

Land Sciences

S.I. Andreyanova

Regional Confessional Space: Structure and Typology

Key words and phrases: confessional space; marginal zone; spatial impulse; species; subspecies; subsystem; types.

Abstract: The paper discusses the formation of the world confessional space. It is classified into types, species and subspecies of spaces on the basis of the dimension of religious taxa. At the level of types there are global “fault” zones manifested in intercivilizational struggle for religious identity. At the subspecies level there allocated marginal zones, located at the junction of denominations and confessional groups. The Holy- Michael-Athos monastery is the example of confessional space at the level of “place”; complex structural elements – subsystems – are located on its territory.

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T.A. Volkova, Yu.O. Karpova, M.F. Khodykina, A.V. Prikhodko

Territorial Organization of Service Sector in the Krasnodar Region and Its Changes

Key words and phrases: Krasnodar region; services; territorial organization.

Abstract: The paper considers the issues of territorial organization of the service sector of the Krasnodar region and its changes. It is noted that in the Krasnodar region the service sector shows a high growth rate and investment attractiveness, due to objective reasons (geographical location, sports competitions of the world level and significance). At the same time, the authors note that from the perspective of the territorial organization of the service sector in the Krasnodar region, there are some disparities. They are related to the fact that the service sector is primarily developed in the city of Sochi and the Black Sea coast in general), as well as in the city of Krasnodar. In other cities and districts of the region, the indicators of the service sector development do not exceed the average level in Russia, or can be even lower.

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E.A. Kolokolova, I.R. Baykov, E.V. Burdigina, O.V. Kulagina

Measuring Exit-Gas Temperature after Air Coolers

Key words and phrases: air coolers; compressor station; gas cooling; gas temperature after air-coolers; gas transportation.

Abstract: The paper examines the issues of gas temperature measurement in the manifold depending on the flow of the transported gas, inlet gas temperature, ambient air temperature and the number of fans running at discrete adjustment.

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V.A. Lushpeev, K.A. Muravyev, O.V. Tyukavkina

Neural Network Analysis of Corrosion Resistance of Pipe Steel in Corrosive Environments of Oil and Gas Fields

Key words and phrases: corrosion resistance; low carbon steel; neural network analysis; prognostication.

Abstract: This paper has made the first attempt to create and train neural networks based on a limited set of experimental data in order to obtain the missing information for the correct prediction of the corrosion behavior of steel pipe of oil use Grade 20 in close to neutral chloride environments. The systems must be able to predict the rate of pit deepening (pit corrosion) according to any given set of parameters of the environment (sulfate ions, chloride ions, oxygen, hydrogen sulfide, temperature, pH, etc.) and classify the condition of the corrosive environment by the predicted values of the rate of corrosion.

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Biological Sciences

V.N. Efanov, T.N. Kalganova

Micro- and Nanoplankton of the Busse Lagoon (Aniva Bay)

Key words and phrases: biomass; Busse lagoon; microplankton; nanoplankton; seasonal dynamics; species composition.

Abstract: This paper presents the surveys of micro and nanoplankton in the Busse lagoon based on data collected over the period of 1976–2001. It describes 370 species and types of microalgae related to the following 7 groups with prevailing Bacillariophyta (258 species – 69,74 %) and Dinophyta (67 species – 18,11 %). The percentage of other 5 groups is small, varying from 25 (6,76 %) to 2 species (0,53 %). Phyto-geographically, micro- and nano plankton includes predominantly cosmopolitan species – 52 %;

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microphytes of tropical-boreal-arctic type comprise 26 %, while tropic-boreal account for 22 %. Neritic group is about 70 % of all species.

The assessment of phytoplankton biomass, seasonal dynamics, changes in the size of cells suggest that the Busse lagoon may be used for construction of sea-farming plants for scallops, oysters, mussels and shrimps.

Pedagogy and Psychology

V.A. Glebov, S.E. Dmitriev

Features of Pedagogical Techniques Implemented in the Military High School within the Competence Approach

Key words and phrases: educational technology; evaluation criteria of competencies development; professional competence.

