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Key words: mineral deposits, mining method, opening-up, first-entry drivage and stoping, mining equipment.

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**Key words:** Temporarily non-working board, strippings

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**Key words:** geomechanics, stress state, slope stability, mathematical modeling, surface mining


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**Key words:** mineral amber deposit, hydraulic borehole mining, slurry preparation, hydraulic hoist.

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Key words: heavy concentrate reprocessing, segregation, vibrations, thin-layer segregation concentrator, artificial mixture, vibrational amplitude.

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Key words: magnetitovy suspension, suspension density, viscosity of suspension

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Key words: magnetic impulse treatment, gold, magnitostriksiya, dislocations, extraction

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Key words: peat, bound water, anomaly, structure, technology.
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Key words: rock mass, stresses, strains, geomechanical mechanisms, stress-strain state, geological and geotechnical conditions, drivage, types of support.


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Key words: rocks, strains, stresses, geodynamic events, technology.

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Key words: mine seismicity catalog, open dynamic systems, phase trajectories, rock mass.

The construction of underground constructions and mines

Kulikova E.Yu. THE PURPOSES, PROBLEMS AND GEOECOLOGICAL MONITORING STRUCTURE DURING THE DEVELOPMENT OF UNDERGROUND SPACE

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Key words: geoecological monitoring, underground space, forecast, simulation.

Selin K.V., Shmonin A.B. MONITORING LINING SURFACE SHIFTS OF THE TCHELYABINSK UNDERGROUND RAILWAY STATION "TRADING CENTRE", BEING CONSTRUCTED BY TRIGONOMETRIC LEVELLING METHOD

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Key words: deformation monitoring, trigonometric levelling, tacheometr, controlled section, relative high–altitude position, deformational mark.

Geology

Golynskaya F.A. METAMORPHISM INTENSITY AS THE MAIN GENETIC TRAIT OF SELF-COMBUSTION COAL

Article is devoted to spontaneous combustion of coals of varying degrees of metamorphism in the case of known pools. Found that the most prone to spontaneous combustion brown coal, to a lesser extent - the stone, and anthracite is almost no spontaneous combustion, which is associated with changes in the structure of the macromolecule of coal, leading to a decrease in the rate of sorption of oxygen and therefore self-heating and spontaneous combustion of coal.

Key words: metamorphism, self-combustion of coal, critical temperature, air absorption rate, spontaneous fires, coal basins.

The automated and information systems

Valuev A.M., Pankratov A.S. CURRENT TECHNOLOGIES OF DATA INTEGRATION FROM INDEPENDENT DATABASES AND THE POTENTIAL OF THEIR APPLICATION IN PLANNING AND CONTROL PROBLEMS

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Key words: control, planning, database, information system, enquiry message, confidentiality.

Markaryan L.V. EVOLUTIONARY SOLUTION CONCORDANCE METHOD APPLICATION IN THE INDUSTRIAL FORESIGHT PROJECTS

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Key words: industry, Foresight project, the expert method, MES (method of evolutionary coordination of decisions), iteration, expert evaluation, weakly-and unstructured tasks, prediction. expert method, MES (the method of evolutionary agreed solutions), iteration, expert evaluation, and poorly-unstructured tasks, prediction.

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Key words: nearsurface geothermal systems, conductive heat transfer, heatcarrier waste, heat transfer power, heat transfer power per depth unit.

Kharionovsky A.A., Gusev N.N. TECHNICAL AND TECHNOLOGICAL EFFECTIVIZATION OF COAL MINE WATER PURIFICATION BY ANTICORROSION PROTECTION OF STRUCTURES AND EQUIPMENT OF SEWAGE DISPOSAL PLANTS ................................................................. 211
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Key words: coal, energy technological complex, fuel, energy, oxidant, underground gasification, compound, steam-turbine, compressor, heat-pump, synthesis-gas.

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Key words. A safety frictional clutch, working capacity, a coefficient of friction, an overload, the rotating moment, factor of a store of ganging.

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Key words: failure modeling, short-delay blasting pattern, stress redistribution.

Koltishev V.N. STUDY ON SOURCES OF EXPLOSIONS IN THE LOCATION OF FORMATION OF ZONES WITH DIFFERENT DYNAMIC EFFECTS SEISMIC ENERGY

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Key words: explosion, shock, seismic energy, mass, dynamic phenomenon.

