

TECHNOLOGY FOR INVESTIGATING TIME CHANGES OF EARTH BLOCKS DEFORMATION IN KUZBASS COAL DEPOSITS DEVELOPMENT

Alexander P. Karpik

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., rector, tel. (383)343-39-37, e-mail: rektorat@ssga.ru

Anatoly I. Kalenitsky

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, Ph. D., Prof., Department of Astronomy and Gravimetry, tel. (383)361-01-59, e-mail: kaf.astronomy@ssga.ru

Alexander N. Solovitsky

Kuzbass State Technical University, 650000, Russia, Kemerovo, 28 Vesennyyaya St., Ph. D., Assist. Prof., Department of Mine Survey, Cadastre and Geodesy, tel. (384)239-63-85, e-mail: san.mdig@mail.ru

The transition to the new environmentally friendly safe technologies for Kuzbass coal deposits development is shown to be impractical without investigation of time changes in the Earth blocks deformations. New technological solutions are offered to be used for this investigation. They comprise improvement of both geodetic networks for geodynamic testing areas and crust blocks kinematics registration and interpretation.

Key words: Earth crust block, grade, geodynamic phenomenon, kinematics, geodynamic testing area, deformation.

MODERN GEODETIC INSTRUMENTS: FEATURES OF APPLICATION FOR OBSERVING POWER PLANTS BUILDINGS AND STRUCTURES SETTLEMENT AND DEFORMATION

Anton V. Nikonov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., post-graduate student, Department of Engineering Geodesy and Mine Survey, e-mail: sibte@bk.ru

Features of total stations and digital levels are considered as concerns their application for observing settlements and deformations of buildings and structures typical of both operating power plants and other industrial projects and those under construction.

Key words: trigonometric leveling, tacheometer, settlements and deformations, digital level.

RESEARCH OF DIGITAL LEVEL i ANGLE VALUE DEPENDENCE ON TEMPERATURE CHANGES

Nadezhda M. Ryabova

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., engineer, Research Centre, tel. (383)361-09-59, e-mail: ryabovanadezhda@mail.ru

Irina N. Chesheva

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Assoc. Prof., Department of Engineering Geodesy and Mine Survey, tel. (383)343-29-55

Galina V. Lifashina

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., senior lecturer, Department of Engineering Geodesy and Mine Survey, tel. (383)343-29-55

The technique for studying the atmospheric temperature effect on the digital level i angle value is considered. The results are presented as graphs. Conclusions and recommendations on I and II order leveling technique improvement are given.

Key words: digital level, i angle, series of observation, recommendation.

RATIONAL FOREST LAND USE: METHODOLOGICAL BASIS FOR ASSESSMENT

Anastasia A. Bocharova

Zapsiblesproject, 630048, Russia, Novosibirsk, 137/1 Nemirovicha-Danchenko, assistant directorbranch of Roslesinforg, tel. (905)953-43-88, e-mail: b-anetsan@yandex.ru

Valery B. Zharnikov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., Department of Cadastre, tel. (383)361-05-66, e-mail: vestnik@ssga.ru

The algorithm for rational forest land use within forestry (woodland park) is considered. Current legislation, documents on forest land development, management, protection, conservation and reproduction are taken into account.

Key words: forest lots, rational use, assessment algorithm.

PRICING FACTORS IN INDIVIDUAL RESIDENTIAL UNITS MARKET ANALYSIS

Daria V. Lysykh

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., engineer, Department of Law and Management, tel. (913)900-19-50, e-mail: dara8@inbox.ru

The research of pricing factors is presented. They serve as characteristics to be used for calculating cadastral value of individual residential units. The factors taken into account when determining cadastral unit value in Novosibirsk region in 2012 are analyzed. Some additional factors to specify the value are offered.

Key words: cadastral evaluation, pricing factors, individual residential units.

