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**ANNOTATIONS OF THE ARTICLES**


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**DEVELOPMENT STAGES OF AGRICULTURAL INSURANCE WITH STATE SUPPORT**

*In Russian Federation the insurance as a risk management tool in agricultural industry is used insufficiently; but agricultural insurance with the state support has a set of shortcomings and doesn't perform the assigned functions. It needs a solution for the number of problems in this area. The purpose of the paper is the structural instability research of time series for the area indicators of insured crops that will allow allocating development stages of agricultural insurance with the state support. This work detects the presence of structural instability in the area dynamics for insured crops by Chow test. The analysis allowed to identify three development stages of agricultural insurance with state support in Russia: 1995–2001, 2001–2008 and 2009–2015 years. Nowadays the agricultural insurance with state support is not effective in Russian Federation due to the mismatch of damage suffered by agricultural producers as a result of adverse climatic events, and the paid compensation. This leads to additional costs of the budget financial support for agricultural producers, as well as non-compliance with the State's obligations to compensate the insurance premium, in spite of the increase in the all levels budget.*

**Keywords:** agricultural industry, insurance, time series, insured area, Chow test.

**References**

1. Zhichkin, K.A., Shumilina, T.V. (2013) Risks insurance of agricultural organizations in the conditions of the state support: monograph, Samara: SSAS Publ. – 191 p.
2. Korn, G., Korn, T. (1984) Reference book on mathematics for scientists and engineers, Moscow: Science. – 830 p.
3. Lomakina, T.P. (2001) Insurance of future harvest in modern Russia, Volgograd: Peremena Publ. – 246 p.
4. Nikitin, A.V. (2008) Theory and practice of insurance of agricultural risks, Michurinsk – Russian science city: Publishing house of Michurin State Agricultural University. – 335 p.
5. Nosov, V.V. (2011) Current state of agro-insurance with the state support in Russian Federation / ETAP: economic theory, analysis, practice. – Vol. 4. – pp. 142–153.
6. Nosov, V.V. (2013) State participation in agricultural insurance: domestic practice and international experience / Bulletin of Saratov State Vavilov Agrarian University. – Vol. 1. – pp. 82–87.
7. Orobinskiy, A.S., Parakhin, Yu.N. (2008) Development of insurance in Russia: historical aspect / Bulletin of Orel State Agrarian University. – Vol. 6 (15). – pp. 15–18.
8. Skulskaya, L.V., Shirokov, T.K. (2010) Risks in agricultural production and ways of its negative consequences neutralization / scientific works: Institute of economic forecasting of RAS. – Vol. 8. – pp. 478–501.
9. Statistical data on insurance of crops and long-term plantings with the state support – [E-resource] – Access: <http://www.fagps.ru>.
10. Tsy-pin, A.P. (2012) Statistical studying of historical temporary ranks of agricultural production in Russia: monograph, Orenburg: OSIM. – 122 p.
11. Barnett, B.J. (2007) The U.S. Federal Crop Insurance Program / Canadian Journal of Agricultural Economics. – Vol. 48. – Is. 4. – pp. 539–551.
12. Chow, G.C. (1960) Test of equality between sets of coefficients in two linear regressions / Econometrica. – Vol. 28. – Is. 3. – pp. 591–605.
13. Glauber, J.W. (2004) Crop Insurance Reconsidered / American Journal of Agricultural Economics. – Vol. 86. – Is. 5. – pp. 1179–1195.
14. Goodwin, B.K. (2001) Problems with Market Insurance in Agriculture / American Journal of Agricultural Economics. – Vol. 83. – Is. 3. – pp. 643–649.
15. Gujarati, D.N. (1995) Basic Econometrics, McGraw-Hill Inc. – pp. 509–513.
16. Green, W.H. (2007) Econometric analysis, Prentice Hall. – 1207 p.
17. Miranda, M. J., Glauber, J.W. (1997) Systemic Risk, Reinsurance, and the Failure of Crop Insurance Markets / American Journal of Agricultural Economists. – Vol. 79. – Is. 1. – pp. 206–215.

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**REGULARITIES STUDYING OF RUSSIAN TOURISM INDUSTRY**

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*The relevance of the issue is caused by the need for scientific analysis of development vector change in the national tourism industry occurring nowadays caused by several factors considering in this paper. The purpose of this research is tourism industry state in Russia and identification of development ways under the influence of social, economic and political factors. The author implemented such research tools as deductive method, diagram and graphical method as well as ratio analysis. Consequently the tools and official statistical data allow considering the following outputs. First, excess of outgoing tourists flow over ingoing is observed in Russia, therefore there is a cash outflow. Second, the crisis 2014 and the followed «collapse» of national currency influenced the vector's change from external to internal tourism. The paper's materials can be useful for researchers and experts in the field of tourism by forming a strategy (action plans) targeting the internal tourism development.*

**Keywords:** *outbound tourism, internal tourism, tourism industry, dynamics, structure, regularities, development.*

### **References**

1. Aleksandrova, A.Yu. (2013) Statistics of international tourism: present state, problems and development prospects / Initiatives of the 21st century. – Vol. 2. – pp. 26–30.
2. Glagoleva, L.E., Bykovskikh, A.M., Kolonistov, A.N. (2014) Policy of import substitution as incentive for internal tourism developing in Russia / Economy. Innovations. Quality Management. – Vol. 3 (8). – pp. 51–55.
3. Ermakova, Zh.A., Polyakova, I.L. (2014) Classification of tourist and recreational complexes / Tourism and regional development. Smolensk Humanitarian University. – pp. 32–36.
4. Ermakova, Zh.A., Kholodilina, Yu.E. (2014) Methodical approach to formation level of regional scientific tourism system / Bulletin of Samara State University. – Vol. 6 (117). – pp. 74–79.
5. Kulgachyov, I.P. (2014) Statistics of internal tourism in Russia: condition and development prospects / International trade and trade policy. – Vol. 12 (91). – pp. 30–41.
6. Makeeva, D.R. (2015) Tourism economy in Russia at the present stage: from outbound tourism to domestic market / Issues of regional economy. – Vol. 22. – Vol. 1. – pp. 39–48.
7. Pankova, S.V., Kubatkin, G.A. (2011) Financial accounting of marketing costs in hotel business / Economic analysis: theory and practice. – Vol. 1. – pp. 11–16.
8. Takhtarova, T.A., Volkov, S.K. (2015) Current state of outbound tourism market in Russia and its perspective directions / Issues of economic development in regions. Materials of the IV All-Russian correspondence scientific and practical conference. – pp. 79–83.
9. Timofeev, D.N. (2012) Organizational structure of tourism public administration at federal and regional levels / Forming market economy: theory and practice. Collection of scientific papers, Orenburg. – pp. 315–321.
10. Finogenova, U.U., Nosov, V.V. (2015) Factors modeling influencing financial conditions of world economy: challenges and opportunities for Russia / Financial centers in world system – international scientific and practical conference. – pp. 15–19.
11. Khasbulatova, B.M. (2015) Influence of world economic crisis on tourism development in Russia / Theory and practice of social development. – Vol. 7. – pp. 60–62.
12. Tsy-pin, A.P., Faizova, L.R. (2016) Choice of comparison base as condition for evidential conclusions during analysis of historical temporary ranks / University complex as regional center for education, science and culture. Proceedings of All-Russian Scientific and Methodical Conference. – pp. 1777–1780.

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### **CURRENT STATE OF RETAIL TRADE IN ORENBURG REGION**

*The retail trading plays a major role in state economy, as it affects key business processes connected with sale of goods and services as well as its distribution to the end user. The state of retail trade is considered to be the most important indicative factor reflecting the real socio-economic situation of country, so the purpose of this study is analysis of present*

and development trends of retail trade. The paper analyses: number and structure of retail trade organization, volume and structure of retail trade turnover in current and constant prices in Russian Federation, as well as current trends in retail development at the national level. The present trends of retail for Orenburg market are explored in the paper with the aim to identify and determine opportunities for the functioning of local trade enterprises in crisis conditions.

**Keywords:** trade, retail trade, retail market, retail trade turnover; gross domestic product, turnover increase, innovation.

#### References

1. Kravchenko, A.V., Gunik, I.A. (2015) Tendencies and prospects of retail sector development of Russian economy in present economic conditions / International journal of applied and fundamental research. – Vol. 8 (Part 3). – pp. 556–560.
2. Munshi, A. Yu. and colleagues (2015) State and dynamics of Russian retail trading / Modern issues of science and education. – Vol. 1–2. – pp. 75–82.
3. Federal State Statistics Service (Rosstat) – Official web-site – [E-resource] – Access: <http://www.gks.ru>.
4. Orenburg Regional Territorial Authority (Orenburgstat) of Federal State Statistics Service – Official website – [E-resource] – Access: [http://orenstat.gks.ru/wps/wcm/connect/rosstat\\_ts/orenstat/ru](http://orenstat.gks.ru/wps/wcm/connect/rosstat_ts/orenstat/ru).
5. Orenburg Administration – Official website – [E-resource] – Access: [http://www.orenburg.ru/activities/economics\\_and\\_finance](http://www.orenburg.ru/activities/economics_and_finance).
6. Resolution of Orenburg Region №1000-PP of 28.12.2015 «On Amendments to Government Decree of Orenburg region № 353-PP on April 30, 2013» – [E-resource] – Access: [http://www.minfin.orb.ru/budget/pravo\\_info/2015/p1000ppot20151228.pdf](http://www.minfin.orb.ru/budget/pravo_info/2015/p1000ppot20151228.pdf).
7. Statistical Book, (2014) Trade in Orenburg Region / Orenburg Regional Territorial Authority of Federal State Statistics Service, Orenburg. – 401 p.

