Summaries

UDC 514.76

E.T. Ivlev, E.A. Moldovanova

**CENTERING OF LINEAR SUBSPACE CLASS
IN MULTIDIMENSIONAL EUCLIDEAN SPACE**

The paper describes analytical and geometrical construction of two point fields (centres) in corresponding m-planes of p-dimensional variety of these planes in n-dimensional Euclidean space $(1<p<(m+1)(n-m))$.

UDC 514.762

R.N. Scherbakov, N.R. Scherbakov

**FRAME CONSTRUCTION OF NONHOLONOMIC SURFACE
IN THREE–DIMENSIONAL EUCLIDIAN SPACE**

Brief historical overview of nonholonomic geometry is presented in the paper. Frame of nonholonomic surface using the theory of moving frame and external forms methods is built.

UDC 536.46

K.O. Sabdenov

**THEORY OF SPONTANEOUS
DETONATION IN GASES. PART I. BASIC NOTIONS**

The paper analyses advantages and disadvantages of a classical method used to describe gas combustion with such basic notions as *the atom, the molecule, the chemical connection*, etc. Difficulties in turbulent combustion modeling are described. It is shown that in the framework of axiomatic approach the theory of gas combustion can be developed on the basis of such notions *as combustion surface and normal flame rate*. Simple models of turbulent flame are suggested, where the combustion surface represents a fractal.

UDC 553.411.071.242.4+550.4

I.V. Kucherenko

**SYNGENESIS OF NEAR–ORE METASOMATIC AND GEOCHE-
MICAL HALOS IN MESOTHERMAL GOLD DEPOSITS**

Space and cause relations of near-ore metasomatic and geochemical halos in hydrothermal and gold deposits are discussed. The results of three different halos formed in ultrametamorphic granites of Irokindinskoye ore field are used as an example. Basic features of gold mesothermal fields localized in non-shale and carbonaceous substrate are compared with the previously published materials. Particularly, in all considered cases geochemical halos occupy fewer places in comparison with near-ore metasomatic halos interfacing with ore veins ands mineral zones. Conclusions are made concerning genetic relation of geochemical halos (abnormalities) with metasomatic halos and their formation in near-ore field space as optional ore-forming processes.

UDC 551.3 (571.15)

V.N. Korzhnev

**CONDITIONS OF FORMATION OF RIPHEAN–PALEOZOIC
VOLCANO–SEDIMENTARY FORMATIONS IN THE ALTAI
MOUNTAINS**

Conditions of formation of Riphean-paleozoic formations of the Altai Mountains coordinated with geodynamic conditions are restored.

UDC 553.411.042:550.81

A.I. Gusev

**EPITHERMAL MINERALIZATION OF NOBLE METALS LOCA–
TED IN THE ALTAI MOUNTAINS AND MOUNTAIN SHORIYA**

Epithermal gold and silver mineralization occurs in the Altai Mountains and Mountain Shoriya. It is connected with volcanoes tectonic structures of a central type. Space epithermal mineralization is caused by subvulcanic formation of average rhyolite porphyries and syenite porphyries. It is often localized among eruptive breccias subject to intense argillisation. Epithermal mineralization forms two genetic types: low sulphidinised (adular-sericitic) and high sulphidinised (acidic-sulphate). Low sulphidinised type includes three subtypes: gold-silver, polymetal tin-silver, and silver-rich polymetal.

UDC 552.541.31:551.83:533.98(571.16)

N.M. Nedolivko, A.V. Ezhova

**CONTACT ZONE OF PALEOZOIC AND MESOZOIC
SEDIMENTS: PETROGRAPHIC COMPOSITION AND HISTORY
OF FORMATION (CHKALOV OIL FIELD, WELL 26)**

On the basis of petrographic research and electrologging data in Chkalov Field (Tomsk region), the complicated structure of oil-and-gas bearing level of Paleozoic and Mesozoic sediments contact zone was discovered. 5 rock masses were revealed, composed of normal sedimentary (limestones), contact-metamorphic (graphite-siliceous schists) and igneous (andesite lavas) deposits complex in the contact zone. This complex was intensively changed by tectonic and chemical processes and it now presents tectonic crushing and weathering pore development crust zones combination. Its space has the secondary character and is mainly connected with cavernous-fractured type pores.

