Summaries

UDC 539.182

V.A. Kilin

METHOD OF CALCULATION OF AMPLITUDES AND TRANSITION PROBABILITIES IN ATOMS WITH RESPECT TO CORRELATIONS WITHIN THE FRAMEWORK OF MANY-PARTICLE NON-STATIONARY PERTURBATION THEORY

The paper states the integral methodical approach to theoretical calculation of spectral characteristics of many-electron atoms with respect to correlation interactions. This method is based on the usage of non-stationary many-particle perturbation theory viewed in secondary quantification and quantum theory of corner moment.

UDC 531:534.536.425

V.N. Belomestnykh, E.P. Tesleva

POLYMORPHOUS CONVERSIONS OF ORIENTATIONAL ORDER-DISORDER TYPE. Part II. NITROGEN-CONTAINING ION-MOLECULAR CRYSTALS OF NATRIUM

Polymorphous properties of ion-molecular crystals of natrium are studied. The latter include: azide (NaN_3), nitrite ($NaNO_2$), nitrate ($NaNO_3$). The certain characteristics of this group of substances are compared with similar ones for sodium cyanide and chloride.

UDC 519.2

N.E. Timoshevskaya

ON NUMERATION OF REARRANGEMENTS AND COMBINATIONS FOR ORGANIZATION OF PARALLEL CALCULATIONS FOR DESIGNING CONTROL SYSTEMS

The paper suggests the method of parallel generation of such combinative objects as rearrangements and combinations. The method is based on the possibility of numbering the enumerated objects in such a way that one can easily state the object matching with it. The formulas are presented for calculating the number of the given object (rearrangements, combinations) as well as the algorithms of object construction according to its number. The results are presented which prove the efficiency of the method.

UDC 681.3

M.P. Silich

USE OF POORLY FORMALIZABLE DEPENDENCES IN A MODEL OF FUNCTIONAL RELATIONS

The problem of poorly formalizable, so-called, evaluative dependences formation in a model of functional relations, and their use for estimation of object condition and defining the influence of separate attributes on the generalized estimation of an object are considered. The results of the application of the offered approach for analysis of the power saving level of the region and defining the priority measures in the power saving business development are given.

UDC 553.06

I.V. Kucherenko

THEORY AND PRACTICE OF THE FORMATIONAL METHOD IN ORE GEOLOGY. Part 3

The alternative variant of ore-formational method improvement is considered with the account to data collected in ore geology. The paper suggests that ore formation should be assessed as substance-genetic category accumulating data on physical-chemical and thermodynamic modes of ore formation but deprived of geological (metallogenic) content at the stage of extraction. Substantial content of ore formation is determined by the fact that deposits included into it belong to the geological formation with the whole complex of characteristic syngenetic minerals contained in its substrate. A polycomponent ore formation includes ore subformations according to mineral raw materials. Geological modes of ore formation are diagnosed in the process of metallogenic studies; in case of convergent mineralization they are considered as the class of geological types-constituent parts of ore subformations. In the suggested understanding of the purpose of the ore formation method and content of ore formations, ore subformations and geological types all the taxons of the ore-formation hierarchy create the basis for genetic classification of ore-forming processes and may as well create the basis for geological-genetic classification of ore formation processes. The above classification is to be elaborated in the nearest future.

UDC 552.5:551.76(571.51)

N.F. Stolbova, O.V. Betkher, Yu.V. Kiselev

LITHOGENESIS OF JURASSIC-CRETACEOUS DEPOSITS OF THE EASTERN SIDE OF THE BOLSHEKHETSK CAVITY (ACCORDING TO THE RESULTS OF STUDYING THE CUT OF THE TUKOLANDO-VADINSK PARAMETRIC WELL-320)

The paper considers the particular features of precipitation accumulation and consequent diagenetic, catagenetic and applied epigenetic transformations in the rocks of the cut. The authors suppose that the processes of the applied epigenesis played a crucial role in the formation of zones of failed rocks which are perspective for localization of hydrocarbon deposits.