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#### PROSPECTIVE DIRECTIONS OF TAX HARMONIZATION IN CONDITIONS OF EURASIAN INTEGRATION

The paper devoted to the topical issues of tax legislation and administration procedures in member countries of Eurasian Economic Union (EEU). The author studied principles of indirect taxes by mutual trade in member-states of Eurasian Economic Union as well as conditions of income taxation for migrant workers. The comparative analysis of EEU tax systems on such criteria as taxation structure, rates and conditions of main taxes collection (income tax, value-added tax, personal income tax and insurance fees) is presented. The paper shows dynamics of indirect taxes income in consolidated budgets of EEU members and value of the tax burden, what demonstrates specificity of each state tax policy and ideas for reforms in this area.

The author marked the specific problems of tax harmonization in conditions of Eurasian integration, influencing on concerted tax policy on the territory of common economic space; in terms of Eurasian integration the most prospective directions for tax policy improvement, tax methodology and information interaction of tax authorities in EEU countries were offered.

**Keywords:** indirect taxes, tax system, tax policy, mutual trade, harmonization, integration, common economic space, Eurasian Economic Union.

#### References

1. State finances. Statistics of Eurasian Economic Union. Statistical bulletin – [E-resource] – Access: [http://eec.eaeunion.org/ru/act/integr\\_i\\_makroec/dep\\_stat/finstat/Documents/finstat2015.pdf](http://eec.eaeunion.org/ru/act/integr_i_makroec/dep_stat/finstat/Documents/finstat2015.pdf).
2. Agreement on Eurasian Economic Union (Astana, 2014) – [E-resource] – Access: <http://www.eaeunion.org>.
3. Zorina, R.S. (2015) Prospects for harmonization of tax legislation in EEU countries / Legislation Journal. – Vol. 7. – pp. 75–82.
4. Mambetaliyev, N. (2015) Taxes and taxation in Eurasian Economic Union / Tax policy and practice. – Vol. 1. – pp. 78–80.
5. Mambetaliyev, N. (2015) Taxation of personal income in EEU / Tax Bulletin. – Vol. 5. – pp. 86–90.
6. Order of Russian FTA No.MMV-7-15 / 140 of 08.04.2015 «On Approval of Methodic Recommendations on Information Resources Administration «EEU – Exchange» – [E-resource] – Access: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_178210/](http://www.consultant.ru/document/cons_doc_LAW_178210/).
7. Protocol on the order of indirect taxes collection and control mechanism over its payment by goods export and import, execution of works, provision of services (application No.18 to the Agreement on Eurasian Economic Union) (Astana, 2014) – [E-resource] – Access: <http://www.eaeunion.org/#about>.

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8. Agreement of 25.01.2002 «On Information Exchange between Tax and Customs Authorities of the Member States of Eurasian Economic Union» – [E-resource] – Access: <http://www.zakonprost.ru/>.

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### **DEVELOPMENT OF STATE SCIENTIFIC AND INNOVATION SYSTEM**

*The paper describes formation process of the national innovation system, and highlights its essential elements. The author points out the five main principles of future image formation and prioritizes innovative industries and technologies, reflecting modern international trends and Russian experience, in accordance with the process of algorithm constructing. Moreover the paper proves and reveals the characteristics and trends of structural changes of research and innovation process in the conditions of postindustrial economy formation and transition to post-industrial technology. The requirements for organizational and economic mechanisms are produced as a result of identified characteristic features of structural changes in research and innovation process and upcoming changes in the process structure.*

**Keywords:** *nonlinearity of innovation process, scientific technology, innovative industries, innovative products.*

#### **References**

1. Kosov, M.E. (2016) Role of innovations for sustainable development of Russian economy from past to present / Bulletin of Economic Security. – Vol. 1. – pp. 289–300.
2. Osipov, V.S. (2015) Internal threats to Russian economic security / Economy and business. – Vol. 5–2 (58–2). – pp. 176–179.
3. Osipov, V.S., Ragulina, Y.V. (2015) Economic sanctions in system of industrial policy / AKSOR Bulletin. – Vol. 1 (33). – pp. 48–55.
4. Patent activity of Russia and USA: analytical study. «Innovation development indicators of Russian economy» Series – [E-resource] – Access: [http://www.nbkg.ru/researches/patent\\_activity\\_russia\\_vs\\_usa.pdf](http://www.nbkg.ru/researches/patent_activity_russia_vs_usa.pdf).
5. Kosov, M.E., Akhmadeev, R.G. (2015) Foreign experience of tax stimulation of innovative activity / M.E. Kosov, The Ninth International Conference on Economic Sciences Proceedings of the Conference «East West» Association for Advanced Studies and Higher Education GmbH. – Vol. 1. – pp. 67–73.
6. Kosov, M.E., Akhmadeev, R.G. (2016) Offshore jurisdictions as an instrument for international tax planning / M.E. Kosov, Europäische Fachhochschule. – Vol. 4. – pp. 46–48.

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### **HUMAN CAPITAL INVESTMENT AS FACTOR OF ECONOMIC GROWTH**

*The relevance of the issue is caused by the need to review state policy on increasing the value of human capital, which should have a decisive impact on economic growth of Russia. Hence the paper's objective is assessment of state policy in the field of human capital formation. The exploration and views compilation of the leading economists in the field of human capital assessment and investments was the leading approach to the issue's study. The author considers advantages and disadvantages of investment in human capital, which is a necessary component of human capital that gives long-lasting economic effect. The state role in the sphere of investments in human capital is also analyzed. The paper offers a solution for investments growth and role of government regulation in the process. The study's results may be useful for the state professionals involved in strategic planning activities designed to increase citizens' well-being and tax payments to the budget, as well as for researchers dealing with human capital problems.*

**Keywords:** *labor, human capital, investments, financial investment, economic growth.*

#### **References**

1. Bondarenko, G.I. (2011) Human capital: major factors of its reproduction and development, Rostov-on-Don: Tera Publ. – 254 p.

2. Gvozdeva, E.S., Shtertser, T.A. (2013) Human capital as factor of Russia's development / EKO. – Vol. 7. – pp. 134–138.
3. Dosmanbetova, A.S. (2014) Human capital investments: assets or expenses? / Science and World. – Vol. 2. – Vol. 2 (6). – pp. 28–31.
4. Draganchuk, L.S. (2015) Formation and development of human capital in Russia / Problems of modern econom. – Vol. 1. – pp. 37.
5. Kuzin, D.A. (2009) Innovative component of economic growth / Bulletin of Orenburg state university. – Vol. 4 (110). – pp. 60–63.
6. Mazur, V.V. (2014) Human capital investments as factor of innovative development / Bulletin of Plekhanov Russian Academy of Economics. Introduction. Way to science. – Vol. 3–4. – pp. 31–36.
7. Novikova, V.F. (2014) Human capital investments in Russia as factor of social and economic development of the country / Modern technologies of management. – Vol. 2 (38). – pp. 24–28.
8. Chaushyan, N.A., Martakova, K.A. (2014) Human capital investments – factor of regional economic development / Economy and society. – Vol. 4–5 (13). – pp. 224–227.
9. Chistyakov, Yu.R. (2014) Forming of intellectual capital in modern economy of Russia. Thesis, Moscow. – 112 p.
10. Chuchulina, E.V. (2014) Human capital as factor of social and economic development of a region, Bulletin of Perm state university. Series: Economy. – Vol. 1. – pp. 52–57.
11. Heckman, James J. (2012) Skill Formation and the Economics of Investing in Disadvantaged Children / James J. Heckman // Science. – Vol. 312. – pp. 1900–1902.

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#### **METHODOLOGICAL FOUNDATIONS OF ENTERPRISE INNOVATIVE DEVELOPMENT**

*The goal of research process – is clarification of events and processes, expressed in the form of concepts, principles, factors, methods, patterns and laws. Therefore, it is important to understand characteristics of concepts, characteristics, factors and indicators of innovative development at the beginning of innovation process' research.*

*Innovation is the main driving force of economic growth. There are different approaches to «innovation» definition. The authors consider that innovation, as an economic category represents economic relations arising between enterprises, citizens, financial institutions, regions and countries regarding creation and use of new technologies and new products.*

*The set of processes associated with development and implementation of innovations into practice is called innovation process, which consists of several stages. It is also important to determine the most important features of innovative activity, consisting of scientific, organizational, technological, commercial and financial activities. The important part of innovative activity is an innovative company. One of indicators for innovative activity efficiency of an enterprise is the value of business. Generally companies use following methods for innovations implementation: forced method, method of adaptive deviations, crisis management, and resistance control. Exogenous and endogenous factors influence on innovative development of enterprise. A combination of innovative development factors forms innovative potential of enterprise. The authors define innovation potential of an enterprise as available resources of enterprise, organizational structures, technologies and mechanisms of innovative activity. Innovative development is an economic process, containing all enterprise areas and ensuring creation of new products, services, technologies. The algorithm of enterprise innovative development involves resources concentration, ideas generating and their implementation into production of new goods and services, market achievement, profit receiving and its distribution. Three main types of enterprise innovation development are allocated in the modern period: product, technological and social. There are three models of innovation process organization: innovation development on the basis of external organization through contracts; on the basis of internal organization; on the basis of external organization with use of venture capital financing. The efficiency of enterprise innovative development is determined depending on interrelationship between effects and costs. The effect of innovative development is defined as technical, resource, economic and social impact. Thus, the authors study methodological bases of enterprise innovative development in the form of concepts, features, entities, objects, organizational structures, processes, factors, conditions and results of innovative development*

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*of the enterprise. The presented methodological foundations of innovative development show results of initial phase of enterprise innovation development study. It's basis for further deeper research of innovative development process.*

**Keywords:** *innovation, innovative process, innovative activity, methods of implementation, factors, efficiency.*

#### **References**

1. Valdaytsev, S.V. (2001) Anti-crisis management on the basis of innovation / St. Petersburg University Publ. – 232 p.
2. Drucker, P. Business and innovations (2007), Moscow: «Williams» Publ. – 432 p.
3. Kass, M.E. (2011) Formation of strategy for enterprise innovative development on the basis of intangible assets management, N. Novgorod: NNGASU Publ. – 159 p.
4. Kuzyk, B.N., Yakovets, Yu.V. (2005) Russia – 2050: strategy of innovative break, Moscow: Publishing house «Economy». – 624 p.
5. Lapaev, S.P. (2012) Innovation priorities of Orenburg region economic development / Economic science. – Vol. 2 (87). – pp. 85–89.
6. Lapaev, S.P. (2011) Sectoral specificity of innovative development in Orenburg region / Bulletin of Orenburg State University. – № 5. – pp. 53–58.
7. Lapaev, S.P. (2014) Management of regional innovation system development: monograph, Orenburg: University Publ. – 474 p.
8. Medynskiy, V.G. (2005) Innovation management: textbook, Moscow: INFRA – M Publ. – pp. 5–53.
9. Tviss, B. (1989) Management of scientific and technical innovations: textbook, Moscow: Economics. – 271 p.
10. Schumpeter, J. (2007) Theory of economic development: textbook, Moscow: EKSMO Publ. – 58 p.