Abstract: This paper describes the types of competencies and their structural components, particularly the implementation of the principle of action-oriented teaching of students, especially the feedback of high school with the customer.

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S.N. Gorshenina

Value Orientations of Multicultural Personality in Conditions of Polyethnic Educational Space

Key words and phrases: multicultural personality; polyethnic education space; value; value orientations.

Abstract: The multicultural personality with a positive ego-conception and an orientation on a greater engagement with the world becomes the target of the modern education system. The paper considers the value guidelines that ensure the success of the formation of a multicultural personality in conditions of the polyethnic educational space.

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O.O. Gorshkova

The Etymology of the Concept “Readiness for Research Work”

Key words and phrases: readiness; readiness for research work; research competence; research work.

Abstract: The paper describes the results of the analysis of the concepts “readiness”, “professional readiness”, “research activities”, “research competence” in order to reveal the essence of the concept of “readiness for research work”.

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A.P. Legaev

Pedagogical Conditions of Officer’s Honor Formation in Pre-Revolutionary Russian Army

Key words and phrases: military and scientific societies; military pedagogical conditions; moral education; national culture; officer’s honor; teaching resources; teaching experience; process of education.

Abstract: In the context of reforming of the Russian Federation Armed Forces it is important to turn to the experience of formation and development of the spiritual and moral principles of future officers. The paper discusses the main directions and conditions of formation and development of the officer’s honor in the Russian army in the XVIII–XIX centuries. The author analyzed the impact of military science and military-educational thought on the organization of the educational process.

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V.A. Solomonov

Interrelation of Life Values Components with the Level of Conscious Self-Regulation of Teachers: Cross-Cultural Features

Key words and phrases: activity; conscious self-regulation; cross-cultural features; development; life values.

Abstract: The paper presents the results of the study of the components of life values of teachers with different levels of conscious self-regulation. The influence of conscious self-regulation on the productive aspects of life values professional educators has been shown.

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E.A. Fomina

The Study of Conscious Self-Regulation to Control Aggression in its Differential and Cross-Cultural Manifestations: Methods and Techniques

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Key words and phrases: aggression; cross-cultural characteristics; methods of study; self-regulation.

Abstract: The paper justifies the urgency of studying cross-cultural features of self-regulation of aggressive interactions in the work of a teacher. The author describes the research methods applicable to the task, and their optimal composition.

Professional Training

I.V. Gogoleva

Interdisciplinary Integration in Learning Activities of University Students

Key words and phrases: economic trends; general mathematical disciplines; interdisciplinary integration; learning activities; learning process.

Abstract: The paper examines the theoretical position of interdisciplinary integration of the educational process. Basic requirements for interdisciplinary integration for motivational support of educational activity of university students have been discussed. The author emphasizes the pedagogical conditions for their implementation through teaching of general mathematical disciplines for bachelor degree in economics.

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I.S. Egorova, E.A. Mikhalkina

Model of Creative Educational Environment of Training of Bachelors in Pedagogical Education

Key words and phrases: basics of mathematical information processing; bachelor training in pedagogical education; creative activity; creative educational environment.

Abstract: The paper analyzes the ratings of professions and the the place of pedagogical occupations. The authors explain the need for the organization of creative educational environment and propose its model and ways of implementation on the example of training in the discipline “Basics of mathematical information processing”.

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Architecture and Construction

D.V. Litvinov

Historical Stages of Middle Volga Waterside Areas Development: the Stone Age

Key words and phrases: Middle Volga; Samara region; Stone Age; town planning; waterside areas.

Abstract: The paper analyzed the Stone Age historical stages characterized by focal town-planning prerequisites for the waterside development of the Samara region. The author described planning features of the permanent and temporary settlements located in the waterside areas in the period of paleolith and mesolite. Primary architectural types of houses, such as wood-and-pillar frame buildings and log houses, which were typical of different historical periods, were defined.

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History, Philosophy and Sociology

A.V. Salnikov

Golden Horde Influence on the Development of Weapons North Caucasian People in XIII–XIV Centuries

Key words and phrases: arsenal; borrowings; North Caucasus; trophies; weapons.