UDC 552.321+550.93+550.4

S.N. Rudnev, A.G. Vladimirov, E.V. Bibikova, A.E. Teleshev, P.F. Kovalev

U-Pb ISOTOPIC AGE OF GRANITOIDS OF BRENSKIY MASSIVE (EASTERN TYVA)

The first data on formation time of "before-volcanic" and "after-volcanic" granitoids constituting the Brenskiy Massive were obtained using U-Pb isotopic zirconium method. It is stated that Ub-isotopic age of 'before-volcanic' granitoids accounts for approximately 450±5 million years (late Ordovic), "after-volcanic" – 385±5 million years (early Devonian). U-Pb isotopic estimations of ages fully confirmed the geological conclusions on abrupt gap in the age of these magmatic formations which had been made before. Despite the fact that the obtained U-Pb isotopic assessment of the age of "before-volcanic" granitoids overlap within the limits of the analytical error with U-Pb isotopic age of the preceding granitoids of tannuol diorite-tonalite plagiogranite complex (451±5,7 million years), they significantly differ from each other according to substantial content and formational belonging.

UDC 550.42:57.4(571.1)

O.G. Savichev

THE IONS RUNOFF OF THE MIDDLE OB RIVER BASIN

The results of studying of underground water and ion runoff in the middle Ob river basin are considered. The norm estimation of ion runoff of Ob river and its main tributaries are obtained. The total ion runoff of middle Ob river accounts for 17...24 million ton/year, including subsurface runoff which accounts for 8...12 million ton/year. The increase in subsurface (ion and water) runoff within the period 1960–1970 is established.

UDC 543.42

**V.I. Otmakhov, E.V. Petrova,
T.N. Pushkareva, G.P. Ostroverkhova**

ATOMIC-EMISSIVE METHOD OF FUNGUSES ANALYSES FOR DETERMINIG THE CONTENT OF HEAVY METALS AND ITS USE FOR ECOMONITORING

The paper describes the new method of atomic-emissive determination of heavy metals in funguses which are used as bioindicators of environmental pollution in ecologically dangerous regions. The method takes into account specific features of the investigated object which are caused by the presence of the complex matrix of ash residues of funguses obtained at the stage of sample preparation. Kinetic and thermodynamic studies of high-temperature processes taking place in the plasma of the arch discharge allowed to optimize carrying out of the spectral analysis. The metrological attestation provided reliable results.

UDC 621.384.6.08

Yu.N. Adischev, A.V. Vukolov, A.P. Potylitsin, G. Kube

EXPERIMENTAL SETUP FOR OBSERVING SMITH-PARCELL EFFECT BASED ON ELECTRON MICROSCOPE EMMA-2U

The experimental setup for studying the shift in the line of Smith-Parcell radiation in the optical range of the spectrum at the beam of the electron microscope with the finite emittance at azimuth turn of the grid is created. The experimental setup allows to study typical features of Smith-Parcell radiation provided the electron beam does not interact with the target material.

UDC 537.533

P.S. Ananin, O.Kh. Asainov, G.A. Bleikher, D.D. Bainov, V.V. Zhukov, A.A. Zorkaltsev, L.G. Kositsyn, V.P. Krivobokov, E.V. Lebedev, V.N. Legostaev, S.V. Merkulov, M.N. Mikhailov, M.A. Nechaev, T.G. Noskova, O.V. Paschenko, A.G. Puzyrevich, S.P. Umnov, S.V. Yudakov, S.N. Yanin

PLASMA SYSTEM FOR LOW-EMISSIVE COATING DEPOSITION

The plasma system for modification of architecture glass sheet optical properties by means of deposition of low-emission coating on its surface is described in the paper. The system has vacuum chambers where sources of magnetron plasma and ion beams for surface cleaning of treated sheets are placed. The system contains the device for optical checking of coating thickness, the scanning element of treated sheets under ion beams and plasma flows, the loading chamber and other appliances and devices which provide high quality of coatings. The paper describes the structure of the system, the characteristics of its basic elements, some operation peculiarities.

UDC 537.2:533.922

**A.I. Pushkarev, G.E. Remnev,
V.A. Vlasov, S.A. Sosnovskiy, V.V. Ezhov**

PLASMOCHEMICAL PROCESSES INITIATED BY PULSED ELECTRON BEAM IN GAS MIXTURE OF SF_6 AND N_2

The results of experimental investigations of sulfur hexafluoride destruction in the mixture with nitrogen under the pulsed electron beam influence are presented. The data of content change of gas mixture in the reactor measured by mass-spectrometer are shown. Also the power inputs of electron beam for fluoride composition destruction are given. The mathematical simulation of low-temperature N_2 and SF_6 plasma of gas media under the electron beam injection is presented.