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#### **MODERN MARKET MODEL OF INTELLECTUAL CAPITAL**

The paper discusses different views on the concept and essence of intellectual capital. Three approaches to intellectual capital definition – complex, resource-cost and effective were highlighted on the basis of existing definitions analysis. Based on these concepts, the author interprets this category from the perspective of triune approach, what has allowed determining market essence of intellectual capital. The author concretizes the buy-sell objects on the market of intellectual capital. The article defines social and economic conditions forming intellectual capital market in Russia. Considering all these, the author proposed a model of intellectual capital market, consisting of elements forming forward and feed-back connections with each other; it provides information transparency and awareness of all market participants about processes occurring in the market, as well as effective functioning of intellectual capital market.

**Keywords:** market, intellectual capital, market of intellectual capital, model of intellectual capital market, knowledge market, innovation market, investment market, intellectual property market, infrastructure.

#### **References**

1. Bruking, E. (2001) Intellectual capital: key to success in new millennium, Sankt-Petersburg. – 288 p.
2. Valinurova, L.S., Iskhakova, E.I., Mazur, N.Z., Kuzminykh, N.A. (2014) Principles and conditions for operating and development of intellectual property market / Innovation and investment. – Vol. 12. – 220 p.
3. Galbraith, J.K. (2008) New industrial society, Moscow: Eksmo Publ. – 1198 p.
4. Inozemtsev, V.L. (1998) Beyond economic society, Moscow: «Academia» Publ. – 640 p.
5. Kazakova, O.B., Iskhakova, E.I., Kuzminykh, N.A. (2014) Intellectual capital: concept, essence, structure / Economics and management: scientific and practical journal. – Vol. 5 (121). – pp. 68–72.
6. Kovylin, D.M. (2011) Essence and structure of intellectual capital / Creative economy. – Vol. 5 (53). – pp. 26–33.
7. Kolomina, O.B. (2014) Approaches to definition of intellectual capital and its essence – [E-resource] / Economy: fundamentals of time. – Vol. 6 (16). – pp. 206–210. – Access: <http://economics.opu.ua/files/archive/2014/n6.html>.
8. Leontev, B.B. (2002) Price of intellect. Intellectual capital in Russian business, Moscow: Publishing center «Shareholder». – 200 p.
9. Mashkina, D.I. (2016) Market of intellectual capital: structure, problems, principles / Innovations and Investments. – № 7. – pp. 12–17.

10. Pronina, I.V. (2008) Intellectual capital: nature, structure, functions [E-resource] / Analytics of cultural science: electronic scientific edition. – Vol. 2 (11). – Access: [http://www.analiculturolog.ru/journal/archive/item/487-article\\_20-3.html](http://www.analiculturolog.ru/journal/archive/item/487-article_20-3.html).
11. Salikhov, B.V. (2009) Intellectual capital of organization: nature, structure and management foundations, Moscow: Dashkov and Co Publ. – 156 p.
12. Serdyukova, L.O. (2012) Analysis and assessment of intellectual capital in the context of Russian innovative development / Intelligence. Innovation. Investments. – Vol. 4. – pp. 75–82.
13. Stewart, T.A. (2007) Intellectual capital. New source of organizations wealth, Moscow: Pokolenie Publ. – p. 12.
14. Taylor, K. (2001) Intellectual capital – [E-resource] / Computerworld, Vol. 13. – p. 13. – Access: <http://www.osp.ru/cw/2001/13/39818>.
15. Federal State Statistics Service. Official site: <http://www.gks.ru>.
16. Fleksner, K. (1994) Enlightened society. Economics with human face, Moscow: International relations. – 301 p.
17. Edvinsson, L., Malone, M.S. (1997) Intellectual capital: realizing your company's true value by finding its hidden brainpower, NY: Harper Business. – 240 p.
18. Sveiby, K.E. (1987) Managing Know-how: Add Value by Valuing Creativity / K.E. Sveiby, T. Lloyd, London: Bloomsbury. – 35 p.

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#### ON INTERNATIONAL COOPERATION IN DEVELOPMENT, IMPLEMENTATION AND OPERATION OF HIGH-TECH INNOVATIVE PRODUCTS

*The production of high-tech innovative product in the domestic aircraft industry, subject to state modernization, allows us to ensure innovativeness and competitiveness over the entire period of operation. Evidence of this fact can serve the Russian helicopter industry, regularly engaged in modernization of helicopters Mil and Kamov families. This approach gives a possibility to perform a large amount of work on developing international cooperation in the engineering and operation of aircrafts. Russian helicopters are in demand in the global market - BRICS countries, Africa and the Middle East purchase it regularly. Collaboration with China is developing not only in the field of manufacturing innovative products for the helicopter industry, but also in joint design, followed by organization of producing heavy transport helicopter (AHL). The disadvantage is that the production of super-heavy helicopter of new generation will be organized only in China, not in Russia. The condition for strengthening of the international cooperation in the aircraft industry is development of after-sales service for aircraft. International cooperation in development, implementation and operation of high-tech helicopters has a positive effect on increasing volumes of armaments export. The airline company «Helicopters of Russia» has took the 23rd place among defense complexes in the world, and the United Aircraft Corporation – the 14th place. International cooperation of Russia is also developing in the field of aircraft building. Two-thirds of domestic supply of aviation equipment account for India and China. Demand on the world market has front-line bombers and fighters. But possibilities of international cooperation can develop only if our country will not lose full control over the «Helicopters of Russia» company. Such a deplorable experience we already have in civil aircraft industry. It is also important to take measures to replace the imported parts of aircraft what will reduce costs.*

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*A balanced approach to the organization of international cooperation in development, implementation and operation of high-tech aviation products will improve the competitiveness of domestic aircraft building.*

**Keywords:** *high-tech product innovation, aircraft engineering, international cooperation, competitiveness of aviation, innovation.*

### **References**

1. Amirjanyan, M. (2016) Three fire-fighting helicopters go to China / News.
2. Avicopter revealed the advanced features of Russian-Chinese helicopter / Aviainform. – 2015. – Vol. 10 (139). – pp. 32–33.
3. Bozhyeva, O. (2015) Broken wings of the Motherland / Moskovskiy Komsomolets.
4. «Helicopters of Russia» will release up to eight heavy-lift helicopters Mi-26 including for export in 2015 / Aviainform. – 2015. – Vol. 4 (133). – pp. 19–20.
5. Veretennikov, K. Flavourful, Iran / Our version. – Vol. 5 (530). – 8 p.
6. Gruzinskaya, I. Landing over the hill / Our version. – Vol. 8 (533). – pp. 9–10.
7. Cityjet will pass the first SSJ 100 in wet leasing / Aviainform. – 2015. – Vol. 12 (141). – pp. 107–108.
8. Cityjet will pass the first SSJ 100 in wet leasing / Aviainform. – 2015. – Vol. 12 (141). – pp. 116.
9. India approved the purchase of 48 Russian helicopters Mi-17i5 / Aviainform. – 2015. – Vol. 10 (139). – pp. 181–182.
10. Kokorin, S. Treason or idiocy? / Our version. – № 10 (535). – pp. 12–13.
11. Winged thousand / Argumenty Nedeli. – Vol. 6 (497).
12. Leonov, V. Aviation industry – an oppressive silence / Argumenty Nedeli. – Vol. 7 (498). – 4 p.
13. Leonov, V. Chemezov has decided to give our helicopters to Mubadala / Argumenty Nedeli. – № 11 (502). – pp. 8–9.
14. Leonov, V. (2016) Where the future airplanes will appear / Argumenty Nedeli.
15. Litovkin, D. Indonesia will get su-35 until 2018 / News.
16. Litovkin, D. Fighters export will bring more than 10 billion US dollars / News.
17. Rostec and India will discuss joint development of a light helicopter / Aviainform. – 2015. – Vol. 8 (137). – 42 p.
18. Russian helicopters of special purpose enter the PRC market / Aviainform. – 2015. – Vol. 11 (140). – pp. 28–29.
19. Russia will complete delivery of helicopters Mi-26T2 for Algeria till the year 2017 / Aviainform. – 2015. – Vol. 1 (141). – p. 165
20. Russia will complete delivery of helicopters Mi-26T2 for Algeria till the year 2017 / Aviainform. – 2015. – Vol. 1 (141). – pp. 152–153.
21. Russia is upgrading the Ka-28 of the Indian Navy / Aviainform. – 2015. – Vol. 5 (134). – 47 p.
22. Landed above the clouds - Red star, 04.11.2015.
23. Demand at the helicopter market will be stable / Aviainform. – 2015. – Vol. 4 (133). – pp. 66–68.
24. Hazarenok, M. Mi helicopters and the Himalayas are made for each other / Aviainform. – 2015. – Vol. 4 (133). – p. 57
25. Hozbiev, A. We need to bring the project to pay-back / Expert. – Vol. 50 (968). – pp. 32–35.
26. Holding «Helicopters of Russia» has presented a new generation of helicopter Mi-171A2 for Vice Premiers of Russia and China / Aviainform. – 2015. – Vol. 11 (140). – 27 p.

