Summaries

UDC 514.76

V.K. Barysheva, E.T. Ivlev
THE REFLECTION OF TWO-DIMENSIONAL NORMAL AND TANGENT FIBRATION SITES OF MULTI-DIMENSIONAL SURFACE IN EUCLIDEAN SPACE

The paper deals with the reflection of two-dimensional normal and tangent fibration sites of multi-dimensional surface in Euclidean space. Every reflection is determined by two corresponding real functions of two substantial arguments. Such cases when the given functions are harmonic and correspond to Koshi-Rieman requirements are also considered. All considered phenomena are of a local character, and described functions are supposed to be analytic.

UDC 539.2:669;539.219.3

N.N. Nikitenkov, I.P. Chernov, Yu.I. Turin, L.N. Puchkareva
ISOTOPIC EFFECTS UNDER TECHNOLOGICAL INFLUENCE ON SOLIDS SURFACE. Part 1

The following paper deals with research results and new experimental data concerning isotopic composition change in near-surface layers of solid bodies during ion sputtering, ion dispersion, secondary ionic emission, ion implantation, electrolysis saturation with hydrogen isotopes, external thermal diffusion. These processes reveal obvious changes in natural isotope prevalence both in the composition of near-surface layers and secondary (emitted, reflected) particles. The research is conducted using secondary ionic mass-spectrometry and secondary ionic power-mass-spectrometry on the samples of molybdenum, copper implanted nickel, on various titanium modifications, thin-film titanium-aluminum systems, and others. Common behavior patterns of isotope composition change in different processes are revealed. Possible mechanisms of their change are discussed.

UDC 621.384.6.08

A.F. Sharafutdinov, G.A. Naumenko, A.P. Potylitsyn, B.N. Kalinin, G.A. Saruev
LOW ENERGY ELECTRON BEAM DIAGNOSTICS BASED ON OPTICAL TRANSITION RADIATION

The beam diagnostics is the urgent problem in most accelerators. Most of the diagnostics methods do not allow measuring the beam divergence for low energy beams. The optical transition radiation (OTR) diagnostics is widely used for beam size and divergence measurements for electrons with the energy E>100 MeV. As a rule, expensive CCD cameras are used for this purpose.

The alternative diagnostic method based on an optical transitional radiation used for a low energy and low current electron beam diagnostics is developed. Simple and cheap video camera is suggested to investigate the angular distribution of OTR. With the use of such a camera and a proper optical system beam size measurements can be carried out.

A number of experiments to measure the beam size using the proposed technique at the microtrone of Nuclear Physics Institute with the electrons energy of 6,1 MeV is performed. The obtained results and their analysis are provided.

UDC 621.371:551.510.535;533.9:530.182;533.951.7

V.G. Spitsyn
SIMULATING OF RADIO WAVE SCATTERING ON TURBULENT PLASMOUS FORMATION PRODUCED BY SPACE VEHICLE JET ENGINE

Calculation results of radio-frequency signal reflected from turbulent plasmous formation produced by space vehicle jet engine are stated. The numerical simulation results are compared with the given experimental data concerning radio probing following the rocket blast.

UDC 536.46

K.O. Sabdenov
THERMAL-DIFFUSION FLAME RESISTANCE USING MODEL SPEED FUNCTION OF CHEMICAL REACTION

A problem of laminar flame thermal-diffusion with zero thickness of the chemical reaction zone using source model function is being solved. Supposition concerning flame speed change leads to the Markstein formula, which combines traverse speed of the burning front with the angle of flexure of the given front, and to the absolute burning unsteadiness. In case with the flame steady speed and Lewis number Le>1, one can only observe aperiodic buckling failure, and when Le<1 – periodic one. If the activation energy in composition units of gas constant per flame temperature is above 6, then the absolute stability in relation to disturbances with any wave length is only possible in small neighborhood Le=1 and Le=0.