UDC 622.831.232

L.D. Pavlova, V.N. Fryanov

**FORMATION OF UNLOADING ZONES, INCREASED ROCK
PRESSURE AND DESTRUCTION OF UNDERWORKED ROCKS
OF A ROOF AT THE ADJUSTMENT OF COAL LAYERS SUITE**

Research of unloading zones formation, increased rock pressure and destruction of underworked rocks of a roof is carried out at the adjustment of coal layers suite using spatial calculated model of deformation and destruction of rocks, developed on the basis of the method of final elements.

UDC 553.982:504.54(571.16)

O.G. Savichev

**INFLUENCE OF BOGS ON A HYDROCHEMICAL RUNOFF IN
THE MIDDLE OB RIVER BASIN (WITHIN THE LIMITS OF
TOMSK AREA)**

Chemical composition of bog waters of the middle Ob river basin is analysed. The data on average concentration of macrocomponents, some biogenic and organic substances in bog waters for different antropogeneous factors are described. The level of substances contents in bog waters is determined by waterchange intensity, type of a water feed of a bog and physical and chemical properties of peats. The antropogeneous influence on chemical composition of bog waters now has a local character.

UDC 621.376:621.397.3

S.M. Slobodyan

**DETECTION METHOD OF AN OBJECT GROUP
WITH IMAGE OVERLAPPING**

The paper suggests a detection method of an object group with image overlapping. Optimisation of signal/noise ratio at the detection of an object group with image overlapping is carried out. Estimation of signal phase change and quantitative assessment of object using suggested method is conducted on the example of a two-object group with space-time image overlapping.

UDC 539.21

S.Kh. Shigalugov

**INVESTIGATION OF SOLID BODIES INTERACTION
WITH IRREGULAR OXYGEN-CONTAINING GAS MEDIA
USING LUMINESCENT METHODS**

The paper presents the basic set of characteristics to investigate atom-molecular and electron processes on the surface and in the volume of a solid, i.e. in crystal-phosphorus in irregular oxygen-containing gas media. Installation units and experimental methods compatible with modern computer measuring systems are described. Methods of synthesis and selection criteria of optimal samples for the investigation are considered.

UDC 621.039.52.034.3:621.039.555.4

**V.I. Boiko, V.V. Shidlovsky, P.M. Gavrilov,
M.G. Gerasim, I.V. Shamanin**

**METHODS OF CALCULATION MODELING
OF NEUTRON–PHYSICAL AND THERMAL–HYDRAULIC
STATE OF A REACTOR IN FAST PROCESSES**

Methods of calculation modeling of neutron-physical and thermal-hydraulic state of a water-cooling reactor channel with graphite deceleration in fast processes are discussed. Calculation of hypothetic emergency situation taking place at pump drives failure and pressure drop in multiple compulsory circulations caused by partial pipeline breaking is carried out.

UDC 378:001.891

M.D. Noskov

**SEVERSK STATE TECHNICAL INSTITUTE
CELEBRATES ITS 45th ANNIVERSARY**

The paper presents historical details of Seversk State Technical Institute from the moment of its foundation in 1959. Priority research fields, achievements and contributions of scientists and teachers of the institute are described. It is mentioned that during the last years the institute managed to become not only the largest educational but also scientific centre of Seversk.