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Key words: economic-mathematical model, creation of metro stations by open way.

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Key words: updating of management technologies, prime constituents (factors) of economic mechanism, short cycle problems, long cycle problems.

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Key words: quality management system, measures of efficiency, efficiency criteria, quality policy, process-based approach, monitoring, quality day, audit, certification.

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Key words: geocology, crack, subsidence, environment, geodynamic zoning.
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Key words: ecological consequences, technogenic action, surrounding medium.

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Key words: EUROCEMENT group, cement, cement industry, cement production branch, quality, concrete, plant, technical upgrading.

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Key words: magnesite, hrizotil-asbestos, manufacture without waste, enrichment, losses, chemical reaction, dolomite, not balance ores.

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Key words: self-caving of overlying rocks, rock mass structure, seismic methods, stressed state.

**Lukyanova N.V., Myaskov A.V.** EXPLANATION OF NECESSITY OF TAKING INTO ACCOUNT LANDSCAPE CHARACTERISTICS BY NATURAL ECOSYSTEMS REHABILITATION IN MINING REGIONS ......................... 312

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Shibunya V.S., Sarukhanova L.E. USE OF ACOUSTIC OSCILLATIONS IN THE WATER DISINFECTION BY CHLORINATION

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Mathematical modelling

Sansiev V.G. MODELING OF THE PROCESS TO CLASSIFICATIONS AND DEHYDRATIONS COAL SLIME ON SCREEN

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Key words: slurry coal, classification, dewatering, slotted screen, velocity, pressure, Navier-Stokes equation, boundary conditions, free surface, extraction, adversity, bubble regime.

Tsvetkov A.B., Frjanov V.N. NUMERICAL MODELING OF INTERGROWTH ORIGINATED ON CONTACT OF STRATUMS OF FRACTURE BY MEANS OF THE VARIATION OF FUNCTION PARAMETERS OF MATING

In paper in a seam roof outcomes of research of process of intergrowth of the originated fracture are presented to neighborhoods of a development by means of a complex of job oriented programs built on the concept of synthesis of a mathematical model of a piecewise-homogeneous rock massif from units.

Key words: Mathematical model, rock massif, structural block, contact, fracture, coal stratum, deads, adjacent strata, geologic fault, finite difference method, theory of elasticity selvage problem, synthesis, gravitation.

Tsvetkov A.B., Frjanov V.N. NUMERICAL MODELLING OF INFLUENCE ON THE DEVELOPMENT OF THE SITE OF THE GEOLOGIC FAULT

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Key words: Mathematical model, rock massif, structural block, coal stratum, deads, adjacent strata, geologic fault, finite difference method, theory of elasticity selvage problem, synthesis, gravitation.

Oil and gas

Antoniadi D.G., Savenok O.V., Arutyunyan A.S. THE ANALYSIS DIFFERENT CATEGORIZATION OIL LAYER ON PRODUCTIVITY. THE SIGNS OF HARD EXTRACTION OIL STOCKS

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Key words: categorization oil layer, factor to productivity, hard extraction oil stocks, lateral heterogeneity of reservoir, stratified heterogeneity of reservoir, initial oil saturation of layers, high viscous oil.
Works of young scientists

Agafonov V.V.  FUZZY COGNITIVE MODEL OF A COAL MINE
The methods of generation and selection of alternatives in the problem of synthesis of the technological scheme of a coal mine, which is based on the construction of fuzzy cognitive maps and processing of the results of its static and dynamic analysis. Considered architecture and functional characteristics of a multi-user system of support of decision-making, implementing this method.

Key words: fuzzy cognitive map, system performance, alternative

Agafonov V.V.  A NEW FUZZY COGNITIVE MODELING APPROACH TO SYNTHESIZING TECHNOLOGICAL SYSTEMS IN COAL MINES
The article describes the cognitive approach to the simulation and synthesis of technological the circuit of the mine. As such a model is cognitive map, representing a multitude of describing its concepts (factors), which are given a set of cause-and-effect relationships, and relationships.

Key words: fuzzy cognitive map, cognitive matrix concept.