UDC 537.533

D.D. Bainov, V.P. Krivobokov, V.N. Legostaev
PLASMOUS HEAT-REFLECTING COATING OPTIMIZATION

Optimization process of plasmous heat-reflecting coatings optical properties is described. Calculations are based on the so called evolutionary method consisting of the detailed research of coating components consequently following the global extremum in accordance with the law of biological association. It allows reducing significantly the optimization process intensiveness. It is shown that it is profitable to split one silver layer into two with the interlayer of antireflection oxide films to achieve high transmission coefficient of heat-reflecting coatings. It makes the decomposition technology of heat-reflecting coating more complicated but improves their functional characteristics. The transmission and reflection data of the given coatings are stated.

UDC 535.416.3

Yu.N. Isaev
CONSTRUCTION OF BIORTHOGONAL AND COMPLEX WAVELET-BASES FOR OPTICAL IMAGE PROCESSING

An algorithm of biorthogonal and complex wavelets synthesis is described in the given paper. The paper illustrates some examples of signal regeneration and compression based on the constructed wavelets. Their similarity with Karunen-Loev base is described. Signal development in time and space is presented according to the non-uniformity scale. Two-dimensional signal decomposition and compressibility with the direction filtration, edge enhancement and image contrast amplification are given.

UDC 621.397.68:629.05:535

S.M. Slobodyan
STATISTICALLY CAUSED THRESHOLD SENSITIVITY OF OPTICAL CONTROL SCANNING METHODS

The definition of threshold notions of ultimate and contrast sensitivity of optical and scanning measuring techniques based on the statistical theory is given. It is shown that their ultimate sensitivity in the acquisition mode determines luminous flux threshold level, the control parameters which could be monitored in the prompted mode. Luminous flux intensity influence on the optimal size surface cover and image fractal dimension are taken into consideration. Influence on the size change of fractal image wavelet characteristics of a certain object for orthogonal image signal decomposition into the wavelet bases is investigated.

UDC 539.3

V.N. Barashkov
STRENGTH DESIGNING OF AXISYMMETRIC STRUCTURES UNDER QUASISTATIC LOADING

The report deals with the numerical methods of rational strength designing of rotation solids under axisymmetric loading. The results of such kind of designing are constructions which are known as discretely full-strength

constructions. The efficiency function is not minimized, and its notions illustrate the iterative process development, i.e. optimization task is replaced by parametric investigations. Examples of strength designing of casted elements for high-speed ballistic equipment in quasistatic state are given.

UDC 553.411.071

I.V. Kucherenko
THEORETICAL AND APPLIED ASPECTS OF TITANIUM, PHOSPHORUS, MAGNESIUM GEOCHEMISTRY IN MESOTHERMAL GOLD DEPOSITS. Part 1

The given paper deals with new additional results concerning femic elements distribution – Mg, Ti, P in near-vein metasomatic haloes and within the limits of Irokindinskoye and Kedrovskoye fields of Northern Transbaikalia. It is shown that the anomaly of the given elements tend to neighboring seam framing of the depth breaks. Decrease in femic content of the rearward zones beresites of near-vein gneiss, calciphyre, and granite based matasomatic haloes of Irokindinskoye field in the course of moving away from the depth break correlates with the decrease in titanium concentration in beresite pyrite and gold reserves. In Kedrovoye field beresites (and meatasomatic pyrite) of the rearward zones, beresites of slate, gabbro, and granite based metasomatic haloes and various within-ore hydrothermally changed dolerite dakes, as well as breaks in both fields that carried out solution supply function in ore-formation are rich in magnesium, titanium, and phosphorus.

UDC 553.311

V.G. Voroshilov
METHODS OF ANOMALOUS GEOCHEMICAL FIELDS OF ORE DEPOSITS IDENTIFICATION

Possibilities and peculiarities of the existing identification methods and geometrization of structures of ore deposits geochemical fields are reviewed. It is stated that the structure of geochemical field is more likely to be revealed in the feature space. New ways and complexation technique of the existing methods of geochemical fields' analysis are proposed.