UDC 519.6

A.D. Istomin, S.A. Korableva, M.D. Noskov

**MATHEMATICAL MODELING OF RADIONUCLIDE
MIGRATION IN NEAR–SURFACE GROUND**

The paper presents the mathematical model of evolution of the system, consisting of the local soil – liquid – gas phase. The model takes into account the basic physical-chemical processes. It describes the change of the phase (vaporisation-condensation and crystallisation-melting of water), filtration, gas phase motion, convective flux and diffusion of radionuclids, sorption and desorption of radionuclids, advective heat transport and heat transfer, radiogenic heat-release and radioactive decay. On the basis of numerical realization of the mathematical model the task-oriented application programme for calculation of the vertical radionuclide migration in the surface coating of ground is developed.

UDC 519.6

**A.N. Zhiganov, M.D.Noskov, A.D. Istomin,
A.G. Kesler, N.S. Nevzorova**

**GEOTECHNOLOGICAL INFORMATIONAL SIMULTATION
COMPLEX FOR OPTIMISATION OF UNDERGROUND
LEACHING OF URANIUM**

The geotechnological informational simulation complex for optimisation of underground leaching of uranium is presented. The complex consists of the geoinformational and simulation systems. The geotechnological informational system allows to input, edit and display parameters which characterise the state of the productive horizon as well as features of the wells. The simulation system describes the basic physical-chemical processes that take place in the productive horizon during underground leaching of uranium. The complex might be used for optimising uranium field development, increasing share of uranium extracted, and decreasing underground water pollution.

UDC 502.58:574

N.Yu. Istomina, M.D. Noskov, A.D. Istomin, A.N. Zhiganov

**USE OF ARIA GEOINFORMATIONAL SIMULATION COMPLEX
FOR ASSESSMENT OF CONSEQUENCES OF RADIOACTIVE
EMISSIONS INTO THE ATMOSPHERE**

The paper briefly describes the concept, the structure and the functions of ARIA geoinformational simulation complex. The complex is designed for assessing consequences and emergency planning in case of emission of radioactive substances into the atmosphere. The application of the complex for assessing consequences and emergency planning in case of emission of radioactive substances into the bottom layer of the atmosphere are described.

UDC 547.241

V.I. Karpenko, M.V. Shushakova, O.A. Ozherelyev

**CATALYTIC PROCESSING OF LIQUID
RADIOACTIVE ORGANICS WASTES**

The problem of processing liquid organic wastes, including extraction compounds with radioisotopes is considered. Basing on the experimental data, the technological scheme for oxidation of radioactive wastes with organophosphorus is suggested.

UDC 669.85/86.054.83

**E.Yu. Kartashov, A.Yu. Makaseev, A.S. Buynovsky,
V.L. Sofronov, V.N. Moskalev, V.V. Dogaev**

**TEMPERATURE INFLUENCE IN THE PROCESS
OF LIGATURE Nd–Fe HYDROGENATION**

The paper discusses the influence of temperature on speed and degree of hydrogenation of ligature Nd-Fe. The main kinetic parameters of the hydrogenation process are calculated. The results of the X-ray phase analyses of the formed hydrates as well as the results of the analyses of the area of samples specific surface are given.

UDC 669.85/86.054.83

**E.Yu. Kartashov, A.Yu. Makaseev, A.S. Buynovsky,
V.L. Sofronov, Yu.N. Makaseev**

**INVESTIGATION OF THE CORROSION PROCESS
OF HYDROGENATES OF LIGATURE Nd–Fe**

The paper presents the results of investigation of corrosion of hydrogenates of ligature Nd-Fe in different media. The phase content of corrosion products is determined. The recommendations concerning storage and transportation of hydrates powders are given.

UDC 661.48.546.16

V.A. Karelin, S.V. Kovalev

**SYNTHESIS OF HIGH–PURITY MOLYBDENUM POWDER
BY ELECTROLYTIC METHOD FROM FLUORIDE MELTS**

The fundamentally new fluoride method of synthesis of high-purity metal molybdenum and rhenium powders from natural sulfide concentrates is suggested. For the first time, the final stage of the technological process involves the electrolytic method of decomposition of higher molybdenum and rhenium fluorides in the low-melting eutectics of fluoride salts of alkali metals. By using this method in industrial practice it will be possible to eliminate contamination of environment by harmful chemical substances and obtain cheap high-purity molybdenum and rhenium powders.