UDC 620.179.13

D.A. Nesteruk, V.P. Vavilov

PECULARITIES OF USAGE OF THE THERMAL NON-DESTRUCTIVE CONTROL METHOD FOR DETECTING AND ASSESSING WATER MASS IN CELLULAR PANELS OF AVIATION EQUIPMENT

In modern Russian airplanes, honeycomb structures are increasingly used due to their excellent rigidity-to-weight ratio. However, the first experience of exploiting such airplanes has revealed the possibility for a new type of defects, such as hidden water to emerge. Water penetrates into honeycomb cells due to condensation and direct access, thus enhancing airplane weight and deteriorating the quality of bonding layers.

As the alternative to the practically used ultrasonic technique, the infrared (IR) thermographic method of water detection has been developed in Tomsk Institute of Introscopy. This method is based on analyzing surface temperature distributions after landing by using IR imaging radiometers. A great deal of fulfilled practical inspections has shown that the IR thermography is ready for practical implementation as a screening technique. Moreover, the results of modeling have been promising in estimating water mass quantitatively while using the phenomenon of phase ice-to-water transformation.

UDC 621.378: 681.3:535

S.M. Slobodyan

ANALYSIS AND OPTIMIZATION OF TELEVISION PRINCIPLE OF PHASE SPACE SCANNING BY OPTICAL PHASOMETER: 1. SEARCHING TRAJECTORIES

The analysis of various space scanning trajectories by optical tracking phasometer is carried out. The algorithm of single line scanning divergent from the loss point during the breakup of searching is considered to be the most optimal for object detection.

UDC 622.243.94

V.F. Vazhov, M.Yu. Zhurkov, V.M. Muratov

EFFICIENCY OF ROCK CUTTING BY MEANS OF SPUTTER-ION MOVING ELECTRODE SYSTEM

The sputter-ion method of rocks cutting by moving electrode system is considered in this article. The dependencies of crack width both on energy in the discharge and on the velocity of electrode system movement are obtained, and the possibility of decreasing energy, stored by the impulse source, 10...16 times is depicted. The comparison of obtained results with the literature data is carried out.

UDC 621.785:669.14.08.29

V.E. Ovcharenko, S.G. Psakhye, O.V. Lapshin, E.G. Kolobova

MODIFICATION OF POWDER METALLOCERAMIC ALLOY BY ELECTRON PULSE TREATMENT OF ITS SURFACE

An experimental investigation into the effect of the impulse electron-beam irradiation upon microstructure of the surface, near-surface layer, and on wear resistance of the sintered TiC/NiCr tool material for cutting metals has been performed. Microstructure of the near-surface layer was studied after structural conversions occurred in it as a result of irradiation. The changes of the near-surface layer in microstructure under the influence of the electron-beam irradiation as a high-energy effect on the composite material of disperse structure with metal binder were analysed. It was shown that regularities of the interaction of the liquid metal binder with the carbide particles under the condition of a high rate of heating and cooling are on the basis of the microstructure transformations.

UDC 66.023.2

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

KINETICS OF ISOTOPE EXCHANGE AND MAGNITUDE OF EXCHANGE FLUX BETWEEN PHASES

The kinetics of the process of transposition of a light component between two not immixing exchanging phases: by an amalgam and solution is considered in this paper. The density of exchange flux between the phases is described mathematically. The estimation of an exchange flux according to the parameters of one phase is carried out.

UDC 621.039.542.34

I.I. Loktev, A.B. Aleksandrov, K.Yu. Vergazov, V.V. Guzeev

PREPARATION OF URANIUM DIOXIDE POWDERS FOR THE DRY PRESSING OF FUEL PELLETS. Part I

Various methods of preparation of uranium dioxide powder, which is designed for the production of fuel pellets by means of pow-

der metallurgy using the dry anode strap are being considered in this paper. The order of actions during the analysis of powders and the choice of the method of its treatment before pressing are proposed.

UDC 66.022:621.979

V.A. Lotov, N.S. Krasheninnikova, I.N. Nefyodova

METHOD AND TECHNIQUES OF UTILIZATION OF SOLID WASTES IN THE PRODUCTION OF MINERAL WOOL

The possibility of using industrial wastes after the production of mineral wool as an additional raw material is investigated in this paper. The results of research allowed to develop a scheme of wastes utilization and to give practical recommendations of their use.

UDC 546.831.4

V.V. Kozik, L.P. Borilo, V.Yu. Brichkova

SYNTHESIS AND STUDY OF THE PROPERTIES OF THIN-FILM AND DISPERSION SYSTEM OF SiO_2–P_2O_5

The films of SiO_2-P_2O_5 containing the phosphorus oxide up to 30 % are synthesized, the properties of film-forming solutions and properties of double oxides are studied in this paper.