UDC 548.231:549.12:612.466.1

O.A. Sevostyanova, A.K. Polienko
UROLITH MINERAL STRUCTURE

The given report deals with the mineral structure of the urolithes. Diagnostic features of various minerals (oxalates, phosphates, and urates) are considered. Both monomineral urolithes and stones of a more complicated mineral structure are investigated. Mineral crystallographic peculiarities of the calcium oxalate class more frequently occurred in the urolithe structure are stressed. Drawings and figures characterizing the variety of mineral shape of the calcium oxalate class are attached.

UDC 551.8

Yu.I. Preis, N.A. Antropova, M.G. Rubtsova
MINERAL BOTTOM RELIEF INFLUENCE ON THE PATTERN STRUCTURE OF MINEROTROPHIC MIRES OF THE RIVER OB ABOVE FLOOD TERRACES

The structure and characteristics of the peat deposits of mesortophic ridge-hollow Karasevoe mire complex are investigated. The strict correspondence of the ridges and hollows of the mire to the elements of meso- and microrelief of the mire's bottom is revealed. Basic reasons for the pattern structure formation are stated: difference in water-mineral conditions caused by differentiation of the mire mineral bottom.

UDC 553.982.2:504.54(571.16)

V.A. Bazanov, O.G. Savichev, D.V. Volostnov, B.A. Egorov, A.O. Krutovski, E.G. Yazikov
INFLUENCE OF THE SLURRY BARNS ON GEOCHEMICAL CONDITION OF THE BOG ECOSYSTEM IN THE VASYUGAN RIVER BASIN

The paper presents the results of the geochemical researches in the bog ecosystems on the territory of Dvurechenskoye and West-Moiseyevskoe oilfield, which are situated in the basin of river Vasyugan. The generalized hydrochemical characteristics of the water objects in various degrees of the anthropogenic influence are obtained. The change in the microelement content of peat along the vertical section of peat deposit is observed. It is shown that in vicinity to man-made objects the mineralization of water might be up to 1, 5 gm/dm^3 and even more. But several tens of meters from the source of pollution, mineralization and concentration of ions of chlorine, natrium and other components decreases significantly and reach background values. In the section of the peat deposit the spreading of the pollutants is limited by operational horizon.

UDC 622.831.232

L.D. Pavlova, V.N. Fryanov
MODELLING OF THE CYCLIC CHARACTER OF ROCKS COLLAPSE DURING THE EXCAVATION WITH THE SUCCESSIVE ACCUMULATION OF DAMAGES

The method of final elements served as a basis for the spatial model of deformation and destruction of rocks used to forecast the change mode of deformation coal massif and its strengthening properties during working off of a coal layer. The failure mechanism of roof rocks is modelled in a step-by-step movement of a breakage face, taking into consideration the influence of time function, the analysis mode of deformation in the massif of rocks, consecutive accumulation of damages in rocks for final elements and for failure of those, where the accumulated damages have exceeded critical value.

UDC 537.525

V.Ya. Ushakov
PHYSICS OF THE LIQUID DIELECTRICS DISRUPTION (HISTORICAL BACKGROUND AND PRESENT CONDITION, CONTRIBUTION OF SOVIET AND RUSSIAN SCIENTISTS)

The short historical background of electrical disruption of the dielectric liquids and of improvement of techniques and technologies of this phenomenon research is presented here. It is shown that Soviet (Russian) scientists and in particular those of Tomsk Polytechnic University have been surpassing their foreign colleagues in the number of questions and have made a significant contribution into the understanding of liquid disruption mechanisms. Modern physical models of charge initiation and development during the impulse influence of voltage are presented here.

UDC 539.2/6;548.571

V.M. Lisitsyn
IMPULSE SPECTROMETRY IN THE SOLUTION OF THE PROBLEMS OF RADIATION PHYSICS OF THE SOLID

The article is a review of works devoted to the radiation physics of the solids, carried out in the department of lazer and lights techniques of TPU. The results of researches of elementary processes of formation, accumulation of radiation defects in the ionic crystals, optical materials, initial acts of catastrophic processes, perspective methods materials quality analysis are described in this article.

