# ABSTRACT&REFERENCES

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## AUREOLE WATER OF THE MERCURY FIELDS OF THE DONBAS AS A RESULT OF THE EVOLUTION OF HYDROTHERMAL SYSTEMS

**p. 6-10**

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*The factors and processes of formation of ore waters of hydrothermal ore fields in the Donbas as a result of the evolution of hydrothermal systems at post hydrothermal stage of their development are considered.*

*It is established that these waters are formed in areas of active heat and mass transfer along fault zones. It is determined that infiltration waters of free water exchange zone, pressure waters of deep horizons and endogenous fluids take part in formation of ore waters of hydrothermal deposits*

***Keywords:*** *ore waters, fluids, hydrothermal system, ore field, ore mineralization, hydrogeochemical associations*

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**IMPORT SUBSTITUTION AND DIVERSIFICATION OF ENTERPRISE EXPORTS ON THE WAY TO INNOVATIVE DEVELOPMENT**

**p. 10-15**

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*The low level of management in the processes of domestic enterprises strategic management requires the adoption of innovative strategic steps for their rapid and effective development. On the one hand, the formation of an import substitution strategy, namely, reorientation of production on its own forces, the process of modernizing production facilities and the creation of a competitive product to meet the needs of consumers, and on the other, the diversification of exports, which are measures of anti-crisis management and the latest direction of stable economic development of domestic enterprises*

***Keywords:*** *import substitution, export diversification, innovation, crisis management, strategic development, enterprise potential*

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**ANALYSIS OF THE PROBLEM IN DEVELOPMENT OF MECHANISMS OF SELF-REGULATION OF TEENAGERS' BEHAVIOUR**

**p. 16-19**

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*The article gives the author's understanding of self-regulation of the behavior of a teenager, which is a means to meet the needs that are manifested in the desire to achieve success, to obtain the approval of significant people, self-determination of their own «I», to determine their place among other people; it is proved that the inner essence of self-regulation of the behavior of a teenager is a set of psychological mechanisms that are fixed in the psychological organization of the personality functional ways of its transformation; the mechanisms of self-regulation of teenagers' behavior are highlighted and nominated by the author*

***Keywords:*** *personality, psychic self-regulation, psychological mechanisms of self-regulation, adolescence, behavioral self-regulation, self-consciousness*

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**ANALYSIS OF A SEMICONDUCTOR VIBRATION AND FREQUENCY SENSOR CONSTRUCTION SPECIFITY**

**p. 20-24**

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*The model of direct transducering tensoresistive method of semiconductor filamentous monocrystal mechanical oscillations into an electrical signal and the principle of deformation into frequency transducer (sensor) construction are considered in this paper. The connections of output tensor signal parameters with resonator own geometric dimensions, mechanical stress and elasticity of the crystals, amplitude and their mechanical oscillations frequency are established. The value of tensor signal, which arises due to bending and tension of monocrystals under cyclic loads, is estimated, the specificity of their properties and structure is revealed*

***Keywords:*** *semiconductor, filamentous monocrystal, tensotransducer, resonator, frequency, sensitive element, tensor signal, deformation*

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## CLASSIFICATION OF VOLYN FORESTS ACCORDING TO DATA OF MULTISPECTRAL SATELLITE IMAGES

**p. 25-30**

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*The article deals with the issue of combining modern open geographic information systems and data from remote sensing of the Earth in the tasks of forest management. Classifiers have been developed based on the method of field uplift and the designation of landfills on the basis of existing plans for afforestation. Controlled classification of research objects is conducted and the accuracy of the results is evaluated. It is established that the accuracy of the determination of individual classes directly depends on the percentage of objects and errors of the end user in the process of their definition*

***Keywords:*** *remote sensing of the earth, space image, monitoring of forests, controlled classification, standard*

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**DESIGN CONDITIONS OF TIMBER STRENGTH UNDER COMPLEX STRESS STATE**

**p. 30-33**

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*In designs made of timber or glulam, especially in areas of joint connections is observed particularly complex stress state, which is characterized by the influence of the strength of several components of different stresses at the same time. Design conditions are listed taking into account the strength of the timber complex stress state received from the energy theory of strength. The ways determining the real work of timber with anisotropic physical and mechanical properties are proposed*

***Keywords:*** *timber, estimated strength condition, complex stress state, stress-strain state*

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**IMPERFECTION ASSESSMENT OF BUILDING STRUCTURES ON THE BASIS OF FUZZY SETS**

**p. 34-39**

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*This article covers issues associated with the assessment of a failure to detect lesions in the diagnosis of technical condition of building structures. Using the apparatus of fuzzy sets, mathematical models and methods of revealing of damage condition of building structures are developed. All this gives the possibility of creation and experimental study of the operation of the system for diagnostics of technical condition of design of building structures*

***Keywords:*** *mathematical models, survey and assessment, technical state, category, building structures*

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**MATHEMATICAL MODELING OF BIOGAS LIFTING FROM THE MUNICIPAL SOLID WASTE POLYGON**

**p. 39-42**

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*The mathematical model specified height and time dependence of the center movement speed, proper size (radius), excess relative temperature, buoyancy of heated gas formations (biogas) with convective rise in atmospheric air above the municipal solid waste polygon has been developed in the paper. The numerical estimates of changes in the main parameters of heated gas formations for proper situations from the municipal solid waste polygon have been provided*

***Keywords:*** *biogas, mathematical model, municipal solid waste polygon, heated gas formations*

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## ANALYSIS OF AN ENERGY EFFICIENCY OF COMPLEX MODERNIZATION OF BUILDING TYPICAL RADIATOR HEAT SUPPLY SYSTEM ON THE BASIS OF AUTONOMOUS APPLICATION OF "AIR-WATER"HEAT PUMP

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*The original technical solution and the actual testing of the experimental installation based on the technology of the vapor-compression "air-water" heat pump for the complex modernization of the typical radiator heat supply system of social/ administrative building are described. The expediency of the heat pump using in the heating period under different connection schemes is analyzed and the corresponding heat pump energy*

*conversion factors is calculated*

***Keywords:*** *heat pump, energy saving, heating system, heat pump energy conversion factor*

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