---

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### **CURRENT STATE OF RUSSIAN LOGISTICS: PROBLEMS AND SOLUTIONS**

*The paper is devoted to the issues of Russian logistics in terms of economic crisis. The author discovers theoretical aspects of «logistics» concept exploring various authors opinion, defines the historical features of logistics development as well as reasons of Russian logistics' fragility compared to foreign countries. The data on logistics efficiency in comparison with other states are presented in the study. The author has identified constraints of national logistics development - lack of investment for projects support, immature transport-warehouse infrastructure, regulatory barriers, and lack of modern and radically innovative solutions that largely determines the efficiency of logistics sphere.*

*According to the study's results, the author presented a forecast for the affect of the economic crisis and its severity for Russian logistics. Considering the current issues, the future directions of Russian logistics in the current economic conditions are suggested at different management levels.*

**Keywords:** *economy, economic crisis, logistics, logistics performance index (LPI).*



## References

1. Volkov, M., Dunaev, O., Ezhov, D. (2014) Logistics in Russia: New Potential Path for 2014. Joint report by The Boston Consulting Group and Committee on logistics of Russian Chamber of Commerce and Industry. – 40 p.
2. Gasparyan, V. SWOTT analysis of logistics industry in Russia according to «Deloitte» company – [E-resource] – Available at: <http://www2.deloitte.com/content/dam/Deloitte/ru/Documents/consumer-business/russian/ru-swot-of-russian-logistics-2015.pdf>.
3. Dementev, A.V. (2013) Contract logistics: monograph, St. Petersburg: Knizhniy Dom Publ. – 146 p.
4. Zhmaylo, A.F. (2013) Evaluation of investment projects in logistics system «Optimization of organization's (department's) resources connected with material and immaterial flows», St. Petersburg. – 256 p.
5. Kalenteev, S.V. (2012) Major barriers for logistics centers development in Russian, Contemporary study of social problems (E-journal). – Vol. 1 (09). – pp. 51–53.
6. Kurganov, B.M. (2014) Methodological problems of defining international ranking for logistics efficiency, Bulletin of Tver State University «Economics and management». – Vol. 4. – Vol. 2. – pp. 351–358.
7. Nerush, Y.M., Nerush, A.Y. (2015) Logistics. Workshop. Handbook for academic bachelor program, Moscow: Publishing House of Harvard Business Press. – 221 p.
8. The joint report by The Boston Consulting Group and the Committee on the logistics of the Russian Chamber of Commerce. Logistics in Russia: new potential paths. – April 2014. – Vol. 6 (2014).
9. Tashbaev, Y. Logistics in Russia: trends and challenges – [E-resource] – Available at: <http://www.galaxylogistics.ru/analitika/logistika-v-rossii-tendentsii-i-zadachi.html>.
10. Tyapukhin, A.P. (2015) Logistics: Study-book for Bachelors, Moscow: Urait Publishing. – 568 p.
11. Fedotenkov, D.G. (2014) Innovative logistics as one of the keys for economic development, Young Scientist. – Vol. 4. – pp. 623–627.
12. Fedorov, L.S., Persianov, V.A., Mukhametdinov, I.B. (2015) General Course of Transport Logistics, Moscow: KNORUS Publ. – 310 p.
13. Logistics Efficiency by Methodology of World Bank – [E-resource] – Available at: <http://www.baif.by/stati/effektivnost-logistiki>.
14. Drucker, P.F. (1989) The New Realities, N.Y.: Harper & Row. – 289 p.
15. Langley, C.J. (1979) The Evolution of the Logistics Concept / Journal of Business Logistics. – Vol. 7. – No. 2.

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#### DEVELOPMENT OF STATE SALARY ADJUSTMENT SYSTEM IN FOREIGN COUNTRIES

*The topic relevance may be described by necessity of studying historical aspects of state salary adjustment system in foreign countries in order to identify its development patterns. The paper aims to explore the theoretical and practical formation aspects of state salary adjustment system in foreign countries.*

*Analysis and synthesis of the evolutionary path of formation, development and modernization of methodology for state salary adjustment are the leading methods in the study. It reveals consistency and regularity of the methodology for state salary adjustment system.*

*The author systematized and highlighted the steps in development of state salary adjustment: appearance of base institutions for salary regulation; development of basic tools for salary adjustment; formation of a complete system for state salary adjustment; ubiquitousness and modernization of state salary adjustment system. In line with substantial characteristic of each stage the paper carries out a causal analysis of the prerequisites for modern system of state salary regulation in foreign countries. The main features of state salary adjustment system in foreign countries are formulated.*

*The paper results may be useful for the study of formation genesis of state salary adjustment system in modernization of this sector in Russian Federation.*

**Keywords:** state regulation, salary, state salary adjustment, tools for state salary adjustment.

## References

1. Vishnevskaya, N.T. (2005) Institute of minimum salary in OECD countries, HSE Publ., Moscow. – 47 p.
2. Myslyayeva, I.N. (1998) Modern ideology and practice of social partnership – [E-resource] – Moscow. – Available at: <http://www.syndikalist.narod.ru/sopar2.htm>.
3. Roik, V.D. (2007) Respectable salary and pension: national and foreign experience / Man and work. – Vol. 7. – pp. 34–38.

---

4. Roik, V.D. (2006) Social model of the state: European experience and choice of modern Russia / Analytical bulletin. – Vol. 6. – pp. 54–80.

5. (2002) Charter of International Labour Organization and Regulations of the International Labor Conference. International Labor Office – [E-resource] – Geneva. – Available at: [http://www.ilo.org/public/russian/region/eurpro/moscow/info/publ/ilo\\_regulations.pdf](http://www.ilo.org/public/russian/region/eurpro/moscow/info/publ/ilo_regulations.pdf).

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**SOME ISSUES OF BUSINESS APPRAISAL**

*The paper shows the necessity for business appraisal in the investment format. The process of business appraisal as obligatory stage in development of any company is considered as well as an investment format of business evaluation in cases of mergers and takeovers is presented. Analysis of modern approaches to business appraisal is conducted. The forms of doing business and issues of comprehensive assessment for large industrial companies and holdings are discussed.*

*On that basis the authors make the following conclusions: first, high quality business evaluation lies in the plane of understanding the value of investment format; second, investment activity is determined by objective assessment of the company; third, only employees of the company, professionally dealing with its assets, may give an objective assessment of the company value in unfavorable macroeconomic situation.*

**Keywords:** business appraisal, financial mechanism, investment value, investment format.

**References**

1. Vladimirova, I.G. Mergers and acquisitions – [E-resource] – Access: <http://www.cfin.ru/press/management/1999-1/03.shtml>.

2. Kryzhanovsky, V.G. (1998) Company Restructuring: lecture notes, Moscow: Publishing house PRIOR. – 48 p.

3. Kunle, M. JSFC «Sistema» bought the largest greenhouse complex in Russia – [E-resource] – Access: <http://www.vedomosti.ru/business/articles/2016/01/15/624227-afk-sistema>.

4. Chelpanova, M. Leadership in rail transport sector of JSFC «Sistema» will cost \$ 6 billion – [E-resource] – Access: [http://www.vedomosti.ru/business/articles/2012/11/28/milliardy\\_na\\_vagony](http://www.vedomosti.ru/business/articles/2012/11/28/milliardy_na_vagony).

5. Samoshkina, M.V. (2016) Development features of Russian market of mergers and acquisitions / Problems of regional economy. – Vol. 1 (6). – pp. 24–31.

6. Chernenko, V.A., Rumyantseva, T.V. (2016) Some issues related to finances of state corporations / Proceedings of the VI International Scientific and Practical Conference «Strategies and Tools of Economic Management: Industrial and Regional Dimension», St. Petersburg: ITMO University Publ. – pp. 146–150.

7. Chernenko, V.A., Bocharov, V.V., Rumyantseva, T.V. (2016) Management Theory: textbook for bachelors, St. Petersburg: Nestor Istoriya Publ. – 304 p.

8. Chernenko, V.A., Fedorov, K.I. (2016) Financial management: textbook, St. Petersburg: Nestor Istoriya Publ. – 544 p.

9. Chernenko, V.A., Bocharov, V.V. (2016) Business Cost Management, St. Petersburg: Nestor Istoriya Publ. – pp. 31–36.

10. Chernenko, V.A., Rumyantseva, T.V. (2016) Financial aspect of state corporations / Proceedings of the VIII International Scientific and Practical Conference «Theory and Practice of Economics and Business», Simferopol. – pp. 58–61.

11. Caroline Humer & Ransdell Pierson. Obama's inversion curbs kill Pfizer's \$ 160 billion Allergan deal – [E-resource] – Access: <http://www.reuters.com/article/us-allergan-m-a-pfizer-idUSKCN0X21NVReuters>.

12. Energy Consulting in media – [E-resource] – Access: <http://www.ec-group.ru/press/press/detail.php?ID=498>.

13. Pfizer and Allergan agreed to merge – [E-resource] – Access: <https://www.vedomosti.ru/business/news/2015/11/23/617951-pfizer-allergan>.