Aleksandrov A.N.  DEVELOPMENT OF SPECIFIC PROCESS FLOWSHEETS TO MINE SEPARATE ORE LOCI AT THE IRON ORE DEPOSIT IN THE GORNAYA SHORIYA
The flowsheets for the long-term mining of the Tashtagol deposit are developed. The additional ore reserves are explored at new areas of the mine filed and the mineral ore grade is evaluated. A number of mining flowsheets are elaborated and proposed with the provision for 1.5-2.0 times increase in the mine performance.

Key words: deposit, ore, flowsheet, schaft.

Bazikina L.R.  TRANSFORMATION OF RASTER IMAGES OF MINING GRAPHIC DOCUMENTATION
Theoretical analysis of different types of transformation of raster images is given. Distinctive characteristics of each types of raster images transformation are revealed. Analysis of accuracy of basic types of raster images transformation in specialized graphics software is given. Conclusions about application domain of basic types of raster images transformation are given.

Key words: raster images distortions, types of transformations, matrixes of distortions.

Korchevenkov S.A.  FINE PLATINUM RECOVERY FROM PLACER SANDS BY GRAVITY PROCESSES
Year after year geological and mining conditions of placer exploitation worsen; mining operations involve low-grade sands containing fine gold and platinum group metals (PGM). This article discusses research data on applicability of screw separation and jigging as the basic process of PGM fines concentration from commercial size grade of the Kondyor placer.

Key words: placers, platinum group metals, screw separation, jigging, Kondyor deposit.

Nesterenko E.A.  OPTIMIZATION OF LASER SCANNING SURVEY PROCESS AT THE COST OF SCAN-POSITIONS NUMBER MINIMISATION
The article analyzes optimization of laser scanning process by minimizing scanning positions. The amount of scanning stations is to be enough to seize the entire scanned subject but minimum in order to shorten the scanning time and reduce the subject measurement information. The implemented study yielded relationships between the scanned subject dimensions, the scan and subject spacing and the number of the scanning stations.

Key words: scanning positions, scanning stations, laser scanner.

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Oblicov A.Yu. SOME ASPECTS OF UTILIZATION OF HIGH-CLAY ENRICHMENT WASTE

In given article problem questions, which decision allows eliminating technical complexities connected with utilization of enrichment waste containing clay minerals, are stated on an example of Lomonosov diamond deposit, Archangelsk region, Russia. At present time the work at Lomonosov deposit is complicated by a number of reasons one of which is a necessity of utilization of great volume of enrichment tailings.

Key words: utilization, clay, enrichment waste, tailings.

Osipov Yu.V., Koshelev A.E. BUILDING PASSPORTS STRENGTH OF ROCK SALT WITH A GRAPHICAL ENVIRONMENT COREL DRAW

The paper used software package Corel Draw, based on vector graphics, determined strength parameters of rock salt, built passport strength and determined grip and angle of internal friction.

Key words: rock salt, passport strength, main stresses.

Patutin A.V. DETERMINATION OF INITIAL CONDITIONS FOR ROCK MASS MODELING

The paper presents the main features of FLAC 6.0 software designed for geomechanical problems solving. Horizontal stress in each layer was calculated to determine initial conditions for rock mass modeling.

Key words: modeling, coal measure rocks, initial conditions.

Cheremhina A.P. STUDY OF CONSOLIDATION ALLUVIAL ROCKS AT THE STAGE OF CONSERVATION HYDRAULIC FILL "BEKOVSKY" IN KUZBASS

Results of natural observations, feature of change of pore pressure and deformations in the sloping side a hydraulic fill «Bekovsky», characterizing conditions of consolidation precoat rock period of preservation and stage of exploitation the installations. These changes are physical and mechanical properties of alluvial clay soil for a ten years.

Key words: hydraulic fill, interstitial pressure, consolidation.

Cheremhina A.P. ENIGINEERING GEOLOGICAL RESEARCH FOR THE PURPOSE OF PROOF OF SAFE CONDITIONS OF REMOVING OF OVERBURDEN HYDRAULIC FILLS FROM LONG-TERM STORAGE

Features of engineering geological conditions of hydraulic fills in Kuzbass with durable period of exploitation and mothballing, necessary to consider during the working out the program of investigations for justification of project of removing the constructions from long-term storage are observed. The results of engineering geological research of Krasnobrodskiy open pit on river Pryamoi Uskat in Kuzbass are represented.