UDC 541.14

E.P. Surovoi, L.N. Bugerko, S.V. Rasmatova
PHOTOLYSIS OF "LEAD AZIDE – CADMIUM" HETEROSYSTEMS

Kinetic and spectral laws of products formation during photolysis of PbN_6 (Am)–Cd heterosystems are investigated by various mass-spectrometry methods depending on the intensity of the falling light ($1\cdot10^{13}$...$1\cdot10^{16}$ см$^{-2}\cdot$с$^{-1}$). Creation of PbN_6 (Am)–Cd heterosystems together with the decrease in photolysis and photocurrent rate in the sphere of self-absorption of PbN_6(Ам) results in expansion of spectral sensitivity area of lead azide. Preliminary treatment of samples by light with wavelength $\lambda = 365$ nm results in increase in photolysis rate. The band diagram is constructed and the photolysis model of PbN_6(Am)–Cd heterosistems is proposed as a result of the analysis of volt-amper characteristics, a contact photoelectrical motive force and a contact potential difference. The model of photolysis of PbN_6(Am)–Cd systems involves generation, recombination, redistribution of nonequilibrium carriers in a contact field, formation of microheterogeneous PbN_6(Am)–Pb (photolysis product) systems and nitrogen formation.

UDC 539.21(06)

G.G. Saveliev, A.I. Galanov, A.V. Denisenko, T.A. Yurmasova, M.I. Lerner, L. Kaledin, F. Tepper
SINTERING OF ELECTRIC-DETONATION NANOPOWDERS OF COPPER

Using the methods of dilatometry, electrical conductivity, temperature-programmed desorption (reaction), electron microscopy, and differential thermal analysis the process of sintering passivated by the air of the electric-detonation nanopowers of copper is investigated. The stages of sintering are established, and their non-thermal character is proved. It is shown, that the limiting stage of sintering is the stage of destruction of the oxide-hydro-oxide membrane on the powder surface. The equations of the sintering are proposed with the consideration of determined stages. The copper membranes are obtained on the dielectric substrates; their porosity and electroconductivity are established.

UDC 541.1

S.A. Kuznetsova, T.D. Malinivskaya, V.I. Sachkov
INFLUENCE OF THE COMPLEX PARTICLES STRUCTURE IN THE FILM-FORMING SOLUTION ON THE STRUCTURE AND PROPERTIES OF In_2O_3:Sn AND SnO_2:Sb

Thin films In_2O_3:Sn and SnO_2:Sb are obtained from the film-forming solutions of the complex compounds In^{3+}, Sn^{4+} and Sn^{4+}, Sb^{3+} with acetylacetone by means of «dip-coating». By means of infrared and ultra-violet spectroscopy and viscosimetry the structure of complex particles in the acetylacetone solution is identified. Optical and electro-physical properties and morphology of the oxide films are studied. The influence of structure of complex compounds film-forming solutions on the morphology and properties of the films In_2O_3:Sn and SnO_2:Sb is shown.

UDC 669.28:54

T.I. Guzeeva, V.A. Krasilnikov, G.G. Andreev, A.S. Levshanov, F.A. Voroshilov, F.V. Makarov
AMMONIUM PARAMOLYBDAT REDUCTION BY HYDROGEN FROM FLUORINE ELECTROLYZER

This paper presents the results of researches on the ammonium paramolybdat reduction by hydrogenous gas forming in cathode space of the electrolyzer for the fluorine production. The DTG analysis data of the ammonium paramolybdat decomposition and reduction processes are given. Composition of intermediate and eventual reduction products is established by the roentgen-phase and UR-spectrometric methods.

