

## Land Sciences

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### ***The Current Condition of the Renewable Energy Sources Capacity in the North-Western Part of the Caspian Region: Case Study of Kalmykia***

*Keywords: biofuel; wind generators; renewable energy sources; east wind; the Republic of Kalmykia.*

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*Abstract: The paper presents the analysis of the current condition of power industry in Kalmykia. Geographical, ecological, and economic indicators of the region were analyzed. Statistical data for the last 2–3 years were presented. It was proposed to create a network of facilities on the base of renewable energy sources, combining wind turbines, solar and biofuel stations. At the first stage it was proposed to create a network of «Kalm East-South» that will connect 4 key power-intensive districts of Kalmykia.*

*A.A. Chelembeeva*

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### ***Green Areas as Elements of Urban Recreational Space (Case Study of the City of Irkutsk)***

*Keywords: green areas; landscaping; city; recreation; leisure; parks; gardens; urban space.*

page 12-17

*Abstract: The author made an attempt to evaluate and characterize urban green spaces in Irkutsk. The main indicators of the level of green space were reviewed, a brief historical overview was made, current status of green recreational facilities, including areal metrics and statistical data, was evaluated. To characterize the overall picture of the study the author reviewed and analyzed official documents, on the basis of which the conclusions were made.*

## Pedagogy and Psychology

*I.S. Ganishina*

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### ***Experience of the Correctional Treatment of Drug Addicted Convicts in the Penitentiary System***

*Keywords: correctional institution; drug addiction; convicted; psychological services; psycho-correctional work; rehabilitation; detention facility; correctional system.*

page 18-20

*Abstract: Over the recent years, number of drug addicted convicts in the correctional institutions (CI) has been increasing. The analysis of disciplinary practices in prisons and CI detention centers shows that drug addicts tend to violate the order of serving out the punishment. Therefore, CI personnel are currently studying the experience of psychological work with drug-dependent prisoners.*

*S.V. Dmitrieva, T.A. Feoktistova*

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### ***Cooperation of Specialists as a Factor in Adaptation of First Graders to Schooling***

*Keywords: adaptation; cooperation of specialists; primary school children; psychological and pedagogical support.*

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*Abstract: The paper deals with cooperation of specialists as one of the factors of adapting first-grade schoolchildren to studying at school. The attention is focused on theoretical and practical aspects of cooperation of specialists, the principles of its organization and the criteria of its efficiency. The authors define the aims of the cooperation and characterize the specialists' activity at different stages of psycho-pedagogical support of first-graders in the process of their adaption to studying at school. The results of assessment of adaptation of the first-graders in conditions of implementing the system of experts' cooperation to support adaptation process are discussed.*

A.Z. Ibatova

Surgut Oil and Gas Institute – Branch of Tyumen State Oil and Gas University, Surgut

**Interrelation of Professional and Communicative Culture of an Individual**

Keywords: professional activity; professional culture; communicative culture of an individual; communication readiness.

page 25-27

Abstract: The paper discusses the concepts of professional and communicative culture of an individual; their interrelation is established in the general system of professional education of students.

V.I. Serov

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**Psychology of Loss. Psychological Defense Types. Adaptability of the 5th-Year Female Students of the Academy of the Federal Penal Service of Russia with a Short-Term Correction**

Keywords: psychology of loss; student; personality; adaptability; psychological defense types; psychogenic losses; standard sociopsychophysiological correction personal space; borderline personality disorder; constitutional sociopsychophysiological personal defense; protective adaptive response; recovery reaction.

