

Section I

Informatics, management systems, telecommunications and radiolocation

Emelyanov A.A., Borovilov A.O.

The approach to defining the set of output values of the source codes translation algorithm

Key words: *translation, supercompilation, metaprogramming, grammar, multiple output values of the algorithm.*

The article considers the suggested method of the source code translation algorithms analysis for of with the goal of identifying the set of its output values. In the first stage of the analysis the technique of supercompilation is used. Multiplicity of the algorithm output values is determined by subsequent analysis of applying the supercompilation techniques results.

Zaporozhtsev A.V.

The definition of the software system modules

Key words: *organizational and technical systems, software system, architecture of software system, software module, business process.*

One of the problems in software system developing is the composition of software models. Software modules must implement not only the structure of an enterprise's business processes, but a number of important additional aspects. A number of aspects is associated with the structure of the software system: architecture client – server and performing the generic data processing operations. The second group of additional aspects is formed by the domain objects and their changes throughout their life cycle. The need to consider the difference in information requirements across different management levels is important.

Ipatova N.V., Ipatov A.A., Gordyashkina T.V.

The study of the signal conversion process in the radio communication channel using the software Matlab Simulink R2009b

Key words: *Radio communication channel, digital radio signal, sampling frequency, white noise, modeling in the software environment Simulink of Matlab.*

The authors research the process of the transmitted message transformation in the radio communication channel in the software environment Simulink of Matlab R2009 with a built-in package.

Section II

Shipbuilding, ship repair, and ecological safety of the ship

Borisov A.M., Pryanichnikov K.N.

The construction and stability of transportation docks on the basis of hulls of barge project R27

Key words: *shallow water river spots, transportation dock, barge hull project R27, dock tower, hull's construction, draughts, loadings, general and local stability.*

The article highlights the results of researches in developing construction and providing for stability of a transportation dock made from disposed hulls of fuel oil barges project R27, allowing transportation of loaded vessels of different types with the displacement up to 7300 tons and dock draught up to 2 m.

Grosheva L.S., Plyuschaev V.I.

Analysis of movement parameters measurement error influence on the quality factors of the automatic hold process of the vessel with wheel propulsion and steering system on a specified path

Keywords: *vessel, wheel propulsion and steering system, algorithm of the vessel hold on the course, movement parameters measurement error, quality factors of steering system.*

Russian vessels are constructed with wheel propulsion and steering system and do not have a traditional steering wheel. Steering is performed by changing the ratio of rotation of the paddle wheels located on the sides in the aft part of the ship. The article reviewed the movement parameters measurement error influence on the quality factors of the automatic hold process of the vessel on a specified path under the influence of external factors.

Mironov A.A., Mishakin V.V., Gonchar A.V., Kurashkin K.V.

Integrative approach to sea-going ships' hulls technical state evaluation

Key words: *ship's hull, nondestructive methods of control, fatigue, deformation.*

Examination of the hull metal state of over aged ships is offered. Methods of measuring of coercive force, acoustic anisotropy, solidity, the analysis of micro-structure are used.

Rekhalova N.A.

Evaluation of carbon dioxide discharge from sea-going ships included into russian river registry bureau

Key words: *ship's energy efficiency, energy efficiency constructive ratio, carbon dioxide discharge, river- and sea-going ships.*

The article presents the results of energy efficiency constructive ratio (EECR) calculations for river- and sea-going ships classified according to the Russian River Registry Bureau (RRRB). Proceeding from the energy efficiency constructive ratio calculations, the evaluation of ships' greenhouse gases discharges into the atmosphere has been made, ships' compliance with the requirements concerning EECR has been analyzed, ways of reducing EECR have been summarized.

Timin A.E., Filippov E.V., Ogneva V.V., Burmistrov E.G.

The vessel electronic passport configuration

Keywords: *E-passport, ship repair, design and technical documentation.*

The article describes the configuration prototype of the vessel electronic passport, its structure and logic.

Section III

Financial and accounting-analytical problems of the modern economy

Veselov G.V., Ivanov M.V., Novikov A.V.

Spheres of rational use of hovercraft in the Volga-Kama swimming pool

Key words: *hovercraft, Volga-Kama basin, sphere of high-speed vessels use, high-speed passenger line along the Sura river.*

The article deals with the use of passenger air-cushion vessels in the conditions of the Volga-Kama basin. As an example, the results of calculations for the organization of a passenger line along the Sura River with ships of the Mars type are presented.

