

EXPERIMENTAL STUDIES OF GEODETIC MONITORING ACCURACY OF UPPER SURFACE OF ENGINEERING OBJECTS AND CONSTRUCTIONS

Ivan A. Knol

Siberian State University of Geosystems and Technologies, 10, Plakhotnogo St., Novosibirsk, 630108, Russia, Assistant, Department of Applied Informatics and Information Systems, phone: (903)903-54-99, e-mail: ivanknol@mail.ru

The development of totally new methods for geodetic monitoring of engineering objects and constructions in emergency state is a relevant scientific and technical task of geodesy. The results of such studies allow to ensure prompt and reliable data of the condition of a spatial object for the purpose of its safe exploitation. The article presents experimental studies of a quadcopter model according to the developed by the author method for geodetic monitoring of engineering objects and constructions based on the multi-agent system theory. The article describes the test model of quadcopter and mean square error calculation of elevation measurement in the laboratory conditions of the station. Based on the experiment results the article makes the conclusion about the possibility of measurement by the described method. The suggested method is possible in situations when measurements by man are impossible and the object of geo-monitoring is an inaccessible place.

Keywords: geodetic monitoring, laser distance measurer, multi-agent systems theory, robotized measurement device, quadcopter, reflecting prism, spatial and temporal condition

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