The study of rheological properties of initial film-forming solutions (FFS), consisting of $Si(OC_2H_5)_4$, C_2H_5OH and H_3PO_4, has shown acceleration of hydrolysis and condensation processes in comparison with the system which contains no H_3PO_4. The data of thermal, IR-spectroscopic and weight-spectrometric analyses, carried out for films and dried up powders of FFS, show that the process of SiO_2 formation goes on in three stages, related to evaporation of water, elimination of ethanol and acetic acid and combustion of thermo-oxidative decay products. At the incipient stage of the FFS maturing with increasing content of H_3PO_4 thinner films are obtained. With the increase of the lifetime of FFS the growth of H3PO4 concentration results in the formation of thicker films, that agrees with the rheological research data.

UDC 621.1.016

S.V. Goldaev

SPECIFIED TECHNIQUE OF OPTIMUM GAS PIPELINE DIAMETER CALCULATION

The specified technique for calculation of optimum gas pipeline diameter, which takes into account the dependence of hydraulic resistance coefficient from the tube diameter and from the gas movement regime, is proposed in this work. It is shown that approximating technique, which presupposes the above mentioned coefficient to be constant, results into the 10...12 % overestimation of optimum diameter and 2...3 % overestimation of total costs for construction and exploitation of gas pipeline.

UDC 669.536.422

A.A. Kolousova, G.V. Kuznetsov

TEMPERATURE REGIME OF HEAT PIPE DURING HETEROGENEOUS HEAT EXCHANGE ON ITS EXTERNAL OUTLINE

The task of determining temperature filed in cross section of the heat pipe, passing through the zone of heat application to the external surface of the pipe, taking into account the heterogeneous boundary conditions on the outline is solved in this paper. It is estimated that deviations of temperature according to the angular coordinate don't exceed 0,1 K with significantly heterogeneous heat exchange along the pipe outline. Maximum deviations along the width of the evaporated layer of the refrigerant don't exceed 1 %. The obtained results allow to make conclusions that the complex of thermal and physical processes, taking place in heat pipe, defines practically a homogeneous temperature filed in any cross section of the pipe along the longitudinal coordinate even with significant change of heat exchange intensity on the outline of the pipe.

UDC 621.791.75.037

S.Yu. Trepova, V.P. Bezborodov, A.V. Tyutev, I.V. Nikonova

INFLUENCE OF PULSE WELDING REGIME ON THE STRUCTURE AND PROPERTIES OF WELDED CONNECTIONS OF MANGANESE STEELS

The influence of pulse welding regime of low-alloyed manganese steels 10Г2С and 17Г1СУ on the structure and properties of welded connections is studied in this paper. It is shown that due to the increase of disperse structures, to the distribution of microhardness of zones and layers and also due to the growth of elasticity of metal junction the mechanical properties and performance abilities of investigated welded connections are enhancing.

UDC 621.74.041:669.35

A.V. Korchmit, Yu.P. Egorov

INFLUENCE OF CASTING TEMPERATURE ON THE DISTRIBUTION OF LEAD ADMIXTURES IN THE MULTICOMPONENT LEAD-TIN BRONZE

The issues of structure formation of lead-tin bronze depending on the conditions of casting crystallization, obtained by centrifugal method are discussed in this paper. The relation between dispersibility of lead admixtures and matrix grains proportions is discovered. The dependencies of the amount and average proportion of lead admixtures on the casting temperature in various cross sections of the casting are determined.

UDC 539.3

S.A. Bochkaryova, B.A. Lyukshin, A.I. Reutov

ASSESSMENT OF RELIABILITY OF CONSTRUCTIONS FROM POLYMERIC COMPOSITE MATERIALS

During the analysis of reliability of constructions from polymeric and polymeric composite materials a probabilistic approach is used as for real materials there always exist a dispersion of quantitative characteristics of their properties, for constructions – deviations of proportions from their nominal values, and for loads – deviations from average exploitation values. Processing of a number of parameters, obtained as a result of numerical and natural experiments is conducted with the help of methods of probability theory and with the help of mathematical statistics.

