geodetic network serving as a reference baseline for the Uzbekistan geodetic network. Data of two GPS stations in Uzbekistan are taken into consideration: Kitab and Tashkent for the period from 2002 to 2009. For processing of the data we had chosen the scientific software BERNESE. We used all the measurements made by different techniques (ZT, GPS, DORIS) at the Kitab observatory for research of kinematical characteristics of reference point. This paper presents the author views on options for a new datum and geodetic control network, and reviews current progress towards a new network and datum also.