Vorobyev A.V., Olunin V.I., Upadysheva E.V.

Genesis of development of the budget system and budgetary planning in Russia

Keywords: *budget, treasury, budget planning, financial planning, budget system, taxes and fees, income, expenses.*

The article considers the historical aspect of the formation and development of Russia's budget system, as well as the overall system of financial and budgetary planning in our country in comparison with Western European countries. Also, the concepts of «budget» and «treasury» are considered and the main differences of these concepts are given.

Kockin A.S., Ramazanov S.A., Odinkov V.A.

The Analysis of the financial market of Russia for the period from 1995 to 2016

Key words: *financial market, profitability of financial instruments, index dynamics, securities, stock indices.*

The paper presents an analysis of the Russian financial market for the period from 1995 to 2016. The general review of the Russian financial market of 2016 is analyzed in details. The dynamics of the Brent oil exchange rate, the profitability of Russia's financial instruments for 1995-2016, the dynamics of the MICEX and RTS index, the dynamics of the volatility index vix, the dynamics of the MICEX sector indices, the federal bonds market and total indebtedness of Credit organizations to the Bank of Russia on repo transactions have been also analyzed.

Section IV

Economics, logistics and transport management

Abdulatipov M.A. Kalachev V.K.

The Optimization of the number of caravans of vessels during the period of ice

Key words: *optimization, icebreaking, icebreaker fleet, caravan, icebreaking headquarters, basin commission.*

The article shows the necessity of planning of the fleet work and ports in winter period. It is proposed the method for calculating the optimal number of caravans of ships based on minimizing the costs of participants in icebreaking. The issues of organization of icebreaker assistance in the Caspian region are considered in the article.

Aksenov V.A., Liubimova M.V.

The concept and practice of social responsibility: the experience of building relationships with labor collectives as a problem of managing industrial enterprises in Russia during the Independent economic policy

Key words: *corporate social responsibility, industrial propaganda, «red directors», Technique of the leader's speech at meetings of labor collectives of industrial enterprises, forms and methods of preparing meetings of labor collectives with reports of the managers.*

In the practice of managing large companies around the world, the attention to corporate social responsibility is growing. The article deals with the contribution of Russian managers to the process of its implementation and points to the necessity of studying and analyzing the experience of using individual corporate social responsibility at state enterprises of the shipbuilding and transport industry during the period of the formation and development of the Independent economic policy in 1921–1922. The main conclusion concerns the relevance of some forms of work at Krasnoye Sormovo factory and a number of other plants.

Grass E.Y.

The staffing problems of the world merchant fleet at the present stage

Key words: *world merchant fleet, seafarers' labor market, demand, supply, shortage of command staff.*

A survey analysis of trends in the development of the world merchant fleet over the last decade has been conducted and their impact on staffing has been examined in the article. It is carried out the analysis of current and forecasted demand and supply in the international labor market of seamen. The problems and perspectives of staffing of the merchant fleet in the Russian Federation are revealed in connection with the global trends in the development of the world merchant fleet.

Zachesov V.P., Platov Y.I.

The problem of using information technologies For operational planning and regulation of the fleet operation

Keywords: *analytical information technologies, operational planning, regulation of fleet operation.*

The article is devoted to the problem of introduction and use of analytical information technologies for operational planning systems. The main conditions that determine the differences between modern fleet planning systems and those created earlier are analyzed. The main requirements that such systems should satisfy are proposed in this article.

Nichiporouk A.O.

Models for assessing the feasibility of complete ship stripping When transporting non-metallic building materials on local lines

Key words: *cargo transportation, non-metallic building materials, ship cleaning.*

The article touches upon the existing methodological approaches to the assessment of the expediency of full ship cleaning for the transport of non-metallic building materials on local lines. Their shortcomings are identified and a new methodical approach to the solution of this problem is proposed.

Platov A.U., Guseva J.V.

The operational method of normalizing of speed and fuel consumption With automated planning of river cargo ships operation

Keywords: *normalizing of fuel consumption, method of normalizing of speed, operational method, limiting characteristics, screw characteristics*

The article is devoted to the issue of normalizing of vessel's speed and fuel consumption. It has also been analyzed the existing methods of rationing. Their shortcomings are considered. In addition, the article proposes a new automated method for normalizing the timing and consumption of fuel, which is oriented on using it in the tasks of planning the work of the fleet.