14. Wikipedia – [E-resource] – Access: [ru.wikipedia.org](http://ru.wikipedia.org).

15. JSFC Sistema – Homepage – [E-resource] – Access: <http://www.sistema.ru/domashnjaja-stranica>.

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**FORMATION OF SARTRE'S PHENOMENOLOGY AND WAY TO «NOTHINGNESS» IN SARTRE'S «TRANSCENDENCE OF THE EGO»**

*In this article the author examines «The Transcendence of the Ego» – an essay written by Jean-Paul Sartre in 1934. The performed analysis indicates that Sartre's main ideas will be further developed in his work «Being and Nothingness». Sartre rejects theory of «Formal Presence of the I» which, in his opinion, prevents development of phenomenology and leads to fallacy. The problem of unreflected consciousness became Sartre's main idea – his future works are based on it. The paper discusses ways used by Sartre to introduce various concepts forming the semantic field in which his ideas develop further. The problem of «ego» was not a random choice by Sartre; critical analysis of the noted problem allows him to overcome solipsism and subjectivism. However, Sartre first had to overcome the prevailing notion of «Consciousness», «I», and «Ego». The criticism of the «Ego» has become a foundation for developing the concept «Nothingness» and Sartre's seminal work «Being and Nothingness».*

**Keywords:** Sartre, Husserl, phenomenology, nothingness, ego.

**References**

1. Gaydamaka, V.P., (2008) Preface / Sartre, Jean-Paul. Problems of Method. Articles. – Moscow: Academic Project. – pp. 5–6.
2. Husserl, E. (2010) Cartesian Meditations, Moscow: Acad. Project. – 229 p.
3. Kolyadko, V.I., (2012) Preface. // Sartre Jean-Paul. Being and Nothingness: An Essay on Phenomenological Ontology, Moscow: AST Astrel Publ. – pp. 5–28.
4. Cormann, Grégory (2006) Writing and Working on Oneself According to Sartre: From Gide to Existential Psychoanalysis / Sartre in Present: Autobiographical Motifs in Literature, Philosophy and Politics: Proceedings of the International Conference in St. Petersburg, 2005, St. Petersburg. University Press. – pp. 69–90.
5. Magun, A.V., (2006) To the problem of Nothingness in Works of Heidegger and Sartre. / Sartre in Present: Autobiographical Motifs in Literature, Philosophy and Politics: Proceedings of the International Conference in St. Petersburg, 2005, St. Petersburg. University Press. – pp. 124–133.
6. Nudelman, F., (2006) Is Sartre the Author of His Time? / Sartre in Present: Autobiographical Motifs in Literature, Philosophy and Politics: Proceedings of the International Conference in St. Petersburg, 2005, St. Petersburg. University Press. – pp. 54–68.
7. Sartre, Jean-Paul (2001) The Imaginary: A Phenomenological Psychology of the Imagination, SPb: Science Publ. – 319 p.
8. Sartre, Jean-Paul (2008) Cartesian Freedom / Sartre, Jean-Paul. Problems of Method. Articles, Moscow: Academic Project. – pp. 197–218.
9. Sartre, Jean-Paul (2008) The Fundamental Principle of Husserl's Phenomenology: Intentionality / Sartre, Jean-Paul. Problems of Method. Articles, Moscow: Academic Project. – pp. 177–180.
10. Sartre, Jean-Paul (2008) Problems of Method. Articles. Moscow: Academic Project. – 222 p.
11. Sartre, Jean-Paul (1994) Nausea, Moscow: Republic Publ. – 496 p.
12. Sartre, Jean-Paul (2012) Being and Nothingness: An Essay on Phenomenological Ontology, Moscow: AST Astrel Publ. – 925 p.
13. Sartre, Jean-Paul (2011) Transcendence of the Ego: Sketch of Phenomenological Description, Moscow: Modern. – 160 p.
14. Heidegger, Martin. (1995) Wilhelm Dilthey's Research and the Struggle for a Historical Worldview. Ten Kassel's Lectures (1925) / Two Texts on Wilhelm Dilthey, Moscow. – pp. 139–201.
15. Heidegger, Martin (2007) What is Metaphysics? Moscow: Academic Project. – 303 p.
16. Shergeng, N.A. (2005) Jean-Paul Sartre: Solution of the Issue for Transcendental Subject / Fundamental Research. Publishing House «The Academy of Natural Sciences». – Vol. 10. – p. 103.

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**FACTORS OF RELIGIOUS CONSCIOUSNESS TRANSFORMATION IN POST-SOVIET SOCIETY: FROM ATHEISM TO RELIGIOUS PLURALISM**

*The collapse of USSR and atheistic ideology as well as mental vacuum of post-soviet period has brought the*

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population to self-identity search. Due to economic, political, social and cultural changes, revival of religious consciousness can be observed at the present stage of society development. The paper considers reasons for the transformation of religious consciousness, for instance religious discredit in USSR and lack of religious or theological education for several generations of Soviet citizens. The author highlights factors for transformation of religious consciousness, namely – renewed interest in paganism, revival of traditional religions, missionary activity of foreign religious organizations, emergence and spread of new religious movements, globalization and intense IT growth as well as changes in the state religious policy.

**Keywords:** religious consciousness, transformation, crisis of self-identification, social problems, state religious policy, post-ideological society, religious pluralism.

#### References

1. (2003) Religious policy of Russian Federation, RANEPА Publishing house. – pp. 60–61.
2. Gavrilentov, A.F. (2008) Transformation of religious consciousness under the conditions of globalization/ Bulletin of Nizhny Novgorod University named after Lobachevski, Social Sciences. – Vol. 1 (9). – pp. 34–38.
3. Dorofeev, V.I., Dorofeeva, E.S. (2007) Power and religion in Soviet and modern Russia / Bulletin of Saratov University. Sociology. Political science. –Vol. 2. – pp. 141–147.
4. Medvedko, S.V., Elbakyan, E.S. (2002) On religious situation in modern Russia / Religious studies. – Vol. 2. – pp. 104–109.
5. Pozdyaeva, S.M. (2000) Influence of religious values on mentality of the West and East / Religion and value dimensions. Collection of papers, Ufa: Bashkir State University. – pp. 14–23.
6. Presidential Address to Russian Federal Assembly – [E-resource] – Access: <http://kremlin.ru/events/president/transcripts/messages/50864.html>.
7. Federal Law N 273-FL of 29.12.2012 (revised 13.07.2015) On education in Russian Federation. Article 87 – [E-resource] – Access: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_140174/0de7845187501423002e9572e4903056b41b3f7f.html](http://www.consultant.ru/document/cons_doc_LAW_140174/0de7845187501423002e9572e4903056b41b3f7f.html).
8. Number of religious organizations registered in Russian Federation, on 1 January 2015 – [E-resource] – Access: [http://www.gks.ru/wps/wcm/connect/rosstat\\_main/rosstat/ru/statistics/state/#.html](http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/state/#.html).

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#### IMAGINATION AND OBVIOUSNESS PROBLEM IN ONTOLOGY OF THE XX CENTURY

*The paper is dedicated to critical analysis of phenomenological and existential-hermeneutical bases of non-classical ontology as an attempt to tell such Word about Real, which on the one hand separates from an ideal of classical rationalism and, on the other applies for authenticity of its own form. In the ontology of XX century, imagination is put forward as the basis of such statement. The author presents assessment of consciousness phenomenology as immanent time from the side of evidence limits identification for such “words about real”. It is noticed that phenomenology is one of the greatest and the most authoritative ideas among philosophy trends of the 20th century, keeping its dominating positions even today. The transcendental approach to imagination as ontological strategy of consciousness is analyzed as well.*

**Keywords:** imagination; experience of consciousness; self-consciousness; evidence; being; Kant; Husserl; Heidegger; N. Hartmann; phenomenology of time; reference of philosophical consciousness.

#### References

1. Hartmann, N. (2003) Fundamental principle of ontology, Sankt-Petersburg: Nauka Publ. – 640 p.
2. Husserl, (2009) Ideas about pure phenomenology and phenomenological philosophy, Moscow: Akademicheskii Proekt. – 489 p.
3. Derrida, J. (2007) Letter and Difference, Moscow: Akademicheskii proekt. – 495 p.
4. Kant, I. (1966) On imagination / Anthropology from a pragmatic point of view, Moscow: Mysl' Publ. – pp. 402–410.
5. Molchanov, V.I. (2007) Research on phenomenology of consciousness, Moscow: Publishing house «Territory of Future». – 456 p.
6. Molchanov, V.I. (2004) Distinction and experience: phenomenology of nonaggressive consciousness, Moscow: Modest Kolerov i Tri kvadrata. – 328 p.
7. Plato, Timaeus / Moscow: Mysl' Publ. – 654 p.
8. Rikoeur, P. (1998) Time and narrative. Vol. 1. Intrigue and historical story / Moscow: University Book. – 313 p.
9. Sartr, J-P (2000) Being and Nothingness: Experience of phenomenological ontology, Moscow: Respublika Publ. – 639 p.
10. Sartr, J-P (2001) Imaginary. Phenomenological psychology of perception, Sankt-Petersburg: Nauka Publ. – 319 p.

11. Trubetskoy, E.N. (1917) *Metaphysical assumptions of knowledge. Experience of overcoming Kant and Kantianism* / Moscow: «Russkaya pechatnya» printing house. – 336 p.
12. Fichte, J (1995) *Basis of general knowledge science / Works 1792 – 1801* / Moscow: Ladomir Publ. – 656 p.
13. Frank, S.L. (1917) *Soul of a man. Experience of philosophical psychology introduction*. Moscow: G. A. Leman and S. M. Sakharov Publ. – 253 p.
14. Heidegger, M. (1993) *Kant's thesis about being / Time and Being* / Moscow: Respublika Publ. – 447 p.
15. Schelling, F. (1966) *Philosophy of art*, Moscow: Mysl' Publ. – 496 p.