Abstract: Psychogenic losses for the tuition period at the 1st, 4th and 5th years were accounted for the 5th-year students before correction. Before the correction, 5th-year female students were marked by the domination of hopefulness as the leading PDT in personality organization. The code of the seven PDT was: hopefulness- pessimism, rigidity, impulsivity, hypochondria, individualism, anxiety emotional lability, (-2 > 5 > 4 > 1 > 7 > 6 > 3), CSPD – PL > SPL > PPL > SL > PHL. Female students had PAS5 in adaptability and hopefulness. After correction, 5th-year female students were marked by the domination of hopefulness as the leading PDT in personality organization, the code of PDT was: hopefulness-pessimism, impulsivity, hypochondria, emotional lability, anxiety, individualism, rigidity (-2 > 4 > 1 > 3 > 6 > 7 > 5), code of CSPD – PL > SPL > PPL > SL > PHL. After correction, psychogenic losses increased in hopefulness from PAS2 up to RR3, decreased in adaptability from PAS5 to RR4. Female and male students in PDT and adaptability had a generalized protective adaptive response before correction and recovery reaction after correction: at the 5 year – PAS5,  $\beta\Gamma = 7$  T before correction and RR4,  $\beta\Gamma = 8$  after correction, PAS4,  $\beta\Gamma = 9$  and RR5,  $\beta\Gamma = 15$ . According to the Welsh index, the correction restored psychogenic losses better among female students of the group No 531, worse among females of the group No 532 and aggravated losses among the male students of the group No 532. The behavior forecast for female students before and after correction was unstable. Dispersion for 5th-year female students before correction had a mean value for two groups, was higher in the group No 531, reduced in the group No 532 and made up in PDT 1785, 339531, 111532, before correction, after correction – 92, 80, 99 T2, in adaptability before correction – 95, 210, 19, after correction – 99, 112, 43 RS2, in CSPD before correction – 75, 126, 49, after correction – 156, 162, 123 RS2. Correction reduced dispersion at the 5th year, in the groups No 531,532 in PDT 2 and 4 and 1.1 times, reduced in adaptability 1 and 2 times and elevated it 2 times, in CSPD – elevated 2, 1.3, 2.5 times. The decreasing of dispersion indicated decreasing of the psychogenic losses and increasing of reliability, the increase in CSPD indicated the transition of reliability from the evident form to the dumb or latent form with the correspondent rates of SS, PD u PHD. The application of the audiovisual correction reduced psychogenic losses after 5-year tuition term in the high school. The increasing of dispersion indicated increasing of the psychogenic losses and vice versa. We recommend assigning PDT indices to each student for diminishing risk of psychogenic losses in case of emergency and check the indices in officer's documents.

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## Professional Training

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Siberian State University of Telecommunications and Informatics, Novosibirsk

**Networking Component of Graduates' Communicative Competence**

Keywords: common cultural and professional competencies; communicative competence; networking component; Federal State Educational Standards.

page 38-45

Abstract: In this paper common cultural and professional competencies of the Federal State Educational Standards of the third generation are analyzed to reveal their mutual links for

developing students' communicative competence. The author proposes to include a networking component in the model of graduates' communicative competence to synthesize the information, technology and communication constituents of professional education and develop networking skills. In the project of the Federal Educational Standards-3+, general cultural and professional competencies have been supplemented with a networking component. The revised model of communicative competence will enhance the level of graduates' communicative competence.

T.A. Fugelova

Tyumen State University, Tyumen

**The Role of Social Partnership in the Development of Professional Mobility of Future Specialists**

*Keywords:* professional mobility; social partnership; focus group.

*Abstract:* The projected changes in science and technology have necessitated the importance of altering principles, methods, content, forms and technologies related to the construction of the education system at a technical university. To stay competitive now and in the near future graduates of technical universities must have a high level of skills, innovative thinking, and professional mobility. Participation in creative activities will enable them to develop their skills and abilities, set meaningful goals and achieve them.

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## History, Philosophy and Sociology

L.Ch. Khablieva

K.L. Khetagurov North Ossetia State University, Vladikavkaz

**Evacuation of Enterprises and Population from the Territory of North Ossetia during the Great Patriotic War**

*Keywords:* evacuation; industrial capacity; financial resources; civilian population; evacuated property.

*Abstract:* The paper describes preparation and procedure for the evacuation of material and human resources from the territory of North Ossetia during the Great Patriotic war. Using archival materials, the author showed the main difficulties of public authorities in the organization of evacuation from North Ossetia in extreme conditions of war.

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## Philology

A.N. Tikhonova

Children's Creativity Center, Orekhovo-Zuevo

**Features of Time and Space in the Novel "Without family" by G. Malo**

*Keywords:* G. Malo; geographic location; lines of topographic organization; novel topology; novel topography; literary time; literary space.

*Abstract:* The paper analyzes the literary means of expression of time and space. The analysis reveals the characteristics of time fiction. Special consideration is given to the structure of literary space. The author elicits the peculiarities of changing of a certain space paradigm by another one. In conclusion a complex model of geographic space of the novel "Without family" by G. Malo is presented in the "topology" and "topography" terms.

page 52-57

L.A. Yushkova

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**Specificity of Motivational Links in the Colloquial Word-Formation (German Colloquial Verbal Lexis)**

*Keywords:* colloquial lexis; word-formation motivation; derivatives; derivational stem; idiomaticity; reduction of stems; word-formation metaphorization; homonymy of stems; word-formation analogy.

