BUILDING AND ARCHITECTURE

Kalach, A.V., Chudakov A.A., Metelkin I.I.

MONITORING OF A CONDITION OF SMALL HYDRAULIC STRUCTURES ON THE TERRITORY OF THE CENTRAL BLACK SOIL REGION

Used in the article the modern legislative framework, the emphasis is on theoretical issues of the study, the practical component of fire work towards monitoring. Special attention is paid to the information of a practical nature in the area of improvement of the fire water supply system.

***Key words**: firefighting, fire reservoir, hydraulic construction, artificial reservoirs, the spring floods, waterlogging of territories.*

Kiselev S.N., Perzev V.V., Perkova M.V.

FEATURES OF FORMATION OF COMPLEX INFRASTRUCTURE AS A FACTOR IN IMPROVING THE QUALITY OF LIVING AT BELGOROD REGION

Nowadays cities are considered primarily as a place to live, where you can create a comfortable and friendly environment for a human. The article shows the key factors which determine quality of life in the cities. To create a live, safe, sustainable and healthy city with a human scale of public spaces, it is necessary to take into account: principles of urban planning and implementation, criterias of urban environment quality and methodology to assess the lower floors of buildings. For small and medium cities and municipalities of Belgorod region should be analyzed areas, the result of which should be a scheme of public spaces and recreational areas and the scheme of hiking trails with sense orientation. There were developed recommendations for changes in the regional standards of urban design.

***Keywords:** urban development stalls, quality of urban environment, urban planning, regional standards, environmental improvement.*

Elmurzaev M.B., Mejidov V.H., Murtazaev S-A,Y.

FORMATION ON THE CEMENT GRAIN A PROTECTIVE LAYER DETERMINES THE DURATION OF THE INDUCTION PERIOD

The experimental studies of the chemical composition of the granules of the clinker, cement grains and microsections before and after hydration proved that cement production technology produces grains on its surface layer is modified, wherein the chemical composition of the clinker, texture and activity. Is a micrograph produced during hydration of this layer and forming a protective surface layer in a film thickness of 500 nanometers, which prevents water penetration deep into clinker, which leads to the beginning of the induction period. After some time the protective film begins to crack, these surface fractures stimulate the formation of cracks in the cement grains and open water access to the clinker, consisting of various minerals with many defects in the form of inclusions. Thus, in accordance with the effect of P.A. Rebinder intensive process begins hydration of clinker material, completing the induction period.

***Key words:** hydration, cement grains, protective layer, induction period.*

Popkov J.V., Obernikhin D.V., Frolov N.V.

INFLUENCE OF PARAMETERS OF SPOT WELDING ON STRENGTH OF METAL REINFORCEMENT CRUSIFORM JOINTS

Accordance of information about marginally reqiered strength of longitudinal and transverse reinforcing bars to developers and manufacturers of reinforced concrete structures will became the factor, which determine successful performance of aim to increase reinforced concrete production economy. Collected scientific data about spot welding use in civil engineering was gathered, results of test of experimental crusiform joints samples were analysed, conclusion about power consumption decrease and outlook for use of given results in reinforced concrete production was done. It has determined, that crusiform joints strength decrease up to 30% relative to full-strength is limit value, in which early collapse of structure dosen't happen. As a result of this it's suggested, that production technology of such should consider measures, which don't allow to exceed limit strength parameter.

***Key words**: spot welding, metal reinforcement crusiform joints, strength, power consumption economy.*

Protsiuk V.A.

USING DATA TO DETERMINE THE CONSERVATION MEASURES PAVEMENT STRUCTNRE OBTAINED IN GPR SURVEY ROAD

A method of solving the problem of the road industry, which consists in the need to preserve pavement structure is described in the article. Proposed in the calculation of the pavement bearing capacity using soil moisture values obtained when applying GPR methods. Analysis of existing methods for obtaining data on soil moisture. A brief discussion of the GPR principle and the theoretical foundations of the method. Experiments have revealed the dependence of the soil elasticity modulus on its moisture content and the dielectric constant of the humidity. The results obtained are shown relationship between the values of the dielectric constant and elastic modulus of the soil. To use GPR survey to determine the timing restrictions of movement of heavy vehicles during the spring thaw is proposed.

***Key words**: georadar, pavement structure, subgrade soil, moisture, deformation characteristics, the dielectric constant*

Suvorov I.O.

INFLUENCE OF THE DISPERSED FIBER COMBINATION ON THE SHRINKAGE DEFORMATION OF NON-AUTOCLAVED FIBER FOAM CONCRETE

Results of investigating the influence of the dispersed fiber combination on the shrinkage deformation and strength of non-autoclave fiber foam concrete. Low-modulus and high modulus reinforcing fibers have different characteristics: polypropylene high chemical resistance, basalt - high modulus, chrysotile fiber is characterized by high adhesion to the cement stone. For combining advantages of different types of fibers used a combination of them. During the work were carried out experimental research and noted the ability to control composite characteristics when combination of polypropylene, basalt and chrysotile fiber was added. It is emphasized that the combination of fiber in the mixture leads to a decrease shrinkage deformations and improve strength. After 56 days hardening of concrete samples shrinkage reaches 1,44 mm/m. The use of combination of polypropylene, basalt and chrysotile fiber in non-autoclave technology of fiber foam concrete reduces cracking and increases the resistance of the material to external influences.