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### CHARACTERS OF VIOLENCE IN ROCK MUSIC

*This paper discussed interrelationship of «rock-culture» and «violence» concepts. The author describes four characters of violence represented in modern rock music: rational positive, rational negative, emotional negative and irrational fatalistic. It is shown that irrational fatalistic image of violence dominates. The point is how to rationalize and modify this character. The author concluded that there is no possibility to select the common concepts for modern rock culture in general and it is necessary to research the world view of rock musician as a creator of rock culture for understanding of internal processes.*

**Keywords:** rock culture, rock music, character of violence, art, rock aesthetic, world view.

#### References

1. Bernshtein, M.I. «Wild wood» again – [E-resource] – Access: <http://www.papmambook.ru/contests/essays/14/501>.
2. Bokarev, V.V. Phenomenon of «The Beatles» in Information and Propaganda Policy of Soviet Union (1964-1970) – [E-resource] – Access: <http://cyberleninka.ru/article/n/fenomen-bitlz-v-informatsionno-propagandistskoy-politike-sovetskogo-gosudarstva-1964-1970-gg>.
3. «David Bowie created the open Internet-Radio for little children» – [E-resource] – Access: <http://lenta.ru/culture/2001/07/16/bowiekidnet>.
4. «David Bowie and «Radiohead» wrote an open letter to the world leaders» – [E-resource] – Access: <http://lenta.ru/news/2015/11/27/climate>.
5. Kwiatkowski, G.Yu. (2003) *Rock Culture as an object for social analysis*, UralSUPE, Chelyabinsk.
6. Kwiatkowski, G.Yu. (2015), *Functionality of Post-Modern Eclecticism in Modern Rock Culture / Art Studies: theory, history, practice*. – Vol. 2(12). – p. 113–119.
7. Kim, S.Yu. (2009) *Realization of «violence» concept in song-discourse (based on «Rammstein» rock songs)*, Bulletin of Chelyabinsk State University. – Vol. 27 (165) – Philology. Study of Art. – Vol. 34. – pp. 49–51.
8. Kisser, A. «Sepultura» of Andreas Kisser: «We Don't Try to Create Clones» – Interview – [E-resource] – Access: <http://timetorock.ru/news/sepultura-kisser-no-clones>.
9. Kumichev, I.V., Gilmanov, V.Kh. (2013) *Rock Art and Dionysism*, Bulletin of Baltic Federal University named after I. Kant. – Vol. 8. – p. 88.
10. Lurye, V.M. *Death and Suicide as Fundamental Conceptions of Russian Rock Culture* – [E-resource] – Access: <http://old.russ.ru/culture/20010529-pr.html>.
11. *Moral Standards of Rock-Club Members* – [E-resource] – Access: <http://www.rkclin.ru/pravila.html>.
12. Nikitina, O.E. *Dominants of Rock Star Character in Russian Rock Culture* – [E-resource] – Access: <http://cyberleninka.ru/article/n/dominanty-obraza-rok-geroya-v-russkoy-rok-kulture>.
13. Steinholt, Y., Gololobov, I. *Dance for the Dead? Institutionalization of Russian Rock in the age of «United Russia»* – [E-resource] – Access: <http://cyberleninka.ru/article/n/tanets-dlya-myortvyh-institutsionalizatsiya-russkogo-roka-v-epohu-edinoy-rossii>.
14. Khokhlova, S.N. *De-ideologization of «rock culture» concept in media texts addressed to musicians* – [E-resource] – Access: <http://cyberleninka.ru/article/n/deideologizatsiya-kontseptov-rov-v-mediatekstah-adresovannyh-muzykantam>.
15. Chernobrov, A.A., Lisitsa, I.B. *Evolution of Youth Musical Subculture. English Rock Music of the 60-70th and its linguo-cultural and social-psychological aspects* – [E-resource] – Access: <http://cyberleninka.ru/article/n/evolyutsiya-molodezhnoy-muzykalnoy-subkultury-angliyskaya-rov-muzyka-60-70-h-gg-xx-v-i-ee-lingvokulturologicheskie-i-sotsialno/>.
16. Mastalir, L. *Frank Zappa's Connections to Prague* – [E-resource] – Access: <http://www.radio.cz/en/section/curaffrs/frank-zappas-connections-to-prague>.

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### **NARRATIVE READING OF HISTORY: RETROSPECTIVE AND PERSPECTIVE**

*The paper analyses consequences of «Narrative turn» occurred in humanities and social sciences, as well as the meaning of narrative concept in designing of social reality, particularly historical reality. Analyzing the narratology works, the author considers main narrative presumptions and defines adequacy of its application to historical science. He disclosed positive moments of «Narrative turn» in historical science connected with «liveliness» of history through address to direct participants of events and legitimacy recognition of various perspectives in historical vision; but also he opened negative prospects of events simulation through «re-composition» of event stories, induction of historical anomy as poly-axiological relation to historical events. As a result the author comes to conclusion that narrative reading of historical events promotes discredit of history as the science, loss of its referential obligations in relation to the present and the future.*

**Keywords:** postmodern, narrative, narrative turn, F.R. Ankersmith, historical narratives.

#### **References**

1. Ankersmith, F.R. (2006) Study of history as political problem / Questions of education. – Vol. 4. – pp. 32–38.
2. Ankersmith, F.R. (2003) History and tropology: rise and fall of the one metaphor / Moscow: Progress-Tradition Publ. – 496 p.
3. Barthes, R. (2000) Mythologies, Moscow. – 320 p.
4. Brockmeier, J., Harre, R. (2000) Narrative: problems and promise of one alternative paradigm / Questions of Philosophy. – Vol. 3. – pp. 29–42.
5. Brockmeier, J., Harre, R. (1998) Narrative schemes and cultural meanings of time / Socio-cultural context of science, Moscow. – pp. 119–139.
6. Lehtsier, V.L. (2013) Narrative turn and relevance of narrative mind. / International Journal of Culture Research. – Vol. 1. – pp. 5–8.
7. Gritsanov, A.A., Mozheyko, M.A. (2001) Postmodernism. Encyclopedia, Minsk. – 1040 p.
8. Thompson, P. (2003) Voice of the past: Oral history, Moscow: Ves' Mir Publ. – 368 p.
9. Trotsuk, I.V. (2006) Theory and practice of narrative analysis in sociology/ Moscow: Unikum Center Publ. – 207 p.
10. Tyupa, V.I. (2001) Narratology as analytics of narrative discourse, Tver. – 58 p.
11. Combs J., Freedman, J. (2001) Designing of other realities. Stories as therapy, Moscow: Klass Publ. – 230 p.
12. Baudrillard, J. (1981) Simulacres et simulation./ J. Baudrillard, Paris: Editions Galilee. – 516 p.
13. Bruner, J. (1987) Life as Narrative. Social Research / J. Bruner. – Vol. 54. – pp. 11–32.
14. Casey, K. (1996) The new narrative research in education. / K. Casey. Review of research in education. – Washington. D.C.: American Educational Research Association. – pp. 211–253.
15. Kreiswirth, M. (1992) Trusting the Tale: the Narrativist Turning the Human Sciences. / M. Kreiswirth // New Literary History. – Vol.23. – Vol. 3. – History, Politics, and Culture. – pp. 629–657.
16. Toynbee, A. (1976) Mankind and Mother Earth. Narrative History of the World. / A. Toynbee, New York: Oxford University Press. – 641 p.

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### **VALUES AND VALUATIONS IN DEVELOPMENT OF NATURAL SCIENCE KNOWLEDGE**

*The paper presents influence of values and valuations on development of natural science knowledge. The values impact analysis on development of natural-science knowledge is carried out in the works by T. Kun. Dependence of natural science knowledge development on external values is suggested. The author considers the conflict inside of post-positivism arose after publication of work «Structure of Scientific Revolutions» by T. Kun based on value approach. This publication gave start to discussions about the history and principles of science*

*development leading to new approaches to the science content. The key moments of this conflict are highlighted and described. The idea that values and valuations are integral parts of scientific research in the field of natural science is substantiated.*

**Keywords:** values, valuations, natural science, normal science, evolutionary development.

#### References

1. Evdokimov, V.I. Paradigms of Geography – [E-resource] – Access: <http://geo.1september.ru/articles/2010/04/02>.
2. Kun, T. Opening logic or psychology of research? – [E-resource] – Access: <http://filosof.historic.ru/books/item/f00/s00/z0000393/>.
3. Kun, T. (2014) After the structure of scientific revolutions, AST Moscow Publ. – 443 p.
4. Kun, T. (2003) Structure of Scientific Revolution, AST Moscow Publ. – 605 p.
5. Lakatos, I. (2008) Selected works on philosophy and methodology of science, Moscow: Academic Project Publ., Triksta. – 475 p.
6. Lakatos, I. (2003) Methodology of research programs, Moscow: AST Publ., CJSC Ermak. – 380 p.
7. Mikeshina, L.A. (2007) Epistemology of values, Moscow: Russian Political Encyclopedia (ROSSPEN). – 439 p.
8. Popper, K. (2014) Unfinished search: intellectual autobiography, Moscow: Publishing and consulting group «Praxis». – 290 p.
9. Sadovskiy, V.N. (1995) About Karl Popper and his studies' fate in Russia/ Questions of Philosophy. – Vol. 10. – pp. 14–26.
10. Feyerabend, P. (2007) Against the method. Essay of anarchist cognitive theory, AST Moscow: Keeper. – 413 p.
11. Feyerabend, P. (2010) Goodbye, mind, Moscow: AST: Astrel Publ. – 477 p.

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#### ENERGY LOSS ANALYSIS IN LASER SOURCES OF SECONDARY POWER SUPPLY

*This paper presents analytic overview describing output capacity and energy losses in sources of the secondary power supply created on the laser basis. The author shows results of loss analysis for cases when photo- and thermoelectric appliances are used in composition of these sources for laser emission transformation into electric energy on receiving side. It is shown that using photoelectric converters in this composition causes its common energy losses which could be moderate, up to ~ 65% of total supplied energy implementing diffused laser and multi-channel configuration scheme for sources. If thermoelectric blocks for transformation of laser emission into electric energy on receiving side of sources are used in sources' structures, its total energy loss is significant and is above 97%. The further loss reduction for this kind of considered power supply sources will be achieved only under the condition of developing thermoelectric transformers and infrared lasers with higher level of efficiency. Also these types of considered sources have higher radiation resistance, what in some cases is a key parameter for power supply sources that are intended to be used on high-tension platforms of electro-physical facilities. This is related to the fact that radiation resistance of thermoelectric transformers is essentially higher than radiation resistance of photoelectric converters.*

**Keywords:** sources of secondary power supply, lasers, photoelectric transformers, thermoelectric transformers, energy loss.

