

ACCURACY GUARANTEE FOR COORDINATE-TIME DETERMINATIONS USING GLONASS TECHNIQUES

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The paper analyses the effects of navigational signal multipath propagation and unrecorded signal delays in the receiving equipment radio channels, which are typical for GLONASS technologies, on the measurement accuracy as concerns navigation satellite geometrical ranging to the signal receivers.

Key words: satellite navigation system, GLONASS, unrequired path measurements, multipath propagation, inter-character delays.

THE PSEUDO-GRAVITATIONAL SIGNAL FORMED IN SPRING ГРАВИМЕТРЕ UNDER THE INFLUENCE OF MICROSEISMIC WAVES NATURAL ЭНДОГЕННОВОГО OF THE ORIGIN, AND USE OF THIS SIGNAL IN GEOLOGICAL PROSPECTING

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In [8, 13–16, 28, 29] papers it was given a mathematical description of this falsegravitational ξ signal happening to appear in our spring gravimeter shaken by the endogenous microseismic waves. Such a signal bears the underground geological objects information. In the above-mentioned papers the ξ -signal survey sings are thoroughly systematized. Is has been shown here that some of these indications are undeliberately used in the highly-effective empiric methods of the gas and coal-beds contouring known as the GONG abbreviation. But the author of the

methods underpins his own law of gravity which is strongly opposed to Newton's one. In the article the early presented alternative microseismic version the GONG-methods is also presented.

Key words: spring gravimeter, microseisms, gravitational prospecting.

ELIMINATION OF DISPERSION SPREADING INFLUENCE IN ATMOSPHERE ON HIGH-PRECISION FEMTOSECOND LASER RANGER OPERATION

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Same methods of dispersion spreading influence attenuation of femtosecond laser pulses in atmosphere resulting in the increase ranger finder measurements errors are suggested.

Key words: dispersion spreading, measurements errors, femtosecond laser pulses.

LAWS OF DISTRIBUTION OF EXTREMAL VALUES

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Origin conditions of distribution laws extremal values of errors and corrections were defined, using statistical method of the analysis.

Key words: network, analysis, distribution law, criterion, error, correction.

BASIS FOR THE ACCURACY OF GEODETIC AND ASTRONOMICAL SURVEY IN ASTROARHEOLOGY RESEARCHS

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GEODETIC ADJUSTMENT SOFTWARE FOR AUTOCAD: THE PROBLEM OF CHOICE AND COMPARATIVE ANALYSIS

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AutoCAD is a high-performance program application, providing tools for highly efficient work. Due to the special utilities CAD may be indispensable for both a designer and a surveying

engineer. A brief comparative analysis, advantages and disadvantages of some geodetic adjustments, facilitating geodetic data handling, are presented.

Key words: geodetic utilities for AutoCAD, comparative analysis, main advantages and disadvantages of some geodetic adjustment, geodetic data.

USAGE OF UNMANNED AERIAL VEHICLES FOR MONITORING PURPOSES ON EXAMPLE OF OPEN-PIT MINING

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The article considers the possibility of using original unmanned aerial vehicles for remote sensing and monitoring on example of open cast mining.

Key words: aerial photography, unmanned aerial vehicle, open pit mining, monitoring.

ASSESSMENT OF NOVOSIBIRSK REGION AGROLANDSCAPES FUNCTIONING FEATURES

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The author presents analysis of Novosibirsk region agrolandscapes current state by the example of Zdvinsk district. Cause-and-effect relations are revealed, the necessary measures on the lands development are offered.

Key words: agrolandscape, land evaluation, agro-cultural lands.

NEW LOOK FOR THE ORGANIZATION OF INFORMATION RESOURCES MANAGEMENT FOR MUNICIPALITIES

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Provides a method of integrating the information resources that are generated by departmental and municipal agencies within the overall distributed heterogeneous information space, to improve the efficiency of territory management, achieved through the use of the most complete and accurate information about the objects of control in decision-making.

Key words: information resources, information systems, territory management, database, spatial data, metadata.

ESTIMATION OF PHYSICAL SURFACE AREA OF A PARCEL LOCATED IN ALTAI REGION

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Estimation of physical surface area of a parcel located in Altai region. A method and a technology of physical surface area express-evaluation are stated. Results of physical surface area estimation are shown by the example of a parcel located in Altai region using «Square» software.

Key words: physical surface area, parcel, territory, degree of terrain irregularity, express-evaluation.