ALGORITHM FOR DETERMINING SPATIAL ANGLES OF AERIAL SURVEY PLATFORM BY THREE-ANTENNA GNSS-COMPLEX MEASUREMENTS

Stanislav O. Shevtchuk

Siberian Research Institute of Geology, Geophysics and Minerals, 630091, Russia, Novosibirsk, 67 Krasny Prospect, head of the Department for Geodetic Support of Geological and Geophysical Works, tel. (383)222-45-86, e-mail: staspp@211.ru

Nikolay S. Kosarev

Siberian Research Institute of Geology, Geophysics and Minerals, 630091, Russia, Novosibirsk, 67 Krasny Prospect, head of the test laboratory, Department of Geophysics, post-graduate student, Department of Physical Geodesy and Remote Sensing, tel. (913)706-91-95, e-mail: kosarevnsk@yandex.ru

The algorithm for determination and the formulas for accuracy assessment as concerns the platform spatial angles are presented. They are based on the three-antenna system Javad Sigma. A priori estimate of accuracy for different positioning cases is given.

Key words: navigational geodetic support, aerial surveying works, three-antenna GNSS complex.

UNMANNED AERIAL PHOTOGRAPY COMPLEXES APPLICATION: COST-EFFECTIVENESS ASSESSMENT

Vyacheslav N. Nikitin

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Assoc. Prof., Department of Physical Geodesy and Remote Sensing, tel. (913)712-37-50, e-mail: vslav.nikitin@gmail.com

Dmitry N. Rakov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., post-graduate student, Department of Physical Geodesy and Remote Sensing, tel. (952)907-21-08, e-mail: dir142@211.ru

The paper deals with cost-effectiveness of aerial photography using unmanned small-class aerial vehicle (UAV) complexes as compared with classical aerial photography system based on AN-30 aircraft. UAV is shown to be cost-effective for making topographic plans, scale 1 : 500, for the territory up to 5 square kilometers. The structure of costs for the works to be conducted is presented. UAV cost-effectiveness may be increased due to lower costs of horizontal and vertical control.

Key words: unmanned aerial vehicle complex, cost-effectiveness, aerial survey works.

GEOMETRICAL MODELING OF LINEAR FEATURES IN APPLIED GEOINFORMATICS

Igor G. Vovk

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., Department of Applied Informatics, tel. (383)343-18-53

Linear features are those with one dimension significantly exceeding two others. Linear features may be natural or artificial. Rivers and streams are natural linear features, while roads, canals, communication lines, products pipe lines, mines and tunnels are artificial ones. Study of linear features is in the focus of current applied informatics. Taking into account the problem complexity, it may be solved based on the principles of system- and-target approach. Complex systems are mainly studied by mathematical modeling.

Geometric modeling of linear features comprises two problems: geometrical modeling of the curve (the axis of the linear feature) and that of its cross section. The problems of geometrical modeling for abstract linear features are considered. Some examples of geometrical modeling are presented.

Key words: geometric modeling, linear objects, applied geoinformatics.

REGIONAL RESOURCES FOR TOURISM DEVELOPMENT: MANAGEMENT EFFICIENCY IMPROVEMENT

Boris V. Robinson

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., Department of Management and Enterprise, tel. (383)361-01-24, e-mail: eim447@gmail.com

Elena O. Ushakova

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Senior lecturer, Department of Management and Enterprise, tel. (913)95-25-25, e-mail: yeo_08@mail.ru

The challenges of tourism development resources management in R.F. regions are considered. Main problems of regional resources management and the ways of solving them are shown. The steps of complex assessment of regional tourism resources development are presented.

Key words: tourism resources development, tourism region, regional tourist complex, tourist cluster.

INNOVATION IN MODERN PRODUCTION: SOME ASPECTS OF ITS ROLE

Valentin G. Nikitenko

Novosibirsk State Technical University, 630073, Russia, Novosibirsk, 20 K. Marx Pr., post-graduate student, tel. (952)903-93-21, e-mail: mozenrath@inbox.ru

Yury S. Larionov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., Department of Ecology and Nature Management, tel. (383)351-19-24, e-mail: larionov42@mail.ru

Innovations may result in crises at different levels of development in social and economic structures of modern production. They are to be introduced in combination with technological, organizational, financial and personnel readjustments based on the conceptual development of the branch or enterprise.

Key words: innovation, crisis, development, strategy, crisis management.

