



ABSTRACTS

7. Ana-Maria TOPORET, Livia NISTOR-LOPATENCO, Ion BOICU: Using geodetic technologies for monitoring of the landslides

Geodetic engineering works have always been of major importance in studying the behavior of earth masses and constructions. In the last period, with the technological evolution, there has been a growing need for monitoring the areas affected by landslides. In this paper were investigated the geodetic principles, technologies and methods which are used for the monitoring of the landslides. The main purpose of the study is to determinate with high precision the values of the displacements of the masses on the studied area caused by landslides. The objectives of the paper are the selection of geodetic methods and equipment for making measurements and processing and analyzing the data with high precision.

At the beginning it was designed the monitoring network by the poligonometric method and were materialized the characteristic points of the network. The network is composed of 35 characteristic points, 3 landmarks and 32 control points that cover the whole studied area. There were performed two cycles of measurements with the total station Nikon NPR-352. Because all observations contain measurement errors to increase the accuracy and reliability of final results it's important to make the adjustment of observations. In this study has been implemented the method of conditioned measurements for the adjustment, because it gives good results. After processing all the data there were obtained the values of the control points. After analyzing the values of control points were determinate the values of displacement. If we analyze these values we determinate that the area characterized by the points Br.1-Br.7 it's a safety area which is not influenced by landslides while the area characterized by all the other points manifested displacements of the soil masses and is dangerous for later exploitation and needs countermeasures of the landslides. In conclusion the methods that were used gave good results with high precision. The studied area needs countermeasures of landslides because after the monitoring we obtained displacements that are dangerous for the exploitation of the area.

Organisers



Partners