Abstract: In the period of Mongol khans' conquest in the XIII century, the peoples of the North Caucasus fell within the scope of their military and political influence. Typically, during such contacts, there must be a “dialogue of cultures”. Its manifestations can be quite versatile, but in this paper we analyzed the ways of penetration of Golden weapons into the region and evaluate their influence on military affairs of indigenous peoples of the North Caucasus.

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M.A. Simonova, N.A. Grigoryeva

Collaboration between Public Organizations and Churches in Education and Upbringing of the Youth in the 1990–2000s

Key words and phrases: education of youth; education system; non-government organizations; public policy; the Russian Orthodox Church.

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Abstract: This paper examines the main areas of collaboration between the Russian Orthodox Church and non-government organizations in education and training of young people in the 1990–2000-s. The authors characterized the main forms of collaboration between church and non-government organizations in spiritual and moral education of children and youth. The key issues and trends in the interaction of the state, the church and society were described.

Philology

A.A. Atabekova

Language Tolerance in Cross-Cultural Communication and Language Mediation

Key words and phrases: intercultural communication; language mediation; tolerant communication.

Abstract: This paper focuses on the language tolerance degree and limits in social interaction modes as cross cultural communication and translation. The paper states that the participants of the above processes may exhibit varied degrees of tolerance towards the quality of verbal presentation regarding the communication modes under study. Research findings regarding participants' surveys and statistics and discussion are provided.

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K.A. Shishigin

The Ways of Hybridization of the Yiddish Prefixed Verb System

Key words and phrases: adstratum; calque; hybridization; loanword; morphosyntax; prefixed verb; semantics; Yiddish.

Abstract: The hybridization of the Yiddish prefixed verb system by means of the adoption of Slavic and Semitic adstratum elements caused the separation of Yiddish from its German basis and made it an independent language. Slavic and Semitic loanwords and calques, Slavic and Semitic semantic and Slavic morphosyntactical innovations manifest this hybridization determined by the adstratum.

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Engineering

A.S. Vetrov

Mathematical Bases of the Analysis of Repair Work Reserves at Service Enterprises

Key words and phrases: classification of repair work reserves; methods of repair work; repair work; service.

Abstract: The paper deals with the methods of repair work of sophisticated equipment at domestic service enterprises. Various methods and the list of repair works are analyzed in detail. The author gives the classification of repair work reserves, which makes it is possible the analysis of the efficiency and economic potential of repair production of enterprises. The actions aimed at the improvement of technology in repair production, organization of repair works, and control over repair work at domestic service enterprises are discussed.

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V.V. Permyakov, A.A. Usoltsev, N.S. Kaminskiy, A.V. Zorin

Study of Catalytic Properties of Catalytic Converter Gasoline on Ice Cordierite Media

Key words and phrases: automobile; catalytic activity; catalytic catalyst; cobalt; converter; conversion; copper; cordierite; crankshaft; cylinder; electrolyte; engine; impregnation; nickel; stand; studs; torque.

Abstract: The paper presents the environmental problems on transport occurring during its operation. We studied catalytic cordierite-based converters with catalytic coatings without using noble metals for the conversion of harmful substances in the exhaust gases.

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Mathematical Methods and Models

I.I. Bosikov, A.Yu. Alikov, V.I. Bosikov

Development of Complex Criteria for Evaluation of Sustainable Development of Natural-Industrial Systems

Key words and phrases: complex criterion; ecology complex evaluation; integral factor of sustainable development; mathematical modeling; safety; system analysis; underground water.

Abstract: The paper is devoted to the application of techniques that enable to represent the

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system processes and describe these processes using mathematical models as well as evaluate the performance of the objects.

Chemical and Food Technology

M.M. Bariev

Proper Removal of the Scales Prior to Smoking as a Way to Improve Enterprise Dynamics

Key words and phrases: cycloid scales; dynamics; pull-down value; weight to separate scales.