UDC 661.487

V.P. Pischulin, L.F. Zaripova, S.N. Grishin

**ELECTRO-TECHNOLOGICAL PROCESSES OF OBTAINING
FLUORINE HYDRIDE FROM SOLUTIONS AND PULPS**

The paper presents the results of derivatographic studies of the process of desorption of fluorine hydride from fluorosulfuric solutions

and pulps. The methods of thermal processing of solutions and pulps in electrode desorber are described.

UDC 661.487:621.365

S.N. Kladiev, V.P. Pischulin, Yu.V. Trukhin, Yu.N. Dementyev

INVESTIGATION OF THE PROCESS OF SULFURIC DECOMPO-SITION OF FLUORITE IN A ROTATING DRUM FURNACE

The process of obtaining water-free fluorine hydride by thermal decomposition of fluor-spar CaF_2 by sulfuric acid is investigated. The regression model of the technological process is suggested. The investigation results have been used in industrial technological plants with revolving drum furnaces and feed screws. The optimal mode for obtaining water-free fluorine hydride with minimal content of residual sulfuric acid is achieved.

UDC 661.879:621.039.54

V.P. Pischulin, V.N. Brendakov

MATHEMATICAL MODEL OF THE PROCESS OF THERMAL DECOMPOSITION IN A ROTATING DRUM FURNACE

The paper considers the issues related to construction of the mathematical model of the process of thermal decomposition of ammonium polyuranates. By means of the assumptions made, the system of equations is obtained which describes the closed cycle of basic processes occurring in the rotating drum furnace. The algorithm for calculation of the furnace temperature and the degree of thermal decomposition of ammonium polyuranates is presented which allows to optimise the parameters and working modes of the rotating drum furnace on the basis of the methods of mathematical simulation.

UDC 536.25

A.V. Shvab, V.N. Brendakov

MATHEMATICAL MODELING OF TURBULENT CURRENT IN THE CENTRIFUGAL DEVICE

The paper presents the results of numerical calculations of the turbulent swirling axisymmetric current. The calculation of turbulent characteristics is performed on the basis of differential turbulence model. The results of comparison of numerical calculations with the experimental data are given. The results of numerical calculation concerning the influence of geometrical arrangement of the working space of the pneumatic classifier on the type of current are shown.

UDC 66.023.2

I. A. Tikhomirov, D.G. Vidyaev, A.A. Grinyuk

EQUATION OF THE AMALGAM–EXCHANGE COLUMN FOR AVERAGED FLOWS

The equation of amalgam-exchange column for averaged flows which allows to calculate the concentration of integral isotope on the column outlet (column cascade) or to solve the inverse problem i.e. to determine the required number of columns for obtaining the integral isotope with definite concentration is developed.

UDC 665.64

A.V. Kravtsov, E.D. Ivanchina, A.V. Kostenko, D.S. Poluboyartsev, D.I. Melnik

FORECASTING THE TECHNICAL CHARACTERISTICS OF Pt–CATALYSTS FOR REFORMING PROCESS WITH THE HELP OF INTELLECTUAL SOFTWARE

The experience of application of intellectual software which is based on the physical-chemical and kinetic laws of hydrocarbon transformation with the use of Pt-catalysts is described in the paper. It is depicted that using this system the observation over the laws of hydrocarbons transformation on Pt-contacts becomes possible. The influence of the regeneration regime on the restoration of catalysts activities and dispersion ability is studied. The examples of calculating kinetic constants of velocities for basic reactions taking place in industrial reactors are given.