***Key words:** non-autoclaved fiber foam concrete, shrinkage deformation, fiber combination.*

Loganina V.I., Kuimova E.I., Uchaeva T.V.

APPLICATION OF FUZZY RELATIONS PREFERENCE IN ASSESSING THE COMPETITIVENESS OF LIME DRY CONSTRUCTION MIXTURES

The information about the application of the method of fuzzy preference relations in assessing the competitiveness of dry lime mortar using synthesized Hydrosilicates calcium. The algorithm for calculating Competitiveness.

***Key words**: dry mortar, hydrous calcium-competitiveness of the method of fuzzy preference relations*

Erofeyev V. T., Smirnov V. F., Balatkhanova E. M., Mitina E. A., Bogatov A. D., Kaznacheev S. V., Smirnova O. N., Rodin A. I., Varchenko E.A.

RESEARCH OF BIOPROOFNESS OF THE FILLED CEMENT COMPOSITES IN LABORATORY AND NATURAL CONDITIONS

The main share of industrial production of construction materials is the share of cement concrete today. During operation of the building and a construction are subject to destructions from influence of hostile environment of various nature. And the increasing role in destructions is played by microorganisms. Biological resistance of cement composites is limited to their nature. Combination of fillers of various dispersion it is possible to receive composites with the improved properties. Researches of bioproofness in laboratory and natural conditions of the cement composites received with application of fillers of fields of the Chechen Republic are conducted. The method of mathematical planning of experiment optimized structures of the composites filled with the powders consisting of mix of particles of various particle size distribution. It is established that in the conditions of influence of mushrooms composites with additives of mountain and river limestone are the steadiest, thus use of fillers in the form of particles of various particle size distribution is preferable. The received structures at short-term laboratory researches are bioresistant, but at a long exposition under natural conditions they acquire microorganisms. The specific structure of microorganisms on a surface of the samples sustained in the conditions of variable humidity of the Black Sea coast is established. Distinctions of specific structure of microorganisms on the samples sustained on the open area and under a canopy are revealed.

***Key words.** Cement composites, filler, microorganisms, optimization, biological firmness.*

THE MECHANICAL EQUIPMENT AND MECHANICAL ENGINEERING

***Key words**: granular media, conical hopper, the volumetric flow rate.*

Fedorenko M. A., Bondarenko U. A., Sanina T. M., Markova O. V.
THE MACHINE FOR PROCESSING OF END FACES STRAIGHT AND CURVED PIPES FOR WELDING
When laying oil and gas pipelines and renovate the pipeline uses a special mobile device and a desktop machine, which requires labour-intensive and highly skilled work. The designed machine for the machining of straight and bent tubes to be welded to be able to handle the long straight and bent tubes in the installation of pipelines. It became possible to accurately set the machine at the end of the pipe and flange, weld quality is ensured. The machine is in operation, is easily transported, its design allows you to install the machine on the tube, regardless of its location, the radii of bends and pipe dimensions, allows it to be used in any installation conditions laying pipelines.
***Key words:** large equipment, adjacent machine, machining of pipe ends.*

Redko A.Ph., Kaptsov I.I.
INVESTIGATION OF GAS PIPELINES TREATMENT USING HIGHEXPANSION FOAM
The sources contamination decreasing gas pipelines capacity hake bun considered. Mechanic and liquid components has bun tea analysis of made. Tea technology, methods of formation and using surface active substances in different fields of national economy have bun analyzed. The results of researching treatment processes using foam stabilizers have bun presented. The issues of the influence of high and structural concentration of pollutions, has flow spud on the efficiency of treatment have bun described.
***Key words:** treatment, pollution, highexpansion foam.*

Gorban T.L., Semikopenko I.A., Trofimov I.O., Fadin Yu.M.
THE CONDITION OF OVERCOMING THE PARTICLE MATERIAL LOCATED RADIALLY BARRIER, MOUNTED ON A HORIZONTAL ROTOR
The article gives a mathematical description of the motion of particles along the surface of the charging blade, with barriers. Calculated scheme to describe the process of separating particles of spherical shape. As a result of theoretical research gave analytical expression that specifies the maximum height of the barrier depending on the particle size and structural and technological parameters of a rotating disk.
***Key words**: separation of particles, barrier, height*