UDC 539.621+674.053

A.A. Kondratyuk, V.K. Shilko

DISPLACEMENT OF RELATIVE REST ZONES IN MULTIPLANIMETRIC TRANSFERS BY FLEXIBLE CONNECTION "PULLEY – FLEXIBLE WORKING BODY – BAND-SAW"

The processes and phenomena, taking place in multiplanimetric transfers by flexible connection "pulley – flexible working body – band-saw" and also the displacement of zones of relative rest are considered in this paper. The analytical dependencies for determination of lengths of relative sliding zones are discussed and a comparative analysis with experimental data and with other types of multiplanimetric transfers by flexible connection is carried out.

UDC 539.3,539.4.01,616.718

Ig.S. Konovalenko, E.V. Shilko, S.G. Psakhie, A.V. Karlov, A.Yu. Smolin

APPLICATION OF METHOD OF MOVABLE CELLULAR AUTOMATON FOR OPTIMIZATION OF INNER STRUCTURE OF HIP JOINT ENDOPROSTHESIS

The influence of changing in hip joint endoprosthesis design on the stress-strain properties and processes of damage generation and development in artificial hip joint under dynamic loading is numerically studied on the basis of the movable cellular automaton method. the

design of the prosthesis is modified by the injection of damping soft inclusion into the neck of endoprosthesis and by coating the endoprosthesis stem It is shown, that such modifications almost do not influence the durability of the system, but result into the significant deformation of the structure "bone – prosthesis" and also influence the dynamics of bond tissue injuries development.

UDC 621.317.727.1

V.L. Kim

THE ERROR CALCULATION OF THE MULTIDECADE INDUCTIVE VOLTAGE DIVIDER

The analytic method of random error of the multidecade inductive voltage divider carryover factor taking into account the stochastic properties of harness is offered. Span of errors at confidence probability equal 0,997 is presented.

UDC 621.311.25

A.G. Yudintsev, O.V. Bubnov, Yu.N. Dementiev

THE LOADING EQUIPMENT FOR TESTING OF SPACE VEHICLE POWER SUPPLY SYSTEMS

Brief review of modern space vehicle power-supply systems regarding energy supply and reliability is presented in the paper. Methods of creating the testing loading complexes for energy supply systems are considered. Operating principles and major characteristics of the developed load simulation unit BIN-40 are shown.

UDC 621.039.62

A.G. Goryunov, S.N. Liventsov

THE DIGITAL CONTROL FOR AUTOMATIC GUIDED SYSTEM WITH A CONSTANT SPEED ACTUATING MECHANISM

Deficiency of the control unit based on PDD2 control and distortion brought in by it at a realization PID control of regulation, influence of shortages (nonlinearities) on AGS regulation quality is considered. The new implementation of the digital control unit with PWM ensuring approximation PID control of regulation with high accuracy in a wide range of parameters change is observed in the paper.

UDC 621.313

A.V. Aristov

MODERN CONDITIONS AND THE DEVELOPMENT POTENTIAL OF DOUBLE-FED MACHINES AS PART OF THE OSCILLATORY MOTION ELECTRIC DRIVE

Operating principles and major characteristics of the oscillatory motion electric drives are considered in the given paper. The development potential of such complexes based on the double-fed machines is shown. Physical basis of the oscillatory electromagnetic field formation in double-fed machines at phase modulation of the supply current is presented.

UDC 62-83

A.V. Bubnov

INFLUENCE ANALYSIS OF THE OPERATING ALGORITHM OF PULSE FREQUENCY–PHASE DISCRIMINATOR ON THE DYNAMICS OF THE ELECTRIC DRIVE WITH PHASE ALIGNMENT

Influence analysis of the operating algorithm of pulse frequency-phase discriminator on the dynamics of the electric drive with phase alignment is presented in the paper. Various algorithms of discriminator releasing into the phase congruence mode were considered. Equations of switching lines into the proportional mode of the electric drive were obtained, areas of the initial conditions were determined, and the comparison of transient conditions in the electric drive at various operating algorithms of logical comparison device is shown basing on the phase plane method. The version of frequency discriminator based on the coincident input pulses of a counter is suggested.

UDC 373

A.N. Atrashenko

THEORETICAL AND METHODOLOGICAL ANALYSIS OF THE LEVEL STRUCTURE OF SOCIAL SYSTEMS MANAGEMENT

Multilevel structure of managerial activities taking place in social systems is shown. Fractal structure of the integral management process is explained by its universal character of managerial activities. The universality of management functions is caused by the fact that similar managerial actions are implied for higher and lower levels of the system, and for the management subsystem itself. Complicated systems have many management levels, the appearance of which can be explained by the theory of meta-systematic transitions.