UDC 678.046.3:678.046.78:678.063.5

I.A. Borodina, V.V. Kozik, L.P. Borilo

THE INFLUENCE OF NATURAL SILICATES ON CURE UNSATURATED POLYESTER RESINS

The influence of natural minerals of diopside, wollastonite and zeolite on cure rate unsaturated polyester resins is investigated; the change of viscosity and volume shrinkage depending on silicate mode and admission is examined. Comparative analysis of composites properties with different fillers is carried out.

UDC 666.123.22

N.S. Krasheninnikova, O.V. Kazmina, A.V. Proshkina

COMPLEX TREATMENT AND USAGE OF LOW–QUALITY SANDS IN PRODUCTION OF GLASS CONTAINERS AND TILE

The fundamental possibility of applying sand of Kudroskoe field of Tomsk region in the production of glass containers is studied. Enrichment of sand fraction with particles sizes over 0,2 mm using rubbing-flotation method allows to obtain brown glass containers of high quality. In order to make complex usage of sand for production of tile possible it is proposed to use the fraction sized 0,2 mm as a filler of polymer composition.

UDC 669.017.3+539.26

V.D. Klopotov, V.P. Nesterenko

MATHEMATIC SIMULATION OF THERMAL PROCESSES IN A CUTTING TOOL

Using numerical simulation the non-standard task of heat distribution in the main surface of the cutting tool with various intensity of thermal flows formed in the zone of cutting tool and treated material contact is solved. The distribution of thermal field along the cutting edge of the cutting tool at minimal and critical deterioration is studied. The boarders of the cutting tool deterioration which make the efficient use of the tool impossible are determined.

UDC 539.43:539.376

S.Ya. Kuranakov, L.I. Ogorodov

DESCRIPTION OF THE PROCESS OF HIGH–TEMPERATURE ALLOY LOW–CYCLE LOADING AND AFTERFLOW

The results of the experimental testing of kinetic equations of force, power, and hereditary types using tubular samples of high-temperature alloy ХН65ВМТЮ in temperature of 800 °C are presented in this paper. The experimental data are obtained for non-stationary step loading with linear and complex tense state.

UDC 548.4.001:621.791.052.08:620.179.16

A.M. Apasov, A.A. Apasov

MECHANISM OF ORIGINATION, FORMATION, AND DIAGNOSTICS OF LACK OF FUSION IN THE PROCESS OF WELDING. PART 3

The results of model and experimental research of lack of fusion origin, formation, and development mechanisms in the process of welding are presented. The given models allow to simultaneously register the lack of fusion in real time and form the steering command for correcting welding parameters.

UDC 621.791.763

S.F. Gnyusov, A.S. Kiselev, M.S. Slobodyan, B.F. Sovetchenko, M.M. Nekhoda, A.V. Strukov, P.M. Yurin

THE INFLUENCE OF PULSE SPOT MICROWELDING ON THE STRUCTURE AND PROPERTIES OF Э110 ALLOYS

The dependence of power input rate influence on the solidity and microstructure of spot welds is obtained. The influence of thermal treatment of spot welds on their physical properties is assessed. The interval of power input rates which provides high solidity of the spot weld is determined.

UDC 661.487.621.313

D.V. Robkanov, Yu.N. Dementyev, S.N. Kladiev

DIRECT CONTROL OF INSTANCE IN THE ASYNCHRONOUS ELECTRIC DRIVE OF THE DOZING UNIT AUGER

The variant of applying the asynchronous electric drive with direct control of instance with the help of switching table in the multicomponent system of dozing is considered in the paper. The functional scheme of asynchronous electric drive which controls the instance, dependences of voltage and flow vectors on the location of inverter's guide pins, vector diagrams, explanatory influence of vectors on the flow and instance of asynchronous engine, are stated.

UDC 519.251.9

V.G. Bukreev, U.I. Paraev, Yu.I. Shamin, A.K. Chaschin

ALGORITHM OF IDENTIFICATION OF ELECTROMECHANICAL OBJECT PARAMETERS BASING ON THE THEORY OF SENSITIVITY

The procedure of parameters identification for the controlled object is described basing on the application of sensitivity function. The algorithm of local optimisation which allows to identify the unknown parameters basing on the conditions of minimising the quadratic criterion of observed variables discrepancy and on assessment of condition within the discrete time intervals is proposed. An example of algorithm of identification for determining the dynamic and strategic moments of DC electric drives is considered in the paper.