*Abstract:* The paper concerns the definition of the degree of morphosyntactic motivation between the derivational stem and its derivatives. Taking derivative verbs in the German colloquial lexis as an example, we determine and analyze the factors complicating the

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motivational links in the derivative word, as well as the opposite factors promoting understanding of motivational links, their character, and the meaning of a derivative word. The description of these factors is considered to be a precondition for development of the criteria which would make it possible to differentiate the degrees of word-formation motivation, especially in the group of partially motivated derivative words. The necessity of differentiating several types of motivation for the purposes of word-formation analysis is stressed and the hindering factors are pointed out.

## Engineering

*E.S. Yakubovich*

*Moscow State Academy of Water Transport, Moscow*

### ***The Analysis of Operational Advantages of Ship River-Sea Navigation***

*Keywords: performance indicators; ship river-sea navigation.*

*Abstract: The author analyzes the key indicators of water transport over the past years; conclusion about the attractiveness of overseas transportation for shipping companies is explained by profitability and the possibility of year-round operation of river-sea navigation vessels.*

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## Mathematical Methods and Models

*I.I. Bosikov, M.V. Kataeva, F.V. Chikhtisova*

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### ***A Method of Determining the Dependences of Pollutant Emissions on Technogenic Factors of Mining and Processing Industries***

*Keywords: mathematical modeling; factor analysis; natural and industrial system; mining and processing production; efficient technology; correlation analysis; regression relationship.*

*Abstract: The paper is devoted to the use of factor and regression analyses which enable to describe the system functioning processes through mathematical models and analyze the effectiveness of the system using a predictive model based on nonlinear regression.*

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*V.E. Vershinin, A.I. Varavva, A.S. Timerbayev*

*Tyumen State University, Tyumen*

### ***The Study of the Efficiency of Separation of Liquid from Gas in a Centrifugal Separator by Numerical Simulations***

*Keywords: centrifugal separator; separation of gas-liquid mixture; numerical simulation; OpenFOAM.*

*Abstract: This paper considers modeling of gas-liquid centrifugal separators with droplet plates in the software package OpenFOAM. The special attention is paid to an assessment of efficiency of catching liquid drops by separations plates. Often the effect of adhesion of the liquid to the plate's surfaces is not taken into account in the simulation, which leads to underestimated values of the separation efficiency. This method permits determining an efficiency of separators with droplet plates in conditions of uncertainty of experimental data on sedimentation of moisture on a surface of separation plates.*

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*R.M. Ganopolsky, V.E. Vershinin, S.S. Chudinov, A.I. Varavva, V.O. Polyakov*

*Tyumen State University, Tyumen*

### ***Computations Optimizing when Modeling Multiphase Systems in Integrable Open Platform OpenFOAM***

*Keywords: OpenFOAM; continuum mechanics; partial differential equations; numerical modeling; multiphase flows; computations paralleling; clusters; high performance computing; computations optimizing.*

*Abstract: In this paper we describe an open integrable platform OpenFOAM as well as differences in static and dynamic platform solvers. The problem of numerical modeling duration for complicated multiphase system is being formulated. We also describe techniques of computing chain and intermediate transformations performance that ensure total computing time reduction for approaching the same accuracy.*

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D.Yu. Ivanov

Moscow State Engineering University, Moscow

**The Analysis of Two-Dimensional Boundary Integral Equations Defining Solutions of Heat Conduction Problems in Direct Cylinders**

Keywords: boundary integral equation; existence; heat conduction; regularity; uniqueness.

Abstract: We consider two-dimensional boundary integral equations, which determine the solutions of the initial-boundary value problems for the homogeneous heat equation in a uniform direct cylinder using the vector potential. Sustainable unique solvability of such integral equations in spaces of functions of different smoothness is proven.

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## Electronics, Measuring Equipment, Radioengineering and Communication

A.A. Vakulin, E.V. Golubev, V.V. Kotlov, A.N. Lishchuk, S.G. Nikulin, N.B. Filippova

Tyumen State University, Tyumen

**Automation of Scientific Test Unit for Multiphase Flows**

Keywords: multiphase flow meters; detectors; metrology; tests; information and measuring systems; automation; virtual devices; LabView; oil and gas metering; Automatic Process Control System.

Abstract: In this paper, we describe the basic automation features of the test unit for multiphase flows developed by JSC GMS Neftemash, Tyumen (a member of GMS Group) in collaboration with FSBEI HPE Tyumen State University by the Government Order № 218. The Scientific Test Unit for Multiphase Flows is a standard for multiphase flow rate that is necessary for production of commercially successful multiphase flow-meters.

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S.S. Simankov, A.N. Cherkasov

Kuban State Technological University, Krasnodar

**The Analysis and Synthesis of Decision Support System Based on Intelligent Systems of a Situation Center**

Keywords: visualization; monitoring; modeling; forecasting; repository; intellectual system; decision-making; situation center.