Prokopenko V.S., Sharapov R.R., Agarkov A.M., Sharapov R.R.
OPTIMAZATION OF OPERATING EQUIPMENT FOR PRODUCING FINE POWDERS
Currently, in terms of consumption of cement is a leader among construction materials, but its production is expended a lot of energy, as in burning, grinding and on at various stages. Reduce power consumption can be moving grinding clinker and additives in a closed cycle. However, given the large number of external factors to maximize the efficient use of a large number of co-operating complex equipment is a difficult task.
In an article for the optimization of the process for producing fine powders is proposed to build a mathematical model derived from the experimental results, taking into account the features included in the line of apparatus. Based on these mathematical models is proposed to construct the objective function to ensure optimum working conditions as whole milling equipment, as well as individual elements included in its composition.
***Key words:** fine powders, the regression equations, a closed cycle, the centrifugal separator, capacity, specific energy consumption, efficiency.*

ECONOMICS AND PLANT MANAGEMENT

Dimitryuk A.A.
ON THE CLASSIFICATION REQUIREMENTS FOR EMPLOYER TO THE MARKETING STAFF
For sustained development of the organization updated the need to study the various aspects of the marketing staff. In particular, to ensure the dynamic equilibrium of the enterprise within the qualitative and quanti-

tative composition of employees, it is important to understand the two-way direction of the selection process. It is characterized not only by the choice now an employee, but also the choice of employees. The article discusses the various requirements diversify potential staff to the employer. Proposed classification according to these requirements.

Key words: *marketing personnel, technology of Personnel Management Company, employer requirements.*

Tanicheva T.S.

A MECHANISM TO ENSURE THE SUSTAINABLE DEVELOPMENT OF SMALL ENTERPRISES

The mechanism is naturelly difficult dynamically functioning organization. It has an integral form based on a system of methods, tools, instruments and procedures for interaction between different subjects and objects.

Relatively small businesses we understand under mechanism the relatively small businesses we understand under mechanism the transmission link, the impect of the subject on the object. On the basis of the system approach the object can be controlled small enterprises, and the subject as the management of the enterprise, and small business.

During the studies were defined the external and internal components of the mechanism to ensure the sustainable development of small enterprises are the most adaptable, capable, which will quickly adapt to what is happening or what has happened to change in the world, country, region.

Key words*: small businesses, mechanism, stability, development, adaptation.*

Schetinina E.D., Starikova M.S.

INNOVATION ACTIVITY COST MANAGEMENTT AS AN ELEMENT OF BUSINESS STRATEGY

The article contains an analysis of the Russian innovative system dynamics with an estimate of R&D cost structure, number of researchers and organizations involved in innovation, types of innovation. The positive and problematic aspects of Russian innovation system are critically reflected. The place of innovation potential in the enterprise's economic opportunities is explored. The main characteristics of the cost of innovation in a knowledge economy are determined and approaches to evaluating the effectiveness of the creation and commercialization of innovations are provided.

Keywords: *innovation, commercialization, innovation system, innovation potential, the costs of innovation, business strategy.*

Roshupkina V. N., **Karakulova M. A.**

INFLUENCE AMERICAN EXCELLENCE ON MACROECONOMIC INDICATORS

The United States of America is a major global player today, and their "exclusive" power - a guarantee of "global stability." Despite the fact that the use of sanctions as an instrument of foreign policy is uneffective and basically it never bring the expected results. The sanction against the financial, energy and defense sectors of the Russia are fallowed but not all of Europe approves such measures. Washington pursued escalation of geopolitical tensions with Russia leads to the decreasing in the Eurozone macroeconomic indicators. There was no growth in one of the largest economies in the first half of 2014. He slowed down in the leading developing countries: China, India, Brazil and Russia.

Key words: *macroeconomic indicators, American exceptionalism, strategy, Eurozone, economic of Russia, the sanctions policy.*

Vaganova O.V., Kucheryavenko S.A., Tarasova O.O., Pereverseva L.E.

FEATURES OF THE TRANSFORMATION OF ECONOMIC ACTIVITY IN SMALL BUSINESS IN TODAY

The article analyzes the development of small and medium-sized businesses in Russia in modern conditions; The classification of enterprises, the main indicators of small and medium-sized enterprises; presents the results of the SWOT-analysis of small business in Russia; Identifies major obstacles enterprise development and small and medium-sized businesses in Russia.

Keywords*: small business, small and medium-sized businesses, the interaction of the state and business, the classification of small businesses, the state policy in the field of entrepreneurship.*

Ostrovskyi I.A.

THE THEORY OF ECONOMIC GROWTH AND THE FORMATION OF THE STRATEGY OF SOCIO-ECONOMIC DEVELOPMENT OF REGIONS

Examines the main theories of regional economic growth. The analysis of the evolution of theories includes spatial criterion that allows to expand possibilities of use of interdisciplinary relationships to develop regional development strategies. The features of neoclassical models, models of cumulative growth and new theories of regional development. Knowledge of dynamic theories of economic growth, including regional, is a necessary condition for improving the effectiveness of the strategy of regional development. Defined a special role in the development of socio-economic development of regions. The new role of the region is manifested in the fact that he becomes the subject of strategic management and strategic development purposes. The proposed scheme the objectives of the modernization of the regions and measures for achieving them. Emphasized the role of creating macro-regions as objects of strategic management. systemic modernization of the economy inevitably takes into account the spatial-regional factor.