ANALYSIS OF FOODSTUFFS RETAILING COMPANIES APPEAL

Larisa Yu. Sulgina

Siberian University of Consumer Cooperation, 630087, Russia, Novosibirsk, 26 Marx Pr., assistant lecturer, Department of Accounting, tel. (383)315-36-37, e-mail: account@sibupk.nsk.su

The hypothesis of market force field between the customer and the seller is applied to analyze the work of the food shop presented as a condenser. Economic-and-electric indices of the shop (condenser) are calculated: customers permeability and the shop capacity and internal resistance. These indices are compared concerning two shops with similar assortment and the floor space.

Key words: market force field, seller, customer, shop-condenser, goods charge, permeability, capacity, internal resistance, appeal.

QUALIFYING EVALUATION AS A BASIC COMPONENT OF PERSONNEL MANAGEMENT

Oksana N. Moroz

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Assoc. Prof., Department of Management and Enterprise, tel. (383)361-01-24, e-mail: eim447@gmail.com

Personnel management improvement in Russian companies features growing interest to the techniques for efficient assessment and qualifying evaluation of personnel. Any employee is to meet the requirements of job responsibilities according to the content and character of the job as well as those due to the efficient production management, application of the most rational operation methods, techniques, etc. The qualifying evaluation of personnel is presented as an object of management. The role of evaluation in the system of enterprise management is its being the basis for the manager to make relevant decisions. The quality and reliability of this information determines the decision efficiency.

Key words: personnel, personnel qualifying evaluation, types of evaluation rating, evaluation methods, evaluation criteria, management problems.

IT APPLICATION FOR REGIONAL TRADE DEVELOPMENT FORECASTING

Olga V. Leksakova

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., senior lecturer, Department of Management and Enterprise, tel. (913)900-15-82, e-mail: lexx1582@mail.ru

The author's methodical approach to forecasting is considered. It is based on the use of up-to-date foreign experience for comparative technical and economic analysis. It is the first time that electronic cartographic resources are used as a primary source of data on the trade infrastructure facilities supply.

Key words: forecasting, regional trade, shopping areas supply, up-to-date foreign experience, cartographic service, Siberia, Tomsk region.

CONCEPTUAL BASIS FOR COMPREHENSIVE SCIENTIFIC IMAGE OF MATERIAL WORLD

Yury S. Larionov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Prof., Department of Ecology and Nature Management, tel. (383)351-19-24, e-mail: larionov42@mail.ru

Valery S. Larionov

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Assoc. Prof., Department of Ecology and Nature Management, tel. (383)351-19-24

Nikolay A. Yaroslavtsev

Open corporation «EcoProba», 644120, Russia, Omsk, 20 Dalny, post-graduate student, tel. (3-812)75-87-01, e-mail: yaroslavcev_na@mail.ru

Sergey M. Prikhodko

Open corporation «EcoProba», 644120, Russia, Omsk, 20 Dalny, engineer, tel. (3-812)75-87-01, e-mail: yaroslavcev_na@mail.ru

The idea of information evolution of the matter as an integral system is presented. It is based on electromagnetic interaction as a regulating and control factor of energy information basis for attributive and verbal levels of the matter state. Attributive information in the form of electromagnetic quadrupole is a universal shape and structure of evolutionizing matter with verbal information being its constituent part.

On the basis of the above said the integral scientific image of material world is developed.

Key words: evolution, matter, electromagnetic quadrupole, shape-structure, interactions, attributive and verbal information, concept.

ERNST HAESKEL AND ECOLOGY

Mikhail A. Kreymer

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D. Assoc. Prof., Department of Ecology and Nature Management, tel. (383)361-08-86, e-mail: kaf.ecolog@ssga.ru

Ecology has become a fundamental science. Having developed the ideas of its founder it gave rise to many trends. Nearly all the fields of knowledge are “infected” with ecological outlook, with some of the branches having its practical application in hygiene, agriculture and biological sciences. The species may adapt or modify the environment (the subject of research). To understand it systematic approach should be used as mathesis, a general science on the order in numerical form (the subject of research). Application of number sets may facilitate structuring ecology itself and biological taxonomy as well as accepting genesis (rejected 150 years ago). We are going to see generalization of the doctrines (given rise by ecology) on the nature and the society interrelation into the synthetic theory.