Abstract: The paper describes the experimental studies on the determination of the load mass for the removal of scales in different species of fish. The results of the experimental data on perch and carp species were analyzed. The problems of the enterprise dynamics growth and ways of their solutions were discussed.

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Electronics, Measuring Equipment, Radiotechnics and Communication

M.A. Guryanov

Point Scatter Verification Method for High Resolution SAR Images

Key words and phrases: autofocus; image analysis; point scatters detection; SAR.

Abstract: Common Autofocus algorithms require point scatters on SAR image to work with. Point scatter provides such information as a phase error correction or trajectory instabilities. In high resolution SAR systems many of common point objects become greater than the resolution element and cannot be considered as point scatters anymore. These objects include cars, small houses, etc. In this paper, the result of statistic research is presented. Public high resolution SAR complex images are used. The new point scatter verification method is described. This method can be used to verify the detected point scatters and improve the results of automatic autofocus.

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Information Science

A.O. Erkimbaev, V.Yu. Zitserman, G.A. Kobzev

Global Infrastructure of Scientific Data: Current Status and Prospects

Key words and phrases: data base; data infrastructure; data space; linked open data.

Abstract: A general-purpose Global Research Data Infrastructure (GRDI) for data-oriented sciences is discussed. This will promote interoperability, data exchange, data preservation, and distributed access among users. The technological aspects of the future infrastructure have been verified within the framework of the interdisciplinary theme "Properties of substances and materials". Such data infrastructure is currently being realized by a global movement of data providers who are publishing their data on the Web according to the Linked Data principles.

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G.P. Tsapko, S.G. Tsapko, Ya.A. Martnov

E-Network Method Modeling of Dynamic Processes in Complex Control Systems

Key words and phrases: dynamic process; E-networks; methodology of structural analysis; simulation.

Abstract: The paper describes a new information and methodological approach for the implementation of the theoretical propositions of E-network simulation in the practice of analysis and synthesis of real complex technical systems to automate labor-intensive operations for modeling studies of these systems in the design of algorithms, software and hardware and thereby reducing the time to provide and improve quality of design decisions in developing and implementing complex objects of the national economy.

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Chan Wang Han, Yu.A. Kholopov, N.B. Preobrazhenskiy

Hardware Optimization of Onboard Distributed Control System of Vehicle Suspension Based on its Available Degrees of Information Links

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Key words and phrases: autonomous algorithm implementation; free degree of information links; full workability of control system; increasing effective functioning; onboard distributed real-time control system.

Abstract: In this paper, we consider the problem of increasing effective functioning, and ensuring workability of onboard real time control systems based on the free degrees of information links. The features of circuitry realization of this approach on the example of the onboard distributed control system adaptive air suspension vehicles have been discussed.

Economic Sciences

A.E. Cherepovitsyn, I.D. Bulikin

On the Development of Production Sharing Agreement in Russia

Key words and phrases: foreign investments; mineral extraction tax; Production Sharing Agreement.

Abstract: General overview of the Russian legislation related to the Production Sharing Agreement (PSA) is given in the paper. The factors adversely influencing further evolution of the PSA for oil & gas fields' development have been defined. The comparative analysis of the different methods of investor promotion for the development of the complicated oil & gas fields is presented. Some conclusions about the future application of PSA in Russian energy sector of economy have been made.

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A.E. Brom, A.P. Gantimurov

Research and Analysis of Information Interaction of Industrial Enterprises

Key words and phrases: efficiency; information economy; information interaction; information society; problems of information interaction; systems; quality.

Abstract: The paper explains the special role of information innovations for industry and allocates the quality criterion as a primary characteristic of products and services in the information society. The authors justified the link between the quality of products and services with that of information interaction of an industrial enterprise. The potential problems in the development and/or modernization of information interaction of an industrial enterprise have been identified.

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M.A. Guryeva

The Basics of a «Green» Economy

Key words and phrases: basic conditions; concept; «green» economy; features; principles.

Abstract: The paper provides a definition of the term «green» economy and describes the evolution of its development, its features and principles.