#### References

1. Alferov, L.M., Andreev, V.M., Garburov, D.Z., Egorov and colleagues (1987) High efficiency solar cells with radiation intermediate transformation intended to be used in luminous power concentrating systems / Letters for journal of experimental and theoretical physics. – Vol. 4. – Is. 18. – pp. 1128–1130.
2. Anatyshuk, L.I. (1979) Thermal elements and thermoelectric appliances- Reference book, Kiev: Naukova Dumka Publ. – 766 p.
3. Brunner, V. (1991) Reference book on laser techniques, Moscow: Energoatizdat Publ. – 544 p.
4. Gaibnazarov, M., Malevskiy, Yu.N., Rezglol, I.A. (1968) Energetic characteristics of solar thermo-generator / Transformers of solar energy through semiconductors, Moscow: Nauka Publ. – 98 p.
5. Grigoryants, A.G., Shigalov, I.N. (1988) Laser-beam welding of metals, Moscow: Vysshaya shkola Publ. – 207 p.
6. Grigoryants, A.G., Safonov, A.N. (1987) Methods of surface laser processing, Moscow: Vysshaya shkola. – 191 p.

- 
7. Daniel-Bek, Z.S., Roginskaya, N.S. (1961) Thermo-electric generators, Moscow: Svyazizdat Publ. – 55 p.
  8. Kirin, I.G. (2008) Special radiation-hardened fiber-optic and optoelectronic sensors and systems, Moscow: Universitetskaya kniga Publ. – 148 p.
  9. Kirin, I.G. (2013) Photo-electronic transformers: monograph, Moscow: Universitetskaya kniga. – 136 p.
  10. Kirin, I.G. (1992) Optoelectronic transformers of current / Optoelectronics and semiconductor technology. – Vol. 23. – pp. 3–23.
  11. Kirin, I.G. Thermoelectric transducer. Invention patent RUS 2045113.
  12. Kirin, I.G. (1994) Electric insulators with optical fibers, Moscow: Energoatomizdat Publ. – 32 p.
  13. Kirin, I.G. (2014) On efficiency of photoelectric conversion of laser emission / Intelligence. Innovations. Investment. – Vol. 3. – pp. 117–121.
  14. Kirin, I.G. (1995) Non-linear optical processes and efficiency of system «Laser-optic fiber- photoelectric converter» / Structures' analysis of electronics and computing techniques, Orenburg, OSU publishing office. – pp. 124–133.
  15. Kirin, I.G. Photo-converter. Invention patent RUS 1572355.
  16. Koltun, M.M. (1987) Solar cells, Moscow: Nauka Publ. – 192 p.
  17. Raushenbakh, G. (1983) Reference book on designing solar battery, Moscow: Energoatomizdat Publ. – 397 p.
  18. Fraaz, L.P. and colleagues (1988) Improved solar cells to be used in systems with radiation concentrators: modern semiconductor elements of photovoltaic energetic, Moscow: Mir Publ. – pp. 201–261.
  19. Kirin, I.G. (1994) Photovoltaic transformers for capture / Electricity. – Vol. 7. – pp. 30–35.
- 

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## **AUTOMATION OF OPERATIONAL AND PRODUCTION PLANNING ON THE BASIS OF GENETIC ALGORITHMS**

*The paper describes an algorithm for automated operational and production planning based on the use of genetic algorithms.*

*The purpose of this article is to present the methodology forming shift-day tasks with the use of evolutionary AI methods. Terminology of genetic algorithms and its interpretation within a particular production problem is detailed. A formation example of program chromosomes and gene pool program based on task change data for details processing is shown.*

*Considered automation of operational production planning method will reduce time spent on intradepartmental production planning as shift-day task involves every shift preparation tasks in the form of details launching parties for each of the machines.*

*The authors developed and described a detailed algorithm for automated preparation of shift-day tasks for parts manufacture. The algorithm result – software – will be launching series synthesized at a given time.*

*The conclusion about practicability of automating operational and production planning based on genetic algorithms was made.*

**Keywords:** *operational and production planning, genetic algorithm, launching series, shift task, production.*

### **References**

1. Vasiliev, S.N. and colleagues (2000) Intelligent control of dynamic systems, Moscow: Nauka.
  2. Gagarina, L.G., Koldaev, V.D. (2009) Algorithms and data structures, Finance and statistics, Infra-M Publ. – 304 p.
  3. Gamma, E. and colleagues (2004) Object-oriented design: patterns, St. Petersburg: Piter Publ. – 366 p.
  4. Gaft, M.G., Podinovskiy, V.V. (1981) On construction of decision rules in decision-making tasks, Automation and remote control. – Vol. 6. – pp. 128–138.
-



5. Ilyin, A.I. (2006) Planning at an enterprise, Moscow: New knowledge Publ. – 668 p.
6. Korablin, M.A., Minakov, I.A. (1999) Evolutionary algorithms in simulation, Problems of control and modeling in complex systems: proceedings of international conference, Samara: Samara Scientific Center of RAS. – pp. 45–50.
7. Lotov, V.A., Pospelova, I.I. (2008) Multi-criteria decision-making tasks, Moscow: Lomonosov Moscow State University. – 197 p.
8. Malyutina, E.E. (1988) Application of genetic algorithm to control a complex dynamic system, Numerical methods and computational experiments, Moscow: Dialogue, MSU Publ. – pp. 82–96.
9. Norenkov, I.P., Arutyunyan, N.M. (2007) Mixed evolutionary method, Information technology. – Vol. 1. – pp. 17–20.
10. Norenkov, I.P., Arutyunyan, N.M., Bondarenko, A.A. (2006) Comparative analysis of evolutionary techniques efficiency in terms of issues of schedules synthesis, Information technology. – Vol. 5. – pp. 6–11.
11. Safronov, N.A. (2009) Economics of organization (enterprise), Moscow: Economist Publ. – 618 p.
12. Sergeev, A.I., Korneeva, A.A., Goncharov, A.N. (2011) Program of parametric synthesis of flexible production system», Software products and systems. – Vol. 2. – pp. 43–45.
13. Khivintsev, M.A., Akopov, A.S. (2013) Distributed evolutionary network for solution of multi-criteria optimizing problems in simulation systems, Business Informatics. – Vol. 3 (25). – pp. 35–41.
14. Forrest, S., Javornik, B., Smith, R., Perelson, A. (1993) Using Genetic Algorithms to Explore Pattern Recognition in the Immune System, Evolutionary Computation. – pp. 191–211.
15. Goldberg, D.E. (1989) Genetic Algorithms in Search, Optimization and Machine Learning. Reading: Addison Wesley, New York. – 412 p.

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**SIMULATION MODELING IN ENTERPRISE DYNAMICS 9.0**

*The paper describes a simulation system (SIM) Enterprise Dynamics 9.0. The possibilities of this software generally satisfy SIM requirements at the present time. The SIM challenge the programming of simulation models and perform simulations for input in the SIM block diagram adding quantitative indicators for the elements of modeled objects. The SIM has a fairly wide range of graphic elements produced for structural models creating. The main graphic elements are shown in the paper.*

*The reliability of simulation results in the SIM Enterprise Dynamics 9.0 is considered on the basis of comparison with the results of analytical modeling in two queuing systems (QS): M/M/1 and M/M/5. The mean difference obtained by 6 indicators for the QS M/M/1 amounted to 0.65%, for the QS M/M/5 - 1.53%, that characterizes IMS Enterprise Dynamics 9.0 at its best.*

*The paper presents the simulation results of production line in the student (free) version of Enterprise Dynamics 9.0 system.*

*The article is designed to assist in the choice of SIM for simulation of specific probable objects in accordance with the subject area to which the object pertains, taking into account the user personal preferences and reliability of simulation results*

**Keywords:** analytical model, simulation model of queuing systems: M/M/1, M/M/5, Enterprise Dynamics 9.0 system.

**References**

1. Borshev, A.V. (2015) Simulation: State of the area in 2015, forecast and trends. Proceedings of the 7th All-Russian scientific-practical conference «Simulation – Theory and Practice» (IMMOD\_2015). – pp. 14–22.

- 
2. Kirpichnikov, A.P. (2011) *Methods of applied queuing theory*, Kazan: Publishing House of Kazan University. – 200 p.
  3. Yakimov, I.M., Kirpichnikov, A.P., Mokshin, V.V., Kostyukhina, G.V., Shigaeva, T.A. (2014) *Integrated approach to the modeling of complex systems in BPwin-Arena / Bulletin of Kazan Technological University*. – Vol. 17. – Vol. 6. – pp. 287–292.
  4. Yakimov, I.M., Kirpichnikov, A.P., Isaeva, Yu.G., Alyautdinova, G.R. (2015) *Comparison of simulation results in systems: Anylogic, Arena, Bizagi modeler, GPSS W / Bulletin of Kazan Technological University*. – Vol. 18. – Vol. 16. – pp. 260–265.
  5. Yakimov, I.M., Kirpichnikov, A.P., Mokshin, V.V., Mukhutdinov, T.A. (2015) *Training of simulation in Simulink package of MATLAB system / Bulletin of Kazan Technological University*. – Vol. 18. – Vol. 5. – pp. 184–188.
  6. [E-resource] – Access: [www.incontrolsim.com](http://www.incontrolsim.com).
  7. [E-resource] – Access: [https://en.wikipedia.org/wiki/Enterprise\\_Dynamics](https://en.wikipedia.org/wiki/Enterprise_Dynamics).
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**RUSSIAN PARTICIPATION IN REALIZATION OF CHINA INITIATIVE  
«SILK ROAD ECONOMIC BELT»**