UDC 615.471:616–7

S.F. Gluschuk, Ya.S. Pekker

ON OPTIMISATION OF CONSTRUCTION AND ELECTRIC PARAMETRES OF AUTONOMOUS ELECTRICAL GASTROINTESTINAL STIMULATORS

The basic stages of constructing the electric gastrointestinal stimulators with an aim to create an ecologically-friendly electric stimulator which will provide traumas and electric safety and high treatment efficiency, are considered in this paper.

The form of the electric stimulator, its dimensions, applied electronic base and material of stimulating electrodes are explained. The durations of stimulating pulses which excite the cells of unstriped muscle of the gastrointestinal tract by the capacitive component of the stimulus are calculated.

The design of the structural scheme of the electric stimulator is explained. Its basic construction is described.

UDC 629.3.054.254

D.E. Groshev, V.K. Makukha, S.V. Stepanov

SOFTWARE FOR MEASURING THE CONCENTRATION OF CARBON DIOXIDE IN THE EXPIRED AIR CARBONOMETER "MIKON" WITH THE SENSOR FOR OXYGEN CONCENTRATION

Special software has been developed for the apparatus of the complex which includes the device measuring the concentration of the carbon dioxide and oxygen in the expired air. As a result, the researcher has an opportunity to carry out observations in the real time-scale of oxygen consumption and carbon dioxide excretion, as well as analyse and store the obtained dependences. The software has been tested in MS Windows 98/2000/XP.

UDC 681.3.06

S.A. Dubakov, V.A. Silich

USE OF THE UML DIAGRAMS FOR CONSTRUCTING THE CAPACITY MODEL

The possibility of generation of capacity models for software basing on the UML diagrams is considered as one of the basic components of methodology of integrating the capacity analysis in the process of work. The approach based on the methodology of Software Performance Engineering (SPE), which uses standardised UML elements and a number of enhancements, is developed.

UDC 378:37.015.62:001.92:37

L.N. Titova, O.P. Sinelnikova

THE ROLE OF AUDIT EFFICIENCY IN EXPERTS' ASSESSMENTS CARRIED OUT IN THE SYSTEM OF EDUCATION IN RUSSIA

The role of assessment of an efficient use of budget funds invested in the Russian education is considered. Maximum transparency and predictability of budget and financial system of the state is the auditing aspect of efficiency, which is the key factor for increasing the competitiveness of national economy and for resolving the urgent social problems. It is pointed out that the social climate in the country will change for better only if the budget activities of the state are secured. In this respect formation and development of efficient state budget control which uses efficiency audit is a vital theoretical and practical task.

UDC 378:37.015.62:001.92:37

L.N. Titova, O.P. Sinelnikova

THE USE OF STATE FINANCIAL CONTROL IN REVEALING THE PROBLEMS OF EDUCATION IN RUSSIA

Analysis of economy state in the field of education has shown that in recent years there has been a tendency of shifting from the budget financing of the learning process to an active attraction of non-budget resources and namely those of parents. While financing all the levels of education, funds obtained as a result of commercial activities of educational institutions, become more extensive, thus, resulting in creation of favourable conditions for elite fee education for the most privileged at the expense of free education for the rest social layers.

UDC 658.1

Yu.A. Nikitina

ECONOMIC ENVIRONMENT NONLINEARITY AND SELF–ORGANIZATION TENDENCY IN THE FIELD OF NETWORK ECONOMY

Possibilities of enterprises' adaptation to the unstable economic environment are being analysed. Environment nonlinearity makes a great impact on the economic systems competitive ability. It is shown that the approach based on the synergetic effect is considered to be the optimal one to develop enterprises adaptation ability under the modern conditions.