Abstract: The paper deals with theoretical aspects of constructing an optimal structure of decision support system based on intelligent systems of a situational center for solving problems from different domains.

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## Quality Control

V.I. Byvshev, M.A. Katanaeva, A.A. Polyutov

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Siberian Federal University, Krasnoyarsk

**The Technique of Quality Management of Educational Services on the Basis of Statistical Control Methods**

Keywords: educational organizations; education service; quality management; statistical methods.

Abstract: This paper focuses on the evaluation of quality indicators through statistical methods in educational organizations. In this paper, we consider the educational organization as a structural element of socio-economic system of the country in an attempt to answer the question: what actions need to be taken to achieve the best results of the university. Methods of quality control of educational services on the basis of statistical methods of control will enable to construct the intelligent management system model of the educational institution.

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E.N. Savchik, I.A. Manakova

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**Quality Assessment of Business Processes of the Organization**

Keywords: business processes; quality, indicator; purposes.

Abstract: In the paper, approaches to the description of business processes and development of the system of indicators for their assessment are considered

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# Economic Sciences

R.Sh. Abakarova

Dagestan State Institute of National Economy, Makhachkala

## **State Regulation of Imports of Agricultural Products**

*Keywords: foreign trade; export; import; competitiveness; food security; government regulation.*

*Abstract: Special attention is paid to the regulatory role of the state, expanding the system to support and protection of agricultural industries using measures of customs control, as it depends largely on the creation of favorable conditions for development of agricultural production, maintaining the competitiveness of domestic production and food security of Russia.*

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G.G. Arounyants, S.G. Sayadyan A.G. Mnatsakanyan

Kaliningrad State Technical University, Kaliningrad

## **The Basic Algorithms for the Assessment of Regional Banking System Impact on the Development of Regional Economy**

*Keywords: credit institution; regional economy; regional banking system; efficiency of regional banking systems; credits; gross regional product; regression equation; automated control systems; database; algorithm; management strategy.*

*Annotation: The paper studied the main approaches to the analysis of the performance of regional banking systems (RBS) as a part of the market infrastructure and the real economy. We examined the impact of the RBS region on the development of regional economy. The algorithms for their automated assessment were proposed and ways of forming the basis of their effective strategy of good governance were discussed.*

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R.S. Bazhanov

Moscow Financial Industrial University "Synergy", Moscow

## **Increasing Conversion by Analyzing Traffic Sources through Web Analytics Data**

*Keywords: web analysis; key performance indicators; internet site conversion; efficiency improvement.*

*Abstract: The problem of improving the quality and impact of advertising on the Internet is very topical at the moment. The paper proposes an attempt to improve the formation of the technique for conversion of online projects, their advertising channels through web analysis tools and obtained data. The research results can be used in advertising campaigns on the internet.*

page 121-124

B.Zh. Garmaeva

East Siberian State University of Technology and Management, Ulan-Ude

## **The Comparative Analysis of Labor Resources Quality in the Siberian Federal District**

*Keywords: innovation; innovative production; quality of labor resources; life expectancy; region; average wage; unemployment rate.*

*Abstract: The quality of labor resources is one of the most important factors in innovative production. In this paper, the author proposes a methodology for calculating the quality index of labor resources. This index permits the comparative analysis of the qualitative characteristics of the labor force of the Siberian Federal District. The most important parameters of quality evaluation of workforce include the average life expectancy, the proportion of employees with higher education and gross regional product per capita. The regions have been ranked by the quality index of labor resources. The relation of this index to such indicators as average wages and unemployment rate has been identified. The regions with low wages and high unemployment rate have the lowest quality index of labor resources. In this regard, an important direction in the labor force development is the policy of job creation with an acceptable level of wages.*

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M.A. Guryeva, A.V. Matsenko

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## **Eco-Tourism in Russia**

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*Keywords: eco-tourism; sustainable nature-orientated tourism; tourist flows; government programs.*

*Abstract: This paper considers the concept of eco-tourism, its main distinguishing features, principles; analysis of revenues and the number of tourists has been conducted; the main problems have been identified; the government program in the study area have been described.*

*A.I. Dontsova*

*Lomonosov Moscow State University, Moscow*

***Measures of the European Central Bank against Global Financial Crisis in 2008–2009***

*Keywords: European Central Bank; Federal Reserve System; monetary policy.*

*Abstract: This paper discusses and explains in detail how the ECB and the Eurosystem (comprising the ECB and 16 national central banks of the euro area) responded to the financial crisis in 2007, and what measures were taken to deal with the global crisis in 2008–2009.*