Key words: *agglomeration, region, infrastructure modernization, regional development strategy, economic growth.*

Dubino N.V.

METHODOLOGICAL SUPPORT OF THE STRATEGIC PLANNING PROCESS IN AN INDUSTRIAL PLANT

The article analyzes the trends in the development of strategic planning, substantiates the necessity and determines the value of its application in an industrial plant. The features are examined and the main stages of strategic planning in the modern world are fleshed. The strategic planning tool is presented and analyzed. The causes of low efficiency of application of methods and models of strategic planning are identified. The main provisions of the methodology of strategic planning on the basis of the conventional «standard» are presented.

Key words*: strategy, strategic planning, industry, tool, methods, technique, conventional «standard».*

Makarova L.V., Tarasov R.V., Tarasov D.V., Petrina O.F.

A METHODICAL APPROACH TO ENSURE THE STABILITY AND QUALITY OF TECHNOLOGICAL PROCESSES

The success of the enterprise in the market depends on the ability to offer goods and services more relevant to the interests and needs of consumers. It is therefore important to pay special attention to such aspects as the level of product quality, is in search of new instruments able to ensure or improve the quality and competitiveness of manufactured products. In this regard, the authors propose an approach based on the use of the quality index of the technological process, taking into account the stability of the technological process and quality of the finished product, which will guarantee the consumer stated the level of quality of manufactured products.

Key words*: the level of product quality, process stability, quality index*

Papelnyuk O.V., Sizova E.I.

EMPIRICAL SUPPORT FOR THE SPECIFIC CHARACTERISTICS OF THE INNOVATIVE ACTIVITY OF CONSTRUCTION ENTERPRISES ACCORDING TO THE SCALE OF OPERATIONS

The authors of the task of the empirical study of existing theoretical conclusions about the specific innovation activities of small, medium and large construction companies. Solution of the problem is complicated by the lack of representative statistics on innovation in construction. The authors proposed and tested a technique based on the verification of the homogeneity of statistical sampling. As a result of identified features of innovative activity of construction enterprises according to the scale of operations.

Key words: *construction companies, sampling, product innovation, process innovation, innovative activity, specifics of innovative activity.*

Sborshikov S.B.

FORMALIZED DESCRIPTION OF CRITERIA OF THE SUSTAINABLE DEVELOPMENT OF INVESTMENT AND CONSTRUCTION ACTIVITY

The role of investment and construction activity increases in space of national economy. It demands additional efforts on the direction of its formation and improvement according to strategy of social and economic development of the country. Investment and construction activity is difficult system of internal transfor-

mations and interactions with environment. There is a risk level of its steady functioning. Risk level of a concrete condition of investment and construction activity is connected with a certain strategy and conducts to adoption of the relevant decisions. In article the matrix of efficiency of similar strategy at certain risk levels and their interrelation is offered. As basic criteria at the solution of this task are considered: criterion of the highest care, criterion of average efficiency, criterion of controlled risk.
***Key words**: investment and construction activity, criteria of a sustainable development, construction, risk level, matrix.*

Saenko L.K., Novikov A.A., Gavrikova A.Y.
ANALYSIS OF PROPERTY MANAGEMENT-COMPANIES IN MOSCOW
The article presents the results of a study of the concept "property management": The different points of view on the definition, developed his own vision, delineated the scope of property-, facility- and asset management. The evaluation property management- companies in Moscow conclusions about the number and types of operating companies, types of services provided, the cost of formation for these services and so forth. The conclusions formulated in the work, can be used in forming the theoretical basis of property management, as well as in the process of teaching "Property Management".
***Key words:** property management, property management, property management- company in Moscow.*

Chechenina I.V.
FEATURES MUNICIPAL AND HOUSING THE HOUSING SECTOR IN THE SYSTEM OF INNOVATIVE TRANSFORMATIONS
Innovative development requires its compliance innovative potential in all sectors and spheres, including the sphere of services. Significant role in the service sector occupies utilities. The characteristics of housing, which distinguish it from other sectors of the economy. The characteristics of housing, which distinguish it from other sectors of the economy. Industry-specific HCS defines, among other factors, the innovation potential and its use, ie, willingness and ability to use innovative features to solve problems in any system, displaying under certain conditions of risk and uncertainty.
In the course of the study identifies the main components of the structure of municipal and residential housing sector and its features in the system of innovation.
***Key words**: housing, innovative capacity, the concept of "smart city", fixed assets, housing, utilities, housing, utilities and public sector.*

Levchenko A.S., Rudychev A.A., Kuznetsova I.A., Lychev A.Yu.
MANAGEMENT SYSTEM DEVELOPMENT OF BUSINESS ACTIVITY OF THE ENTERPRISE
To manage the business activity of the enterprise effectively it is necessary to investigate it as a system.
System approach to business activity means that it has to be considered, on the one hand, as the phenomenon having complex internal structure formed of the interconnected elements; on the other hand, as the phenomenon representing the part of the structure of higher order.
It is stated in the article that business activity of the enterprise is the part of the broader concept – the management system of the enterprise which consists of the following subsystems:: financial, innovative, investment, marketing, labor and production activity. Factors raising and lowering the level of business activity have been investigated by the authors.
The development of the management system of business activity of the enterprise has resulted from this work..
***Keywords:** business activity, system, factors of business activity, management of business activity, life cycle of separate types of activities, the operating subsystem, the operated subsystem, the providing subsystem.*