UDC 665.64.442

R.R. Yarmukhametov, A.V. Kravtsov, E.D. Ivanchina, S.A. Galushin, D.I. Melnik
USING NONSTATIONARY KINETIC MODEL FOR ESTIMATION OF CONDITIONS REFORMING THE LIGHT PETROLEUM FRACTION ON POLYMETALLIC CATALYST КР-108У

The results of the research related to the petroleum production with the decreased benzol content are shown in this work. By means of the physicochemical analysis and computer kinetics modeling of benzene reforming process the comparative analysis of petrol fractions with various initial boiling points (IBP) was carried out taking into account features of technology and structure of processed raw material of Surgut condensate stabilization plant.

UDC 541.66

V.I. Kosintsev, M.A. Samborskaya, E.A. Laktionova
REVEALING THERMO-DYNAMICAL PROPERTIES FOR MASS-TRANSFER PROCESSES MODELLING OF CLEAN FORMALIN PRODUCTION

The totality of the substances, which should be taken into consideration during the mathematical description of the mass-transfer in the water-methanol solution of formaldehyde, is formulated in this work. By means of universal empirical method the values of thermo-dynamical properties of solution components, which do not exist in the clear form, are obtained.

UDC 666.1.022.8

N.S. Krasheninnikova, O.V. Kuzmina, I.V. Frolova
QUARZ CONCENTRATE USAGE IN SHEET GLASS PRODUCTION

The usage of the quartz concentrate in the production of sheet glass is established in this work. The influence of the conditions for the preparation of glass mixture with quartz concentrate on the process of melting and the quality is examined. It is established that the effective method of mixture preparation on the basis of concentrate is packing by pressing, that allows to increase the velocity of silicates formation and to obtain glasses with required technological properties.

UDC 543.253

N.A. Kolpakova, L.N. Larina
ANODIC OXIDATION OF MERCURY (II) FROM THE BINARY ALLOY Au–Hg

The thermo-dynamic features of electrooxidation of the binary systems based on mercury (II) are studied in this paper. The thermodynamic characteristics of peaks are considered, the relationship between the structure of a formed deposit and the position of maximums of oxidation peaks is obtained.

The displacement of peak potential of mercury (II) electrooxidation during binary alloy formation is calculated. The potential of the mercury anodic peak, observed in practice, is proved on the basis of the present research.

UDC 662.933.1:004.42

A.V. Starchenko, A.S. Zavorin, S.V. Krasilnikov
NUMERICAL ESTIMATE OF SLAG RECOVERY IN THE OPEN FURNACE WITH THE LIQUID SLAG-DISPOSAL

The paper provides the description of the mathematical model and the results of the numerical calculation of the mineral part of coal, recovered in the furnace, which is used in the technology of torching with the melted slag disposal. The influence of some constructive and regime factors on the slag-catching efficiency is viewed.

UDC 621.771.23.016.2.

R.E. Velikotskiy
OPTIMIZATION OF CHEMICAL COMPOSITION OF HOT-ROLLED PLATE STEEL 10ХСНД DEPENDING ON THICKNESS OF A PLATE

Using the method of multiple correlations we receive regression equations of dependence between mechanical properties, chemical composition and thickness of a hot-rolled plate of 10ХСНД steel. Alloying elements, promoting increase in certain mechanical properties, depending on thickness of a plate are revealed. Optimum chemical composition of 10ХСНД steel melts, for obtaining the maximum meanings of yield points, temporary resistance and relative lengthening is offered. The optimization of melts chemical composition promotes increase yield points by 15...20 MPa, tensile strain – by 10...15 MPa, in relation to the elongation in 2...3 %.

UDC 539.621 + 674.05.

A.A. Kondratyuk, V.K. Shilko
ESTIMATION OF THE BAND-SAWS STRESSED CONDITION

The paper deals with the complex kinetostatics estimation of the effective voltages level at different sections of band-saws during sawing. The factors of voltages origin are viewed resulting from the tractive effort in transmission by flexible connection «cone – band-saw » of cutting mechanisms which have not been taken into account before. The technique of their calculation is given. The analytical dependences are obtained, which are necessary for the analysis of voltages level in a band-saw at different loading sections, including those depending on the tractive effort transmission.