Key words: ecology, mathesis.

SSGA RESEARCH LABORATORY OF ADVANCED OPTOELECTRONIC SYSTEMS AND TECHNOLOGIES: HIGHLIGHTS OF THE FIRST DECADE

Viktor B. Shlishevsky

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo Str., Ph. D., Professor of Nanosystems and Optical devices department, tel. (383)343-91-11, e-mail: kaf.nio@ssga.ru

A brief review of researches of the SSGA Laboratory of advanced optoelectronic systems and technologies on the orders of the Ministry of National Defense.

Key words: liquid lens, field experiments and tests, SSGA scientific Laboratory, determination of position, optoelectronic systems, light valve.

PROGRESS OF POST-GRADUATE COURSE ACTIVITIES IN SSGA (1943–2013)

Tamara A. Shirokova

Siberian State Academy of Geodesy, 630108, Russia, Novosibirsk, 10 Plakhotnogo St., Ph. D., Assoc. Prof., head of the Post-graduate Department, tel. (383)344-39-75, e-mail: dept.asp@ssga.ru

Basic stages of NIIGAİK – SSGA Post-graduate Department establishment and development are shown. The most significant events and results of its activities (1990 – 2012) are presented.

Key words: history, post-graduate course, dissertation council, scientific specializations, dissertation defense.

GENERATION GAP FEATURES IN MEDIA ENVIRONMENT

Mikhail Yu. Kharlamov

Government of Novosibirsk region, Ministry of Regional Policy, Novosibirsk region, 630011, Russia, Novosibirsk, 18 Krasny Prospect, leading expert for information policy management, e-mail: hmy@nso.ru

Historical contradictions between different age groups, including the generation gap due to the technological progress, are considered.

Key words: media environment, information inequality, zapping, TV watching.

GUIDE FOR LABORATORY WORKS ON ASTRONOMY

Alexander V. Volf

Altai State Teacher's Training Academy, 656031, Russia, Barnaul, 55 Molodezhnaya St., Head of IT Department, Laboratory for Space Research, tel. (903)957-35-96, e-mail: aw@uni-altai.ru

Dmitry A. Galetsky

Altai State Teacher's Training Academy, 656031, Russia, Barnaul, 55 Molodezhnaya St., Head of the laboratory, Department of Physics and Physics teaching methods, Laboratory for Space Research, tel. (923)723-78-23, e-mail: dag@uni-altai.ru

Alexander E. Kaplinsky

Altai State Technical University, 656038, Russia, Barnaul, 46 Lenina Pr., Ph. D., Laboratory of Space Research, Space Research Laboratory Altai State Teacher's Training Academy, 656031, Russia, Barnaul, Physics, 55 Molodezhnaya St., Assoc. Prof., Department of Experimental, tel. (903)995-50-70, e-mail: alekap@mail.ru

Vladimir M. Lopatkin

Altai State Teacher's Training Academy, 656031, Russia, Barnaul, 55 Molodezhnaya St., Ph. D., Prof., Department of Physics and Physics Teaching Methods, head of Space Research Laboratory, tel. (905)084-50-13, e-mail: lopatkin_vladimir@mail.ru

Roman S. Nepriyatel

Altai State University, 656049, Russia, Barnaul, 61 Lenina Pr., teacher, Department of Physical Geodesy and GIS, Space Research Laboratory Altai State Teacher's Training Academy, 656031, Russia, 55, Barnaul, Molodezhnaya St., tel. (913)220-41-70, e-mail: nrs83@mail.ru

Description of the improved guide for laboratory works on astronomy used in Altai State Teachers Training Academy is given.

The improved guide for laboratory works is useful for more efficient practical training and computer modeling of astronomic phenomena as well as for astronomic data acquisition by different tools of virtual observatories and their processing.

Key words: laboratory works guide, astronomy, computer modeling experiment, telescope, theodolite, GPS-navigator, virtual observatory.