Rakhmanina I.A.
COORDINATION OF LOGISTICS SYSTEM DESIGN TOOLS OF CONTROLLING
In the context of the transformation of economic systems, changing market conditions, such systems should be designed to adequately react to the disturbing influences, the most accommodating by identifying future needs of the market and the assessment of internal capabilities to bring them in line with the identified needs and the subsequent build a competitive advantage. Solution to the problem of finding effective schemes and tools of process control engineering is the application of the coordination and development of the concept of controlling the iterative algorithm design process logistics system that will ensure the stability of the pro-

gress of the design process, to ensure the timely and effective management decisions, the optimal use of available resources to achieve the goal - the formation logistics system with the optimal settings.

Key words: *design process, tools, controlling, coordinating controlling concept, design principles of the logistics system, the optimization of resources, the steps of the mechanism controlling the algorithm design process logistics system.*

CHEMICAL TECHNOLOGY

Bessmertniy V.S., Stadnichuk V.I., Bondarenko N. I., Ilina I.A., Bondarenko D.O.

KINETICS OF OXIDATION OF THE ALUMINIUM POWDER USED IN KORUNDO-SILLIMANITOVOY TO CERAMICS.

In article use of aluminum powders in ceramic masses is considered. The kinetics of oxidation of aluminum powder in not isothermal conditions is studied.

Keywords: *korundo-sillimanitovy ceramics, aluminum powder, energy of activation, oxidation kinetics.*

Gryn G.I., Pancheva A.M., Adamenko S.U.

PHOTOELECTRICAL CHARACTERISTICS OF ELEMENTS ON THE BASIS OF CADMIUM SULFIDE

The paper describers the study of semiconductor parameters for elements on the basis of cadmium sulfide which are characterized by the simplicity of production technology and the low production cost. When carrying out the experimental research of CdS-based films photoelectrical characteristics we created Ti/CdS heterocontacts and studied their properties on the basis of current-voltage characteristics. In the course of open circuit voltage (U_{xx} = 0,45…0,49 V) and short circuit current ($i_{кз}$ = 4,04…6,32 mA/dm^2) measurement we determined photoelectric effect presence.

Key words: *sunny energy, cadmium sulfide, photoelements, semiconductor parameters, photoelectrical characteristics.*

Kuznetsov V.A., Trulev A.V.

RADIATIVE TRANSFER IN SELECTIVELY ABSORBING GASES

A method of accounting selective radiation properties of triatomic gases is theoretically substantiated for mathematical simulating the heat working of industrial furnaces. Some rules ascertained for extreme transition from gases absorption coefficients for the external equilibrium radiation to local absorption coefficients for the own radiation of the gases in an anti-gray spectrum approach. A formula of weighted averaging the local absorption coefficients is suggested for gas volumes of intermediate sizes.

Key words: *mathematical simulation, radiative energy transfer, selective absorption.*

Zheryjvaja N.F., Bessmertnyi V.S., Dopochova E.S., Zhernovoi F.E.

DEVELOPMENT AND RESEARCH OF SPECIAL VESSEL GLASS

The compositions of special glasses for household vessel and decorative items, characterized by a combination of high operational reliability and satisfactory workability was developed. Desired characteristics were achieved by the introduction of the soda lime silicate glass, TiO_2, ZrO_2, B_2O_3, and others in proper combination.

Keywords: *glass, vessel, operational reliability, manufacturability, charge, silication, glass manufacturing.*

Lazareva L.G., Bogoslovskaya N.M.

ANALYSIS OF THE STAGE OF SYNTHESIS OF THE PRODUCTION PROCESS OF OBTAINING POLYCARBONATE

Methods of mathematical statistic attempt model building stage of synthesic of technological process of production of polycarbonate. For the evaluation process conducted a regression analysis of the dependence of the molecular weight of the polymer from technological parameters procession synthesis step of the production process of obtaining polycarbonate was conducted with the use of regression and correlation analysis. Selected equation with high accuracy describing this functional dependence. The possibility of construction

of uravneniya regression of the same matrix of observations for different target function according to the content of low-molecular fractions in polycarbonate from technological parameters of the process.
Kay words: *model of synthesis, obtaining polycarbonate, regression analysis, correlation analysis.*

ECOLOGY

Kozhevnikov V.P., Tokach Y.E., Ognev M.N.
MODERN SOLUTIONS FOR THE RECYCLING OF SOLID WASTE IN THE UNIVERSITY AFTER V.G. SHUKHOV
The paper proposes a scheme for collecting and recycling paper recycled materials to produce marketable products - toilet paper. The authors discussed the processes and apparatus for processing waste paper in the finished product, the results of economic calculations and financial feasibility of the proposed scheme. Attention is paid to consideration of the strengths and weaknesses of the proposal, the necessity of adopting and implementing this technology on the territory of Belgorod state technological University after V.G. Shukhov. The proposed scheme has the environmentally friendly, low maintenance and energy costs, the constant demand for products, broad market and many other positive qualities that can be considered its acquisition for the University of beneficial and necessary to, including, and the educational process.
Key words: *recycling, toilet paper, mixing, washing, grinding*