UDC 621.3

Z.A. Belluyan
ACCELERATED TESTS ON RELIABILITY OF STARTER AND ROTOR WINDINGS OF SYNCHRONOUS GENERATORS

The technique for selecting parameters of the accelerated mode is suggested. The upper limits of factors influencing the tests on starter reliability and rotor windings of the synchronous generator are proven. The results of the accelerated tests of certain generators are stated. The regression equation is obtained. The suggested technique may be used for any electrotechnical appliances provided the relevant tests plans are followed.

UDC 621.317.727.1

V.L. Kim
CALCULATION OF OUTPUT IMPEDANCE OF INDUCTIVE VOLTAGE DIVIDER WITH BALANCING WINDING

The active and inductive constituents of the output impedance of the inductive voltage divider with balancing winding are calculated. Experimental tests confirm the smaller impedance values at the output taps of the dividing winding of the inductive voltage divider with the balancing winding if compared to the well-known single-braid inductive voltage divider.

UDC 616.831-073.756.8

Ya.S. Pekker, K.S. Brazovsky
BIOLOGICAL OBJECTS SIMULATION IN ELECTRICAL IMPEDANCE TOMOGRAPHY

The paper discusses creation of mathematical models of biological objects which are necessary for conducting electrical impedance tomographic tests. The criterion for optimization of the model final dimensions is suggested. The estimation of the maximum amount of information obtained at different parameters of the equipment for electrical impedance measurements is performed. The methods of simulating biological objects are viewed on the example of the human head model design.

UDC 681.3

O.G. Berestneva, E.A. Muratova
CREATION OF LOGICAL MODELS WITH THE USE OF DECISION TREES

The paper views the methods of latent regularities detection in the form of decision trees. The information technology that enables to detect stable regularities, typical of any domain in the form of logical rules (dichotomous decision trees) is suggested. The efficiency of the given technology is proven on the example of the solution of the task of specific character determination of cognitive group of individuals with different intellectual levels.

UDC 622.692.12

B.P. Ivanenko
FORECAST ANALYSIS OF PRECISION CHARACTERISTICS OF OIL RECOVERY INDICES WITH THE USE OF LINEAR NEURON NETWORK

The paper considers the possibility of using neuron networks for forecasting oil recovery technological indices. The efficiency and interference immunity of neuronet algorithms are examined.

UDC 553.98

G.Yu. Boyarko, V.Yu. Khat'kov
EXTRACTION AND CONSUMPTION OF FLUORINE MINERAL RAW MATERIAL IN RUSSIA. Part 1

Fluorine is mined in the form of natural minerals, such as fluorspar and cryolite, and is extracted when processing apatites and phosphorites for complex fertilizers. The main industries which use fluorine are metallurgy, aluminum production and fluoroplastic synthesis. Russian enterprises developing non-profitable deposits with low -quality fluorspar are in crisis. Despite significant fluorite resources, the country lacks reserve profitable deposits of high-quality fluorine.

UDC 330.0

E.A. Erochina
NATURE OF USSR'S ECONOMY: NEW INSIGHT

Within the framework of system analysis and concepts of self-organization, two fundamentally different types of systems are distinguished: open and closed. The nature of the "closed" economy, typical of the USSR, is studied. According to the conclusions of self-organization concepts, balanced state is typical of such systems. Due to this fact, such systems may exist for a relatively long period of time. However, entropy is gradually increasing in them, since they cannot release entropy into environment and obtain negentropic influences from it like entropic systems do. The inevitability of closed systems collapse in general and closed social- economic systems in particular is shown.

UDC 332

V.G. Chaplygin
SUSTAINABILITY AND BALANCE, COOPERATION AND COORDINATION IN THE GLOBAL SPACE: J. NASH VERSUS H. VON STACKELBERG

The article focuses its attention upon Nash's and Stackelberg's models and their applicability to the processes of economic cooperation and coordination between the countries within the same integration group. There are a number of author's definitions for "coalition", "cooperation", "co-ordination", "sustainability", and also the simplest schemes of cooperation between the states. The differences between the ways of cooperation are well discussed and the problem of the information role in the asymmetrical system is highlighted.