Key words: hydraulic fill, removing from storage, engineering geological research.

Preprints

Sukhomlinov D.V., Kuskov V.B., Kuskova Y.V. MANUFACTURING TECHNOLOGIES OF FUEL BRIQUETS WITH LOW IGNITION TEMPERATURE FROM COAL

Two technologies are proposed for recycling of black coal siftings and slimes from the Pechora coal basin. Moreover, for briquetting of fine slurries the foreground technology is based on extrusion. The technology, based on the use of stamp press, utilizes coal siftings as a raw material.

Key words: briquetting, binder, briquette strength, coal slime, fuel briquette coal riddling, extrusion, pressing.
The present paper is devoted to development of CFD thickener model which describes behavior of flocculated suspension in all volume of the unit. The present paper is devoted to development of thickener control system via GE Proficy Troubleshooter software. Neuro-fuzzy model which automatically generates in the GE Proficy Troubleshooter based on historian process data is used for the control.

Key words: thickener, CFD modelling, hindering settling factor, compressive yield stress, control system, GE Proficy Troubleshooter.

Krivitskiy V.O. EFFECTIVENESS OF RUSSIAN ECONOMIC SUPPORT TO SOUTH OSSETIA

After the recognition of the independence of South Ossetia, Russia has a major economic support to the republic, directing substantial financial resources for economic recovery and infrastructure. The purpose of this article is to analyze the effectiveness of economic support Russian republic of South Ossetia in 2008-2012.

Key words: Economic cooperation, foreign economic activity, economic support, development assistance.

Kuzmin I.V. TECHNOLOGICAL EVALUATION OF ROLLER-PRESS APPLICATION IN COMMINUTION FLOW SHEETS OF OXIDIZED FERRUGINOUS QUARTZITES

Crushability and grindability of oxidized iron ore sample were studied using standard crushers and roller-press LABWAL 250X100 produced by Thyssen Krupp Polysius. Noted data illustrate that during grinding of products from crushing step, roller-press shows absolute value decreasing of useful energy specific cost comprises of 3,9 kWh/t with feed dimension of ball mill -5+0 mm and 3,3 kWh/t with feed dimension of ball mill -10+0 mm (80% -6 mm, open-cycle processing of roller-press). Crushed products specific surface of oxidized ferruginous ore has been determined after treatment by crusher of standard construction and roller press of laboratory scale.

Key words: oxidized ferruginous quartzite, roller-press, specific surface.

Tseytlin E.M. OPTIMIZATION OF THE NEGATIVE IMPACT OF MINING PRODUCTION WITH THE HELP OF INTEGRAL CRITERIA OF ASSESSMENT OF ENVIRONMENTAL HAZARD

In the current context of limited material resources is an objective and sufficiently rapid assessment environmental hazard of a technological or organizational solutions, the enterprise as a whole, is an absolute must. This article describes a new approach to the evaluation of environmental hazards of mining, which allows to optimize its negative impact on the environment.

Key words: ecological hazard, ecological safety, negative impact on the environment, assessment of environmental hazard, integral criterion.

Savenok O.V. THE ANALYSIS BASE RESEARCH AND SCIENTIFICALLY-METHODICAL DECISIONS APPLICABLE IN COMPLICATED CONDITION OF THE PRODUCTION. SYSTEM DEVELOPMENT TO CATEGORIZATIONS OF THE METHODS AND TECHNOLOGY

In article is organized analysis base research and scientifically-methodical decisions applicable in complicated condition of the production. It is shown that physicochemical methods present itself efficient instrument of increasing oil recovery when hard extraction oil stocks production, as well as at construction of the bore holes in complex is blazed-geological condition and at exploitation of the bore holes in complicated condition. Introduces that potential physicochemical methods far from exhausted, but opposite, has a good outlook for expansion and qualitative renovation. The main trend of the development physicochemical methods consists in more deep study of the application do-
main – a composition and characteristic to oils, features argillaceous deposits and etc.,
and in creation corresponding to methods and technology with use physicochemical
approach in combination with the other methods.

Key words: complicated conditions of the production, methods of the increase oil
recovery, hard extraction oil stocks, oil recovery factor, categorization physico-
chemical methods, methods of the address influence, complex and scientifically-
methodical decisions.

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