Averkova O.A., Kanar A.E., Tolmachyova E.I.
MODELING OF AIR FLOWS ON THE INPUT TO THE LOCAL VENTILATION SUCTIONS IN THE FORM OF BELLS
For definition of recovery efficiency of dust emissions by local ventilation suctions- bells equilibrium lines are built. Above these lines there is a recovery of dust particles of current diameter , under them- deposition. Obtained results can be used at projection of effective local ventilation suctions- bells.
Key words: *local ventilation suction, dust particles, aspiration.*

Suslov D.Yu., Temnikov D.O.
HEAT BALANCE BIOREACTOR WITH BUBBLE MIXINGS BIOMASS
Compiled by the heat balance of the bioreactor, which takes into account the amount of heat supplied to the bioreactor during the bubble mixing biomass generated during the exothermic reaction of anaerobic fermentation. The resulting equations allow us to determine the surface area of heat transfer and structural parameters of heat exchange equipment in the form of a coil.
Key words: *biogas, bioreactor, heat balance, bubbling mixing.*

Sverguzova S.V., Sukhanov Y.V., Ipanov D.Y.
FINESYSTEMS COAGULATIONUSING ELECTRIC STEEL PRODUCTIONDUST
In this paper we consider the possibility of a coagulation treatment of fine clay systems using electric steel furnaces dust. When dust added to aqueous medium with a pH <7 is a partial dust dissolutionwithions Fe^{3+} and Fe^{2+} transition in solution. When shifting the pH to neutral and alkaline area hydrolysis of iron cations having coagulant properties take place. Was studied the influence of the weight of the supplement on the efficiency of the modified dust opportunity to lighten clay suspensions. It is found that the maximum efficiency to reduce of clay suspension turbidity is achieved by the addition of 1,2,3 ml modified dust suspension settling after 6 hours and 98,4%.
Key words: *coagulation, clarification, a fine suspension, electric steel furnaces dust, the cleaning efficiency.*

Grafkina M.V., Nyunin B.N., Sviridova E.Y.
THEORY OF ECOLOGICAL AND ENERGY MONITORING THE STATE OF THE ENVIRONMENT
Currently in environmental monitoring the state of the environmental low-frequency electromagnetic fields and infrasound are treated separately without taking into account their mutual influence on the biological object. However, in the literature there are data showing the effect of noise on the electrical characteristics of the human body, which confirms the feasibility of determining the integral energy of low-frequency effects on humans and the environment. The authors propose a new approach to environmental monitoring of infrasound and low-frequency electromagnetic fields on the basis of determining the energy parameters. Theoret-

ically proved possible to determine the energy impact inetegral infrasound and low-frequency electromagnetic fields, taking into account the mutual influence of these factors on the biological object. A method for determining the integral indicator of the energy of low-frequency negative impact on the basis of measurement of complex intensities of infrasound and low-frequency electromagnetic fields. The results of experiments to study the energy parameters of infrasound and low-frequency electromagnetic fields.
Key words: *eecological monitoring, low-frequency electromagnetic field, infrasound field, energy parameters, integrated intensity, integrated indicator of exposure.*

TRANSPORT AND POWER

Vostrikova M.A.
APPLICATION INSTALLATIONS ABSORPTIONS GAS EMISSIONS(IAGE) IN THE SHIP'S CONDITIONS FOR THE PREVENTION OF AIR POLLUTION OF SULFUR OXIDES
Maritime transport is one of the most important components of social and economic development, absorbing a significant amount of resources and having a serious impact on the natural environment. The importance of the task of protecting the atmosphere from emissions of vessels is determined by the fact that pollution from marine diesel engines and boilers are the most significant share of all modes of transport. The article considers the problem of reducing emissions of sulfur oxides from marine power plants by application installations absorption gas emissions (IAGE) - stage treatment. Presents the context of IAGE and the principle of its action. The first part of the experiment showed high efficiency (percentage of absorption of sulfur oxides was 80-85%) technology with pre-absorption of the oxides in the jet device. The total percentage absorption of oxides according to the proposed scheme of purification of products of combustion is achieved by SO2 - 92 %.
Keywords: *ships, emissions, sulfur oxide, cleaning method.*

Platonov A.A.
THE SPECIALIZED CLASSIFICATION OF RAIL ROAD VEHICLES
Is established that to improve safety functioning of a specialized of railway rolling stock is expedient to develop a classification of road-rail vehicles. Reveals the factors impacting on the safety and efficiency of road-rail vehicles and at the same time which describe their features. Are disclosed model of movement of the vehicles on railway track. Showing the guidelines allowing to take into account in the classification of the environmental parameters and ergonomics.
Key words*: road-rail vehicles, combined stroke, parameters, classification.*