UDC.26 (47+57)

L.I. Soskovets
RELIGIOUS TOLERANCE AND LIBERTY OF CONSCIENCE: THE HISTORY AND THE THEORY OF THE SUBJECT

The paper analyses such definitions as liberty of conscience and religious tolerance. The establishment and development of these principles are discussed. The special attention is drawn to the problems of their implementation in modern social relations.

UDC 329

L.I. Yampolskaya
INTERNATIONALIZATION OF THE UNIVESITY EDUCATION IN THE DISCOURSE OF MODERNISATION PROCESSES AND THE STRATEGY OF RUSSIAN SOCIETY REFORMATION

The modernization processes in contemporary university education are examined. Internationalization of university education is considered as part of global strategy of social reforms.

UDC [378.12+378.2] (571.1/5) (09)

V.V. Petrik
HISTORICAL EXPERIENCE OF SELECTION AND APPOINTMENT OF RESEAERCH AND TEACHING STAFF TO MANAGERIAL POSITIONS IN SIBERIAN HIGHER EDUCATIONAL INSTITUTIONS (FROM LATE 50-S TO EARLY 90-S OF THE 20TH CENTURY)

The article views the activity of central and regional management structures in higher educational institutions from late 1950-s to early 1990-s. The insufficiently explored problem of attracting a highly qualified young specialist in science and educational study to govern Siberian institutions of higher education and their branches plays the leading role.

UDC 947 (470):002.2(671.1/.5)

N.P. Kuruskanova
ON THE HISTORY OF PUBLISHING ACTIVITY OF TOMSK SOCIAL-REVOLUTIONARIES DURING FIRST RUSSIAN REVOLUTION (DEDICATED TO 400'S ANNIVERSARY OF TOMSK)

The article is devoted to the complex study of illegal publishing activity of Tomsk social-revolutionaries during the First Russian revolution. The author studied the conditions of printing-offices of Tomsk social-revolutionaries in 1905–1907, their financial provision; characterized the subjects of illegal leaflets, books and magazines; showed their publication dynamics. The research was carried out on the basis of scientific literature and memoirs, archival and published historical sources.

UDC 553.411.491:550.42

A.F. Korobeinikov
GEOLOGY, GEOCHEMISTRY, FORMATION CONDITIONS, FORECASTING AND INVESTIGATION OF NOBLE METALS DEPOSITS

The activity of the Tomsk Polytechnic University's department of geology and geochemistry of noble metals in Siberia has been considered. The paper briefly views the department's origin, the work concerning solution to fundamental problems of geology, geochemistry, ore-genesis of gold, platinum and rare metals deposits, their forecasting and discovery. The reorganization of both educational process within the program line "Geology and exploration of mineral resources" and training of candidates and doctors of sciences is considered.

UDC 550.92

M.D. Parfyonova
PROFESSOR L.L. KHALFIN – RESEACHER OF THE ANCIENT ORGANIC ENVIRONMENT OF SIBERIA

Leonti Leontievich Khalfin- professor, holder of the doctor's degree in geological-mineralogical sciences, honoured worker of science and technology of the Russian Soviet Federative Socialist Republic – spent 40 years of his life working at Tomsk Polytechnic University (1923–1963). In December, 1929 he received the qualification of geological engineer and started working as an assistant at the same university. Since 1934 he occupied the position of assistant professor of the department of historical geology and paleontology. In 1937 he was awarded with the academic degree of candidate of geological-mineralogical sciences. On defending the thesis for a Doctor's degree he was granted with the title of the professor of the same department. From 1949 to 1963 he was the head of the above-mentioned department. These were the years of intensive research activity in the following directions: theoretical problems of stratigraphy, paleontology and stratigraphy of Palaeozoic Age and Age of Reptiles of different regions of Siberia.