*The Chinese initiative «Silk Road Economic Belt», which is the part of the global project «One Belt, One Road», has considerable integration potential for economies of most Eurasian countries. The paper provides a general description of the project «Silk Road Economic Belt» based on data from official sources, examines strategic program priorities, geographical focus and objectives for international cooperation. The authors note the need to define the goals of economic integration, as well as funds and the project schedule. Six economical corridors declared in the project «Silk Road Economic Belt» should increase the level of cooperation between Chinese economy and economies of countries from Europe, Middle East, Southeast and South Asia. Two of the six economical corridors will pass through the Russian territory. In «Silk Road Economic Belt» the main interest of Russian economy is related to e attraction of foreign investments, joint construction of infrastructure facilities and transit traffic. Due to Russian government suggestion the works on linking of EEU and «Silk Road Economic Belt» project are organized.*

**Keywords:** *Silk Road, international cooperation, regional integration, globalization, economical corridors.*

**References**

1. Vision and action aimed at promotion of joint construction of «Silk Road Economic Belt» and «Sea Silk Road of the 21st Century» – [E-resource] – Access: <http://ru.china-embassy.org/rus/ztbd/aa11/t1257296.htm>.
  2. Meeting with President of China Xi Jinping and President of Mongolia Elbegdorj Tsakhiagiin – [E-resource] – Access: <http://kremlin.ru/events/president/news/52211>.
  3. EEU and Silk Road: New World Order. Information of Moscow WTC experts on «Vesti Economics» portal – [E-resource] – Access: <http://wtcmoscow.ru/press-tsentr/publikatsii/eaes-i-shelkovyy-put-novyy-mirovoy-poryadok-informatsiya-ekspertov-tsmt-moskvy-na-portale-vesti-ekon>.
  4. Railway route in Europe improves trucks traffic – [E-resource] – Access: [http://usa.chinadaily.com.cn/epaper/2013-09/13/content\\_16968074.htm](http://usa.chinadaily.com.cn/epaper/2013-09/13/content_16968074.htm).
  5. Open competition invitation – [E-resource] – Access: [http://www.eurasiancommission.org/ru/auction/Documents/%D0%9A\\_461.pdf](http://www.eurasiancommission.org/ru/auction/Documents/%D0%9A_461.pdf).
  6. The initiative «Belt and Road» provides Asia, Africa and Europe important public goods – [E-resource] – Access: [http://russian.news.cn/2016-06/17/c\\_135445767.htm](http://russian.news.cn/2016-06/17/c_135445767.htm).
  7. China: develop the spirit of Silk Road and make great things by joint efforts – [E-resource] – Access: <http://ru.china-embassy.org/rus/ztbd/aa11/t1251370.htm>.
  8. Larin, O.N., Nikulin, A.A. (2016) *Silk Road Logistics / Transport of Russian Federation*. – Vol. 1 (62). – pp. 45–47.
  9. Luzyanin, S., Semenova, N. (2016) *Russia - China - Central Asia: transport and energy interests / Observer*. – Vol. 2 (313). – pp. 58.
  10. The President Xi Jinping delivered keynote speech at the opening meeting BAF-2015 – [E-resource] – Access: <http://newsvideo.su/video/2150001>.
-

11. Chinese Premier Li Keqiang of the State Council participated in the opening ceremony of the 5th meeting of Economic Cooperation leaders in Sub-region of Greater Mekong – [E-resource] – Access: [http://russian.news.cn/china/2014-12/21/c\\_133868738.htm](http://russian.news.cn/china/2014-12/21/c_133868738.htm).
12. Russia will pass investment projects on junction of EEU and SREB to China – [E-resource] – Access: <http://ria.ru/economy/20160324/1396325463.html>.
13. Zhu, Yu (2016) «One Belt, One Way» and China-Russian trade and economic cooperation / Problems of Far East. – Vol. 2. – p. 100.
14. Chronology of China's Belt and Road Initiative – [E-resource] – Access: [http://news.xinhuanet.com/english/2015-03/28/c\\_134105435.htm](http://news.xinhuanet.com/english/2015-03/28/c_134105435.htm).
15. Internet Plus can carry logistics industry forward: Premier Li – [E-resource] – Access: [http://english.gov.cn/premier/news/2016/07/21/content\\_281475398667727.htm](http://english.gov.cn/premier/news/2016/07/21/content_281475398667727.htm).
16. «ONE BELT, ONE ROAD»: AN ECONOMIC ROADMAP – [E-resource] – Access: <http://www.corporatenetwork.com/sites/default/files/2016OBOR.pdf>.
17. What is Belt and Road Initiative – [E-resource] – Access: <http://beltandroad.hktdc.com/en/about-the-belt-and-road-initiative/about-the-belt-and-road-initiative.aspx>.
18. Xi Jinping reveals the strategic vision of «One Belt, One Road» – [E-resource] – Access: <http://politics.people.com.cn/n/2014/0811/c1001-25439028.html>.

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#### DEFINITION OF RATIONAL STRUCTURE OF TRANSPORT-TECHNOLOGICAL COMPLEX INVOLVED IN SNOW CLEANING WORK

*The paper proposes a determining method for optimal structure of transport-technological complex (TTC), involved in the cleaning work of urban areas during winter. Two concepts of TTC elements' interaction for snow clearing operations - serial and parallel were determined analyzing technologies and urban areas maintenance. It's recommended to use special cyclograms presenting operational time of each element graphically to demonstrate the performance of the TTC. Based on the cyclograms it's proposed to estimate the efficiency of TTC considering the working patterns of individual units. The author introduced a new indicator – complex efficiency's coefficient. The main disadvantage of this coefficient is inconsideration of operating costs of municipal equipment for snow cleaning work. Mathematical models are built based on differentiation of urban areas maintenance by operations to account operating costs, as well as operational time of municipal equipment. These mathematical models of TTC structure are presented for the three most significant operations: snow raking, distribution of deicing agents and sand-salt mixture as well as removal of snow mass. The optimization of TTC structure should be made when values of cleaning time, operational square and snow mass are invariant thus mathematical models contain several variables. As the models are constructed on the basis of mathematical tool for linear programming, it is possible using the known methods, including simplex method as the most universal for solution.*

**Keywords:** transport-technological complex, optimization, cleaning of urban areas, mathematical model, costs minimization.

#### References

1. Wagner, G. (1972) Fundamentals of operations research, Moscow: Mir Publ. – Vol. 1. – 335 p.
2. Vasiliev, V.P. (2010) Maintenance of auto-roads: textbook for universities, Moscow: Publishing center «Akademiya». – 320 p.
3. Dotsenko, A.I. (2005) Utilities machinery and equipment, Moscow: Arkhitektura-S Publ. – 344 p.
4. Kruchinin, I.N. (2009) Formation features of packed snow on road surface / Bulletin of VSUACE. Ser.: Architecture and construction. – Vol. 16 (35). – pp. 77–80.
5. Siradzhinov, R.Zh. and colleagues (2009) Management of municipal service and facilities, Moscow: KNORUS Publ. – 352 p.
6. Fedoseev, V.V., Garmash, A.N., Daynitbegov, D.M. (1999) Economic-mathematical methods and applied models: textbook, Moscow: UNITY Publ. – 391 p.

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### **CUEING ON ROAD CONDITIONS OF FUEL SCHEDULING SYSTEM FOR MOTOR VEHICLES**

*The paper considers the possibility of model creating for a longitudinal road profile on the basis of strip coordinates obtained by GPS/GLONASS. The mathematical description of the algorithm for this method is given.*

*The quantization interval for route is regarded as one of the factors affecting the degree of conformity for received model of longitudinal road profile. It's possible to get a reasonably accurate model, optimizing the quantization interval.*

*Based on multivariate calculations it's show that optimal quantization interval for the route is 800 meters away for traffic conditions endemic for the central area of the Krasnoyarsk Territory. Considering this setting, the quantization interval is reached the minimum sum of squared residuals errors of similar heights and the real points of route model, as well as the minimum error of average operational fuel consumption in the simulation of driving route.*

**Keywords:** control system of fuel consumption, GPS/GLONASS navigation, longitudinal road profile, fuel consumption.

#### **References**

1. Blyankinshteyn, I.M., Voevodin, E.S., Khudyakov, D.A. (2012) Control system of fuel consumption at transport enterprises / Alternative Fuel Transport. – Vol. 3. – pp. 27–29.
2. Sarayskiy, Yu.N. (2010) Geo-information navigation basics, St. Petersburg: SPb State University for Civil Aviation. – 245 p.
3. Moskovkin, V.V. (1999) Methodology for study and calculation of fuel efficiency and speed properties. Doctoral Thesis, Moscow. – 337 p.
4. Moskovkin, V.V. Experiment or calculation? – [E-resource] – Access: <http://www.auto.mmt.ru/html/mvk/rd1.htm>.
5. Khudyakov, D.A., Blyankinsteyn, I.M., Shvets, D.A., Kashura, A.S. (2016) Estimation of fuel consumption calculation errors on the routes constructed by GPS/GLONASS data tracks / International scientific-practical conference: Transport Systems of Siberia. Development of Transport System as a Catalyst for State Economy Growth (Krasnoyarsk, 7-8 April 2016): proceedings. Krasnoyarsk: SFU Publ. – 710 p.
6. PFD-444/07-AR. (2008) Surface Curve. Highway Kansk-Aban-Boguchany at a site Borki – Zalipye 73 km - 82 km, Krasnoyarsk: LLC «Indor-Krasnoyarsk» Publ. – 102 p.
7. Bazhenov, A.V. and colleagues (2007) Radio navigation system: text-book, Stavropol: Air Force Academy Publ. – 202 p.
8. Kolmogorov, V.G. (2008) Topography with the basics of geodesy, Novosibirsk: SSUGT Publ. – 150 p.
9. Elevation Service Google Developers – [E-resource] – Access: <https://developers.google.com/maps/documentation/javascript/elevation>.
10. Google Maps API. Elevation API – [E-resource] – Access: <https://developers.google.com/maps/documentation/elevation/intro?hl=ru>.