THE RESULTS OF GRAVIMETRY APPLICATION IN WEST-SUTORMINSKY GEODYNAMIC TESTING AREA

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The results of gravimetry during the second observation cycle, the technology and procedures of in-situ measurements are described by the example of West-Sutorminsky geodynamic testing area.

Key words: geodynamic testing area, geodetic and gravimetric observations.

ADJUSTMENT OF GEODETIC NETWORKS BY RELATIVE GPS-MEASUREMENTS

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The method of equalizing of the geodetic networks, using results of relative GPS-measurements is considered. Process of formation of correction equations system is in detail de-scribed: matrixes of factors and vector of the right-hand part. This method allows to receive coordinates of unknown points in system of coordinates of initial points.

Key words: GPS measurements, geodetic network adjustment, correction, coordinates of land stations measurements, coordinate system, satellite receiver.

HIGH-ACCURACY SURVEYING OF VENICE LANDMARKS BY RIEGL VMX-250 LASER SYSTEM

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During the last few years mobile laser scanning operated from land and water vehicles has rapidly been becoming established for various areas of application, such as the surveying of roads, trackage, and coasts. This is based on the continuous technological advancement of the individual components, the combination of which now makes it possible to deliver highly accurate 3D point clouds at very high measurement rates.

The *RIEGL* VMX□-250 provides a compact, flexible and high-performance system for mo-bile laser scanning. The seamless integration of the modular camera system into the hard- and soft-ware complements the system.

This report gives an overview of the system concept and demonstrates the high quality of the data, with a project to survey the palaces of the Grand Canal in Venice as an example. The ideal workflow for recording, as well as the newly developed automatic adjustment of scan data is de-scribed and analysis resulting in facade plans is outlined.

Key words: Mobile Laser Scanning, Photogrammetry, Surveying, Modeling, Orthoimage.

ACCURACY ANALYSIS OF VECTOR SUPER LONG BASELINES BY THE RESULTS OF GPS-MEASUREMENTS

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The research described in this article was carried out under the Federal Target Program for GLONASS infrastructure realization in the Novosibirsk area. It concerns the problem, arising while determining obtaining the coordinates of points in geocentric coordinate system. The paper de-scribes the experiment on processing super long baselines (longer than 1500 km) using commercial software.

The analysis of the baseline processed by the methods of mathematical statistics in this software has been conducted.

Key words: ITRF, IGS, the covariance ellipsoid, statistical analysis, the Target Program.

APPLICATION OF ULTRACAM SURVEYING DATA FOR THE EARTH DIGITAL MODEL DEVELOPMENT

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This paper describes the BING maps project carried out since 2005 by Microsoft. The history is described as well as the underlying technology and the most recent Global Ortho project. Also the digital aerial frame camera UltraCamG is described. This camera has been developed specifically by Vexel Imaging for Microsoft for nation-wide mapping to carry out the Global Ortho project.

Key words: BING maps, Global Ortho, UltraCam, UltraMap, digital camera, aerial camera, remote sensing, digital photogrammetry.

RESEARCH OF PROBABILITY OF SPACE ANALYTICAL TRIANGULATION ACCURACY ESTIMATION

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The paper deals with the reliability of probable errors of terrain points coordinates calculated from adjustment of a phototriangulation network and proves

a necessity to take them into account for accuracy estimation of digital mapping and modelling results.

Key words: 3D Model, relief digital model, phototriangulation network, territory modelling, software, error, coordinate measurements mean error, extension of geodetic control.

INVESTIGATION OF RELIEF INFLENCE UPON THE ACCURACY OF VERY HIGH RESOLUTION SATELLITE IMAGES ORTHORECTIFICATION

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In the article accuracy assessment of orthorectified images WorldView-1 and IKONOS using digital elevation models of various densities is considered.

Key words: satellite images, digital elevation model, orthorectification, accuracy.

ACCURACY ASSESMENT OF CALCULATED CORRELATION COEFFICIENTS OF TASSELED CAP TRANSFORMATION FOR FORMOSAT-2 IMAGERY

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In article main point of the Tasseled Cap transformation is briefly described and accuracy as-sessment of this transformation coefficients which were calculated for plots areas with typical set of objects is given. In result of the assessment a summary about selection accuracy of these plots and about opportunity of these coefficients usage for automatic selection of objects is given.

Key words: principal component analysis, Tasseled Cap transformation, correlation matrix.

URBAN FORESTS (STAND) AND THE PROBLEM OF THEIR RECREATIONAL USE

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The problems of the recreational use of city lands covered with forests and their state cadastral account in Krasnoyarsk city are discussed in the paper.

Key words: urban (city) lands, urban forests (stand), recreational use, anthropological influence, landcover.

MASS ESTIMATION OF REAL ESTATE OBJECTS – FEATURES OF APPROXIMATING FUNCTIONS APPLICATION

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Are considered result of application of approximating functions in the course of a mass esti-mation of objects of capital construction. Examples of some functions used as descriptive model of distribution of cost of objects on a city territory of Novosibirsk are resulted.

Key words: evaluation, real property object, approximating function, descriptive model, regression analysis method, appraiser.

ESTIMATION OF HYDROLOGICAL NETWORK CONDITION OF THE IRTYSH RIVER BASIN IN KASAKHSTAN

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It is looked the questions of geological history, age of left bank net of Irtysh. It was given the characteristic of gidrological regimes changes of mix waters of left tributary in the basin high Irtysh.

Key words: network, hydrophysical network, conditions, estimation, river nutrition source, hydrological conditions.

NATURE MANAGEMENT IMPROVEMENT ON THE BASIS OF BIOCHEMICAL PROCESSES IN ECOLOGY

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Analysis of chemical elements distribution and their role in technosphere and biosphere are presented. The difference between their biochemical laws is shown. Improvement of nature management on the basis of biochemical processes is substantiated. The new role of environmental economics in managing biotic migration of 3rd genus atoms is underlined.

Key words: biochemical processes, classifications integration, nature management.