UDC 101.1:316:321

V.L. Khmylyov

THE NOTION OF CIVIL SOCIETY IN THE CONTEXT OF PHILOSOPHICAL AND IDEOLOGICAL DISCUSSIONS

Gnoseological and ideological situation concerning very urgent problem of the civil community definition is briefly defined in the given paper. The purpose of this paper is the allocation of contradictions in the most widespread social-philosophical and ideological approaches to civil community definitions. The author briefly analyzes the basic approaches, i.e. liberal, new Marxists and "communities" approaches to the given definition, and revealed their discrepancy caused by their theoretical poverty. The "community" approach was considered the most representative among the considered ones.

UDC 13

T.A. Chyukhno

ABOUT RUSSIAN PHILOSOPHY STYLE

The phenomenon of Russian religious philosophy is analyzed in the article. Basic features of Russian philosophers' creative work different from western philosophy principles are revealed. The sources, the immanent essence and the particularity of national philosophy type as "faithful cognition" are defined.

UDC 130.3

S.G. Sycheva, G.M. Tarnapolskaya, N.N. Karpitsky

SYMBOLIC PERSONIFICATION STAGES

The article reveals the notion of a symbol in philosophy in connection to a personal being. Different levels of symbolism are considered as stages of incarnation of a person. The highest level of incarnation gives a sphere of symbols having intersubjective character and creating the cosmos of culture.

UDC 371.14

O.L. Nikolskaya

TOPICAL PROBLEMS OF FORMATION OF THE CREATIVE PRODUCTIVE THINKING OF A TEACHER ON THE BASIS OF INNOVATIVE PEDAGOGICAL ACTIVITY

The analysis of psychological and pedagogical features of the teacher's assimilation of innovation technologies is carried out. The author's system of the account of difficulties during the improvement of teachers' professional skills and courses of the specialization is offered. It is suggested that the diagnostics of difficulties should to be carried out immediately during the process of training (course period). Thus the difficulties serve as indicators for the conductor of courses and teachers themselves showing critical points of innovative training. The author offers a system of organizing developing studies aimed at the overcoming didactic difficulties. This technology is based on the methodical receptions developed by the author, and references of their application at didactic difficulties overcoming.

UDC 378:37.034(571.1/5)(09)

V.V. Petrik

PROBLEMS OF MORAL AND ETHICAL EDUCATION OF STUDENTS AT HIGHER EDUCATIONAL ESTABLISHMENTS OF SIBERIA IN 1958–1991 (HISTORY OF THE PROBLEM)

The state of moral and ethical education of students at higher educational establishments of Siberia from late 1950 up to early 1990 is reflected in the present paper. The forms, contents and results of the out-of-school educational activities of the staff of higher educational establishments are analyzed and assessed. It is shown that their efforts in this sphere contain both positive and negative features.

UDC 93/99(093)+930.1/2(2КИ)

Sh. D. Batyrbayeva

DEMOGRAPHIC LOSSES IN KYRGYZSTAN DURING THE GREAT FAMINE OF 30^{s} OF THE 20th CENTURY (SOURCES AND INVESTIGATION METHODS)

The article discusses the issue of demographic losses in Kyrgyzstan during the Great Famine of 1932–1933 whose impact on several Kyrgyz regions was as catastrophic as on Ukraine and Kazakhstan in the early 1930^{s}. The methodology applied to accomplish this research work is an interdisciplinary analysis of the census data from the 1926–1939 Soviet censuses.

UDC 929

A.F. Korobeinikov

PR. INNOKENTY ALEKSANDROVICH MOLCHANOV – 120th ANNIVERSARY OF HIS BIRTH

Pr. I.A. Molchanov is one of the founders of the Department of Geology and Mineral Deposit Exploration. The department became the key one in the faculty and in the whole institute under his leadership.

UDC 624.131

T.Ya. Emelyanova

THE ROLE OF THE DEPARTMENT OF HEHE IN THE STUDY OF ENGINEERING AND GEOLOGICAL CONDITIONS OF THE TERRITORY OF TOMSK REGION

Chronological and substantial characteristics of the activities of the Department of Hydrogeology, Engineering Geology, and Hydrogeoecology (HEHE) of Tomsk Polytechnic University are presented. The department deals with the investigation of engineering and geological conditions of the territory of Tomsk Region, which contributed to its material, cultural, and scientific development and accomplishment, creation of favourable conditions for the assimilation of the territory and life of the people.