THE COORDINATION OF OPTICAL SYSTEM AND PHOTODETECTOR IN MEASURING DEVICES

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In article there is defined the problem of the optimum coordination of separate links of the various physical nature among themselves, for example partially there is solves the optimum

radius of a circle of dispersion concerning the photodetectors photosensitive elements geometrical sizes which provides the minimum error.

Key words: simulation, measurement, accuracy, harmonization, electro-optical system.

THE FEATURES OF CALCULATION OF LONGITUDINAL CHROMATIC ABERRATION AT OPTICAL DESIGNING OF LENSES OF TELESCOPIC SYSTEMS

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The article deals with methods for calculating the chromaticity of the optical design of lenses of telescopic systems. The areas of application of these methods, their advantages and disadvantages are presented.

Key words: chromatic aberration, longitudinal chromatic aberration, secondary spectrum, Slyusarev methods.

DUAL-BAND LENS IR LENS

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Described the study of the properties of combinations of materials for infrared, is a dual-band calculation of IR aperture of the lens.

Key words: dual-band infrared receiver; dual-band infrared lens aperture; the function of concentration of energy.

INDICATORS SYSTEM OF DRY STEPS ECOSYSTEMS MONITORING

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On the Ubsunur depression (Tyva Republic) a biomass of microorganisms and some indicators of its metabolic activity in soils of the pastures which are long time under various grazing press are studied. There is conclusion about possibility of use of that soil microbial indicators in the practice of dry steppes ecosystems monitoring.

Key words: indicators, steps soils, anthropological process, biological circulation, pastures (grazing) load, metabolic activity of microorganisms biomass in pastures soils.

APPLICATION OF GEOINFORMATION TECHNOLOGIES IN STUDYING OF NATURAL-ANTHROPOGENOUS ECOSYSTEMS DEVELOPMENT ON THE TERRITORY OF TUVA

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There is a line of objects with abnormal anthropogenous loading of technogenic and natural-technogenic character on the territory of Tuva. Geoecological monitoring of these objects including a complex of examination over natural-anthropogenous ecosystems development is

impossible without geoinformation systems (GIS) as data-storage of the given supervision and environments of their processing.

Key words: geoinformation systems, geocological monitoring, natural-anthropogenous ecosystems.

VISUALIZATION AND SPATIAL ANALYSIS OF THE DEPARTMENTAL ESTIMATES OF WILD ARTIODACTYLS NUMBERS IN GIS ENVIRONMEN (ON AN EXAMPLE OF NOVOSIBIRSK REGION)

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The algorithm of integration of the estimates of game animal numbers into GIS are considered. On the basis of these data the animal density indexes are calculated. These indexes are more correct zoological characteristics. The pattern of spatial distribution of animal resources is revealed as a result of the analysis of the created thematic maps and their zoological interpretation.

Key words: numbers, spatial distribution of animals, zoological cartography, GIS.

SYSTEMATIC-AND-PURPOSEFUL APPROACH IN APPLIED GEOINFORMATICS

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The object being studied by applied geoinformatics is made up by various systems in the biosphere and the environment in interaction with the biosphere. The subject studied by applied geoinformatics is the state of biosphere in space and in time. The complexity of any system is manifested in the problematic situation (contradictory nature) resulting from it. Presently to solve the problems in complex systems the methods of systematic analysis and systematic synthesis are used because of their unifying possibilities in the area of various sciences and practical

activities. That is why in the present article they are jointly called “systematic-and-purposeful approach”. The article gives an account of the content and the structure of the systematic-and-purposeful approach concerning the problems of applied geoinformatics, and a simple example is considered here.

Key words: applied geoinformatics, systematic analysis, systematic synthesis, systematic-and-purposeful approach, mathematic modeling, analytical modeling, imitation modeling.

STATE ACCREDITATION OF SSGA IS A STEP TO THE IMPROVEMENT OF ITS WORK

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The main stages of the academy preparing to State accreditation are considered. Some valuation criteria and the results obtained are given.

Key words: accreditation, testing, criteria, indices.

SCIENTIFIC AND PRODUCTION LABORATORY «DIGITIZER» AS A MAIN INNOVATION SITE OF SSGA

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In article 10-year experience of works of research-and-production laboratory of geoinformation researches «Digitayzer» is considered. Characteristics of the main scientific and practical results of works are given, the perspective directions of research activity of laboratory are considered. Various aspects of participation of NPL «Digitayzer» in life of Academy and the organization of the general educational and methodical process are shown.

Key words: geoinformatics, geoinformation analysis and modeling, research-and-production activities.