UDC 519.81

Anna A. Kornienko, A.V. Kornienko

LOGICAL–LINGUISTIC MODELING OF SUBJECTS' SOCIAL–ECONOMIC BEHAVIOR

It is shown that social-economic subject's behavior can be represented as succession of dynamic stable forms caused by the subject's aspiration and his relationship with the environment. To represent subject's aspiration and the system of preferences a logical-linguistic model and identification algorithm are suggested.

UDC 316

M.V. Zheltov

VOTING RIGHT AND ELECTIONS IN OUR CONTEMPORARY LIFE

Social consequences caused by the introduction of general voting right are characterised. Voting right enhancement led to the changes of labor legislation, social relationship democratisation, and also made politicians reveal and take into consideration the lower social strata interests. General voting right contributed to the formation of left-wing political parties and unions, and also to the involving of voters into the politics. Modified voting systems were formed. Such processes are considered in the context of contemporaneity.

UDC 101.1;008:1

Yu.S. Osachenko

THE ESSENCE OF MYTH AS PHILOSOPHICAL PROBLEM. 1. PHENOMENON OF MYTHICAL: INTERPRETATIONS PLURALISM

The problem of myth essence understanding is analysed. A myth is considered to be a very complicated phenomenon from the social and the cul-

tural point of view. It existed not only in ancient times but also exists in the present. However, there is great number of discrepant myth interpretations. This phenomenon is connected with the myth nature as the form of conscious experience revealing in different spheres of human self-fulfillment.

UDC 111.1:159.953

O.T. Loiko

SIGN ESSENCE OF SOCIAL MEMORY

The analyses of sign role and its place in the revealing the essence of social memory is carried out. On the basis of the research of main scientific positions which consider the sign as the correlation of "the signified and the signifying" the author arrives to the decision about the existence of social memory in the form of a complicated semiotic system.

UDC 930.1(44)

N.V. Trubnikova

INTERDISCIPLINARY ALLIANCE OR CONFRONTATION? FRENCH HISTORIANS' AND SOCIOLOGISTS' DISCUSSIONS ON THE TOPIC OF SOCIAL SCIENCES

The relationships formed between two interdisciplinary subjects − history and sociology in the 20th century in France which at that certain period were in the vanguard of interdisciplinary research are considered.

UDC 801.561.3

M. Luchik

SUBJECTIVE, PREDICATIVE, AND OBJECTIVE RELATIONS IN THE SEMANTIC STRUCTURE OF IMPERSONAL PERCEPTIONAL SENTENCES OF RUSSIAN AND POLISH LANGUAGES

Inherent divergence of semantic structure determined by inconsistency of components of two-tier integral semantic content is shown on the basis of impersonal perceptional sentences of Russian and Polish languages.

UDC 378:001.891(571.1/.5)

V.V. Petrik

SIBERIAN UNIVERSITY GROUP ACTIVITY AIMED AT THE STUDENTS' SCIENTIFIC AND RESEARCH WORK IMPROVEMENT. LATE 1950s – EARLY 1990s (HISTORICAL PERSPECTIVE)

This article analyses the measures taken by the staff of the Siberian higher educational establishments at the end of 1950s − beginning of 1990s aimed at improvement of the organizational structure of students' scientific and research activity. The author considers and analyses such poorly explored issues as students' participation in the inventive and rationalisation work, strengthening relations between universities and industry based on the students' involvement into research including both contract-based and state budget-based research, their participation in students' learned society study group, and also analyses the role of organisations in this type of activity.

UDC 930.2

E.S. Kirsanova

LESSONS OF METHODOLOGICAL DISCUSSIONS IN RUSSIAN HISTORIOGRAPHY OF THE SECOND HALF OF 19th AND THE BEGINNING OF 20th CENTURIES

The comparative analysis of modern methodological discussions, which concerns renovations of native science and discussions between Russian historians (end of 19th − beginning of 20th centuries) is carried out.