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*E.I. Kulikova*

*Financial University under the Government of the Russian Federation, Moscow*

***The Improvement of the Principles of Sustainable Development of Regional Socio-Economic System***

*Keywords: investment; quality of life; indicators; potential; system of sustainable development indicators.*

*Abstract: Having analyzed the conceptual approaches to the sustainable development of regions and the system of indicators to measure sustainability, the author develops the basic principles of sustainable development of regional socio-economic system.*

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*L.F. Mamedova*

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***Directions of Entrepreneurship Development in Tourism Sector in the Context of Sustainable Development***

*Keywords: tourism object; subject of tourism; tourist; sustainable development; investment; marketing.*

*Abstract: The paper summarizes the distinctive features of conditions and conceptual framework for sustainable development. The problems of service sector development in the context of sustainable development have been studied. The author analyzes the share of services in GDP of the selected countries and proves a leading position of tourism in the service sector. In this paper, a study of the tourism sector as one of the leading areas of the service sector has been presented. The author analyzes the data of the World Tourism Organization and proposes a new approach to tourism as one of the most promising direction of national economy. According to the author, the two conditions necessary for the development of entrepreneurship in the tourism sector include the availability of financial security and comprehensive market research. At the same time, it is important to take into account geographical factors to evaluate the effectiveness of tourism in a particular area. In conclusion, the author considers it necessary to increase the investment attractiveness of the tourism sector and expand market research in the sector under study*

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*N.V. Obolenskiy, V.P. Agafonov*

*Nizhny Novgorod State Engineering and Economics Institute, Knyaginino*

***Survival Strategies of Small and Medium Brewing Businesses***

*Keywords: local beer producer; local beer; transnational holding companies; expert environment; traditional technologies of beer production; popular beer brands.*

*Abstract: The main competitive advantage of local small and medium-sized beer producers is considered in the paper. Unlike large federal and transnational producers, they stick to traditional production technology (they produce beer rather than beer beverage concentrate). It has become a factor of small and medium-sized brewing business survival. According to quantitative survey, the position of the beer manufacturer "Liskovskiy" seems quite favorable among large transnational beer producers. The level of demand for the Liskovskiy beer brand "Makariy" takes the third place in the overall ranking. The Zhiguli beer of the same manufacturer is also in high demand.*

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A.R. Rzaev

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***Theoretical Foundations and Principles of Creating a Transport Services Market***

*Keywords: transportation; service; market; competitiveness; car; marketing; infrastructure.*

*Abstract: In the paper, the author considered an approach to transport services as an important area of services. The essence of transport services was described; the factors affecting the development of the market were shown. The author analyzed the factors affecting the organization of transport services, including the terms of development of the market as a whole. The article also discussed the creation of the market of transport services in the different conditions. The author drew the conclusion that a comprehensive approach to the production of quality vehicles to ensure serviceability of vehicles, efficient organization of transport processes, the level of infrastructure support, etc. is the main condition for the development of a competitive market for transport services*

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O.V. Trushko

*National Mineral University "Gorny", St. Petersburg*

***Formation of Effective Innovative Environment to Improve the Competitiveness of Mineral Raw Resources Universities***

*Keywords: knowledge; innovations; mechanisms; mineral resources complex; universities.*

*Abstract: The paper describes the optimal mechanisms for the formation of innovative environment and their implementation in the universities dealing with problems of mineral resources and fuel and energy complexes of Russia.*

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A.G. Uvaysaeva, L.S. Yangulbayeva

*Chechen State University, Grozny*

***Development of Spatial Organization of Economic Systems on the Basis of Capital Concentration Principles***

*Keywords: spatial organization of economic systems; investment potential; structural shifts; market response; capital concentration; business environment.*

*Abstract: The paper explores the features of spatial organization of economic systems in regional economy depending on the rates and directions of investment development of the region. The author analyzes theoretical bases of development of economic relations in the region through the promotion of capital utilization in the region.*

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M.A. Chirkov

*Lomonosov Moscow State University, Moscow*

***The Role of Strengthening Economic Interrelations between Enterprises in Recovery of Real Sector of the Russian Economy***

*Keywords: long-term economic relationships; order; wholesale; plan; market.*

*Abstract: The paper is devoted to the forms and efficiency of economic interrelations between economic actors in recovery and strengthening of the real sector of the Russian transitional economy. The author describes the economic relations between enterprises on the basis of direct and indirect long-term relationships, a non-repeat order, wholesale. The author shows the benefits of stable long-term relations between economic actors, state regulation in innovation development.*

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