Al Zuhyri Ali Mohammed, Necitrof M.N., **Vinogradov A.A.**
Most water systems drinking water are composed of water pumps and a large capacity tanks, providing transport water by water networks. In city infrastructure, water networks and power distribution networks 11 kV power supply systems are located a short distance from each other. The paper proposes to use the potential energy of water, to improve the quality of electric distribution networks by installing a mini hydraulic turbines connected to the generator which will provide the necessary active and reactive power control modes for power supply systems 11 kV.
Key words*: water supply, tanks, water networks, mini hydraulic turbines, reactive power*

PROBLEMS OF HIGHER EDUCATION

Sadomova N. I.
DEVELOPING DESIGN STUDENT' SKILLS ESSENTIAL FOR CREATING THE COLOUR ARRAY OF AN ARTWORK COMPOSITION
Colour is a most important artistic means of expression which a designer needs to master for his professional activity. The article scrutinizes a system of exercises developed for students and intended for developing

their skills needed to create the colour array of an artwork composition. Colour-related skills, including basic ones, have been identified.
Key words: *colour, skills needed, teaching system, exercises, abstract painting, harmony, disharmony, coloration.*

Golubeva N. V.
ON THE WAY TO INNOVATIVE ENGINEERING EDUCATION:
THE MAXIMAL DISCLOSURE OF OPPORTUNITIES OF THE SCIENTIFIC METHOD – MATHEMATICAL MODELLING
Ensuring the needs of the real sector of the economy in highly qualified, ready-to-innovation, competitive engineering shots - a necessary condition for the innovative development of the state. One of important indicators determining the quality and level of training of the modern engineer, is the degree of knowledge of a universal scientific method - mathematical modeling, representing the main means of solving scientific and engineering tasks, tool of designing and research of technical systems.
Key words: *engineering shots, science intensive technologies, professional competences, universal scientific method, mathematical modeling, scientific and engineering tasks, interdisciplinary knowledge.*

Andreeva S.M.
PHILOLOGY AS A SOURCE OF NATIONAL CONSCIOUSNESS AND NATIONAL CULTURE
This article is about the history of literary education, profession «philologist» as an essential part of national history education. Philologists – specialists in Russian language - people always playing a significant role in shaping the character of the nation, the people who are able to understand people of other cultures, their colleagues and opponents, the people retained the skills of «mental sociality».
Key words*: philology, philologist, education.*

Guskova E.A., Shavyrina I.V.
THE INTELLECTUAL POTENTIAL OF THE MODERN UNIVERSITY AS A SYSTEM PHENOMENON
The article deals with current questions of the formation of the intellectual potential of the university.The authors justified the contradiction between the stated requirements for the establishment and management of intellectual potential of the university and the existing unsystematic approaches to their implementation.Formation and management of intellectual potential of the university is seen as a systemic phenomenon, which includes qualitative selection, updating of intellectual capacity and adaptation mechanism of its development.
Key words: *intellectual potential, the potential of the university, the management of intellectual potential*

Karpenko V.N., Karpenko I.A
CULTURAL APPROACH IN
THE TRAINING OF FUTURE SPECIALISTS SOCIAL AND CULTURAL SPHERE IN THE FIELD OF CHOREOGRAPHIC ART
In this article, the authors discuss the importance of a cultural approach in the training of future specialists social and cultural sphere to interact in multicultural space of choreographic art. This put emphasis on the fact that the study of the interaction of cultures in modern society are very important and relevant.
Key words*: Culture, interaction, communication, production-tion space, choreographic art.*

Dadalova M.V., Petimko A.M.
PROBLEMS OF DISTANCE EDUCATION IN RUSSIA
Problems of development of distance education have been considered much broader than the original. If at first it was a question of distance education as a possible form of education, it is now certain elements of distance education is widely used in universities and traditional forms of education. Given the rapid development of information technology in the world is changing and self education market and educational environment within which the learning process is realized. Global trends show brighter the future for flexible models of the educational process, which are actively used by a variety of means, methods and technologies, including remote.
Key words: *distance learning, problems, the traditional form, information technology, teacher education institutions*

Shapovalov S. M., Reutov N.N., Kolpina L.V.

THE EMPIRICAL ANALYSIS THE SOCIAL CAPITAL OF HIGH SCHOOL EMPLOYEES

The purpose of article is the analysis of the theoretical approaches to research of the social capital. In modern interpretations the social capital is considered as opportunities caused entering of the individuals in those or other kinds of the relations, constructed on trust (reliance), observance of norms of reciprocity and an exchange. The analysis of theoretical approaches to research of the social capital of high school employees is carried out, that can help to work out the system of some empirical parameters in its diagnostics. The possibility of research of the social capital as the individual and organizational resource in micro- and macro- levels is also considered. The practical forms of investments in social capital development are determined: the establishment of communications, the confidence-building, and the development of cooperation. The complex of direct and indirect indicators of empirical diagnostics of the social capital of high school employees is developed. For the purposes of management the development of the social capital of the employees of high school has double effect: first, as it was specified above, it conducts to increase synergy in the decision of tasks of high school; secondly, to growth of the individual social capital of the administrative staff.