UDC 930.1

L.A. Gaman

SOVIET HISTORY REPRESENTED BY G.P. FEDOTOV: ISSUE SETTING

Some aspects of soviet history of Russian religious thinker G.P. Fedotov (1886−1951), whose basic features were formed in the later period of his creative work are analyzed.

UDC 9(C)17−03

A.V. Lutsenko

IS IT RUSSIA'S LOST CHANCE?

The evolution of Russian liberal ideology of the end of the 20th century is considered. Historical connection between reforms of the 90s and the western paradigm of Russian liberation movement of the second half of the 19th century are evaluated. The Marxist's "roots" of the process of westernisation of Russian empire are observed; the position of K. Marx concerning Russian economy modernization and the community role in the development of the country is presented.

UDC 531/534+530.1(075)

V.V. Larionov, D.V. Pichugin

THEORY AND PRACTICE OF PROBLEM ORIENTED ASSIGNMENT PHYSICS STUDYING: NEW PEDAGOGICAL METHODS IN PRACTICAL PHYSICS OF ENGINEERING UNIVERSITIES

The pedagogical method specially developed for technical universities and based on teaching physics by fulfilling laboratory work is suggested. The material and virtual didactical means carriers in the model are distributed in accordance with the variable multilevel scheme.

UDC 377:378

M.P. Lankina, M.G. Potudanskaya, M.O. Pisarev

PHYSICIST ACTIVITY MODEL FROM THE POINT OF VIEW OF A UNIVERSITY GRADUATE AND HIS SCIENTIFIC ADVISER

The paper analyses the questionnaires completed by the graduates of Omsk State University and their scientific advisors. The questionnaire concerns the issue of graduate's meeting qualification characteristics of a degreed physicist. The dynamic of physicist's work model from the respondent's point of view for the period of seven years is analyzed.

UDC 371:621.039

A.N. Zhiganov, S.A. Karpov, O.P. Medvedev, I.A. Tsepaeva

THE CONCEPT OF CONTINUOUS PERSONALITY DEVELOPMENT BY MEANS OF NUCLEAR ENGINEERING EDUCATION

The concept of continuous multilevel system of education elaborated for training specialists at nuclear enterprises introduced. The model offered is considered to be the first attempt to form cultural and educational sphere of Russian enclosed city, which specialises in the nuclear field as infrastructure providing personnel involving inner city's resources.

UDC 069.015:930.2

R.A. Galanova

HISTORY OF ELECTROPHYSICAL FACULTY OF TPU AS REFLECTION OF TRADITIONS AND INNOVATIONS OF TOMSK POLYTECHNIC UNIVERSITY IN THE UNIVERSITY'S HISTORY MUSEUM

The history of electrophysical faculty foundation, which will celebrate its 60th anniversary in 2005, is stated. The aim is to show the traditions and principles in the sphere of university's scientific and educational activity by the example of electrophysical faculty's history. These traditions and principles were formed by the first director of Tomsk engineering institute E.L. Zubashev and continued afterwards by the rector of Tomsk polytechnic university A.A. Vorobiev. Today this tradition remains alive.

UDC 54:62(09)

G.G. Saveliev, N.F. Stas

SCIENTIFIC RESEARCH AND TECHNOLOGICAL DEVELOPMENTS IN THE CHAIR OF GENERAL AND INORGANIC CHEMISTRY OF TOMSK POLYTECHNIC UNIVERSITY

The main results of scientific research at the Department of General and Inorganic Chemistry of Tomsk Polytechnic University obtained during the last 100 years are considered. Brief information about works carried out in 1900−1950 by the first holders of the chair (D.P. Turbaba, Ya.I. Mikhailenko, N.V. Tantsov) is given. The results obtained in 1970−2000 are introduced. That was the time when the department's main branch had been already formed and they carried out the research of solid substances chemical reactions, developed new technologies, carried out synthesis and materials research with the properties specified.