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A.V. Komarova

Definition of Performance Criteria of Budget Resources Management

Key words and phrases: criteria of effectiveness of budget management; effective management of fiscal resources; key efficiency indicators; socialization and humanization of economy.

Abstract: Currently, executive authorities are working hard to develop methodologies for assessing the effectiveness of the use of budgetary resources. However, the effective development of such methods is impossible without a clear definition of performance criteria of budget resources management.

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A.V. Koren, A.V. Tatuyko

Regional Tax Policy as a Method of Creating Favorable Investment Climate in the Far East

Key words and phrases: corporate income tax; investment; investment projects; regional policy; tax credits; tax instruments; the Far East.

Abstract: The paper considers the problem of attracting investments to the Far East. Special attention is paid to the tax instruments to create favorable investment environment. In particular, the special emphasis is put on the tax breaks on profits of companies participating in regional investment projects in the Far East.

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A.P. Latkin, P.S. Belenets

Motivational and Stimulating Effect of Franchising on Business Innovation Enhancement

Key words and phrases: climate; entrepreneurship; form; franchising; innovation;

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mechanism.

Abstract: The paper deals with the current issues related to the motivational and incentive effects of franchising to increase innovation entrepreneurship. Special attention is paid to the disclosure of the functioning of the franchising business in innovative framework, including the comparison with the classical model of franchising business. The cycle of creating an innovative product was investigated in detail, the place of franchising was determined. Forms of using franchising to improve business innovation were specified. The necessity of creating innovative climate that will enhance the influence of franchising and increase business innovation.

K.K. Undonov

Strategies of Developing Small Industrial Business in the Region

Key words and phrases: competition; integration; principles of innovation; small industrial enterprise.

Abstract: The paper describes the priority principles of the industrial complex of the Republic of Buryatia: flexibility, stability, efficiency, innovation, environmental friendliness, humanistic values, and sociality. It is shown that the state-corporate policies of development of small industrial enterprises are based on the formation of competitive and innovative environment integration mechanisms. One of the options for integration and interaction of business structures (large, medium and small personal business) will be the formation and development of regional outsourcing.

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I.A. Toymentseva, V.D. Chichkina

Managing Strategic Changes as a Tool of Acquiring Additional Competitive Advantages

Key words and phrases: external environment; competitive advantages; stability of the organization; strategic management; strategic changes; strategic goals.

Abstract: The paper discusses some questions of managing strategic changes in the company as a major tool to improve the competitive position of the organization. A strategic change can be defined as an organized process of transition of the organization from one state to a new qualitative condition, based on the analysis of problems and resources of the organization.

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Legal Science

A.M. Zatsepin

Competition of Criminal Law Norms as a Prerequisite for Additional Classification of Crime

Key words and phrases: affect; competition; crime classification; criminal law norm; exceeding the limits of necessary defense; general and specific norm; special norms; the part and the whole.

Abstract: The paper studies the competition of criminal law norms and rules of crime classification. Arguments on the legitimacy of separation of criminal law norms competition in the classification of crimes are given. The author argues that of all of the kinds of competition allocated in science, only two exist in the criminal law: competition of general and specific norms and competition of the part and the whole. The rules of crime classification upon the competition of general and special norms are given. Classification rules upon the competition of the part and the whole are formulated. Suggestions on the improvement of both the criminal law and its practical application are made.

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D.A. Leusenko

The Nature of Society and the Nature of Law: Interpretation Scheme and the Foundation of the Genetic Method in B.A. Kistyakivskiy's Concept

Key words and phrases: analytical nature of society; integrative understanding of law; genetic method; social norm.

Abstract: The paper proposes the genetic method as a research tool of integrative understanding of law; the method is based on the assumption about the special, genetic relationship between the social norm and the rule of law, the importance of fixing the criteria of the society (community) objectivity by means of scientific analysis, the significance of the analysis of normal routine for consideration of the phenomenon of the nature of law and the state. The specific research approaches in the framework of the genetic method enables to conclude that its basics were developed by B.A. Kistyakivskiy.

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