***Key words**: social capital, social communications, solidarity, social trust.*

SCIENCES AND HUMANITIES

Shamaeva O. P., Khoroshun N. A.

GLOBAL ENVIRONMENTAL PROBLEMS AND POPULARIZATION OF ENVIRONMENTAL KNOWLEDGE

Increase of human impact to the nature, increase of its transformation forms make us start studies in need to form balanced relations within the system "community-nature", but also make us observe the current problem of natural area reservation. Unwarranted optimism of the practical man and theoreticians which do not consider all the complexity of the formation of human environment, leads to unpredictable but overwhelming changes of nature, which negatively influence its esthetic value.

***Key words**: global environmental problems, environmental problematics, environmental knowledge, principle of consistency, environmental culture.*

Andreeva S. M., Andreeva A. M.

PSYCHO-EDUCATIONAL PATH IN CONSTRUCTION OF DIALOGUE INTERACTION

This article discusses the different approaches in teaching foreign students professional dialogue interaction as a certain level of skills, analyzes the possible causes of failure in the process of dialogue interaction and possible communication failures.

***Key words**: dialog interaction, communication failure, communication.*

Kamensky E.G.

CULTURE AS A SPACE CORRUPTION RISKS OF MODERNIZATION: EXPERTS VERIFICATION OF MAIN

The article presents the empirical verification of the theoretical construct categorical phenomenon of corruption culture in the context of the modernization process by Russian expert survey. Identified positions on the structure of the phenomenon, its prevalence, broadcast channels and other aspects of social ontology. Defined motives corrupt behavior of citizens, their attitudes regarding the current corrupt image.

***Key words:** corruption, corrupt culture, expert interviews, modernization.*

Koreneva E.N., Kireev M. N., Kireeva N.V.

ACTIVITY OF THE REGIONAL SOCIAL UNIONS OF THE FORMATION OF SOCIAL ACTIVITY OF YOUTH

The article gives the analysis of the conditions for the development of the youth of public associations of the Belgorod region, aimed to satisfy the needs of young people in socially significant activity, to develop their social activity. The authors reveal the specific features of the diverse forms of development of social activity of youth of public unions, as well as reveal the role of regional authorities in improving the work of young people.

Keywords: *youth, social activity, public unions, target programs.*

Grebennikova A.D., Artamonova E.V., Belshina J.N.

ELEMENTAL ANALYSIS OF FOSSILIZED BONE MATERIAL FOR EXPERT PURPOSE

In the article the analysis of stone samples by x-ray fluorescence analysis and CHNS-analysis. Conducted by elemental analysis shows that considered in the work of the samples are of different nature. One of them treat the flint subjected to various degree to thermal influence, and others can be carried to fossilized bone residues, which on appearance indistinguishable from the flint heated to temperature over 600 ºC. For bone remnants of the difference in the content of a number of elements allows to speak about the degree of thermal influence on them.

Key words: *natural stone materials, x-ray fluorescence analysis, thermal damage, chns-analysis*

Sladkov A.V.

STUDY OF CONTROL THEORY CHAOS AND CREATION OF INFORMATION AND SPIRITUAL SECURITY AS ALTERNATIVE TO DANGEROUS INTERNET TECHNOLOGIES, MEDIA AND TELEVISION

Every modern man receives a large amount of information. Along with this, the world is formed by the concept of information security for the restricted information flows that do not meet the spiritual and moral principles. There is the need to introduce the term Information and spiritual security, as well as establishing a system that ensures effective promotion of moral and patriotic principles. Actively developing military action on the territory of Ukraine, caused by the "information war", show a lack of social ability to confront the information of data. With the help of modern media technologies can influence and control people's minds, to achieve the desired perception of the world, lay the required patterns of behavior, to program their desire to form a real unanimity in the country and the world. This is a national threat to the population of Russia, as it is known active desire of the West to establish ubiquitous dictatorship only their interests and the formation of a society suffering from Internet vampirism.

Key words*: information technology, spirituality, information risk alternative media system, the study of the theory of chaos control.*

Iakoba I.A., Timofeev S.S.

K. MARX AS AN EFFECTIVE DISCOURSE ANALYST OF XX CENTURY: LINGVO-COGNITIVE MECHANISMS OF SMART DISCOURSE TUNING

We consider attraction of discourse technology of «smart» discourse tuning. Discourse control mechanisms in the case study of The Communist Manifesto by K. Marx and F. Engels deconstruction are brought out. The analysis of linguistic and cognitive means of a given work contributing to effective communication is given. Deconstruction of Marx discourse technology allows to specify and expand a set of successful strategies for public written discourses and allows to draw some theoretical conclusions about attractiveness in communication.

Key words: *discourse deconstruction, attractivity, discourse technology, linguocognitive mechanism, Karl Marx*