Tarovik O.V., Kondratenko A.A., Krestyantsev A.B., Topaj A.G.

Cargo transportation by waterways of Western Siberia: current status and prospects of development

Key words: *river cargo transportation, Western Siberia fleet, Ob-Irtysh basin, Yenisei basin, port infrastructure.*

The article considers the current state of cargo transportation along the rivers of Western Siberia and further prospects for their development. The Numerous sources of information were used to perform this work. They allow to estimate the volumes and geography of cargo flows, the state of the port infrastructure, and also to determine the number and characteristics of the fleet of the region.

Telegin A.I., Shabrov V.N., Kurbanov A.A.

Cars classification in the Russian Federation and the European Union. Technical car cargo loading standards for the vessel of RST-54 project

Key words: *cars classification, technical vessel loading standards*

The article analyzes the system of classification of passenger cars in the Russian Federation and the European Union, as well as the authors investigate and present the Common European classification of cars. Based on the presented classifications for the vessel of the project RST-54 the authors developed technical loading standards, which can be used for transport-technological schemes drawing and car delivery processes by one mode of transport and in combined communications including river transport.

Section V

Operation of water transport, navigation and safety of navigation

Vedernikov J.V., Vedernikov D.J.

Modern cargo base of the Far Eastern cabotage and its impact on the transport fleet operation

Key words: *freight base, direct cabotage, reverse cabotage, in-basin transportation.*

The article is aimed at the study of the current status of the short sea cargo base in the Far East in Russia. The work is based on the statistical data formed by the OJSC «DNIMF».

Lobanov V.A.

Brake qualities of the azimuth column in the ice

Key words: *ship, propulsion - steering complex, the azimuth column, brake force, ice qualities, ice conditions, CAE systems, finite element modeling.*

In the operation with the use of CAE technologies the authors researched reverse operation of the azimuth column in clean water, in finely broken and grated ice of different thickness and cohesion. A quantitative assessment of the net hydrodynamic resistance and ice loads on the complex was conducted. The braking force curves of the complex in the studied ice conditions were obtained. The qualitative features of the nature and the ratio of the braking force of the complex in ice and clean water conditions were revealed.

Pokusaev M.N., Khmel'nitskaya A.A.

Testing of minor vessels suspended motors in measuring harmful discharge gases

Key words: *minor vessels, suspended motors, harmful discharge, discharge gases, carbon and hydrocarbon oxide, gas-analyzer «Infracar-A».*

In 2016 we have conducted experiments in measuring harmful carbon oxide (CO) and hydrocarbon (CH) discharge for minor vessels with suspended motors of foreign origin. According to national standard number 28556-16 «Suspended boat motors. General Safety Requirements», Technical Regulation of Customs Union TR CU 026/2012 «Minor Vessels Safety» and methods 770020000 PM 28, maximum permissible burden of CO in discharge gases must not exceed 4,8%, CH no more than 6000 mln⁻¹(ppm).

Section VI

Operation of ship power equipment

Novoseltzev M.N., Shurayev O.P., Chichurin A.G.

Development and testing stand with engine 6L160PNS and hydraulic brake

Keywords: *testing of diesel engines, the test stand, hydraulic brake, torque monitoring, the working process of a diesel engine, emissions from the exhaust gases*

This article describes the features of a test stand's development with a diesel engine 6L160PNS and a hydraulic brake. Special attention is was paid to the development of the own hydraulic brakes design. The operability of the test stand was verified during the tests. Particularly the actual load characteristic of hydraulic brake, the compatibility of the output parameters of the diesel engine and hydraulic brake in the operating range, the possibility the consumed energy's dissipation, as well as the diesel engine's ability to work steadily on any operating mode and the accordance of the harmful substances emissions in the exhaust gases to the valid standards were refined.

Section VII

Information technology and the education development

Tikhonov A.V.

The use of new information technologies in the political process on the example of the US elections in 2016

Key words: *political technologies, elections, mass media, Internet marketing, social networks.*

In this article the authors present the analysis of the spectrum of election information technologies used in the US presidential elections in 2016. A special role is given to the study of the efficiency of traditional and new methods of political communication in the election candidates opposition.

Section VIII

Actual problems of law and state

Sokolov S.A.

International criminal law as a complex (polyvalent) and integrative branch of law and international law science

Key words: *international criminal law, branch of law, legal science, an academic discipline.*

The article reveals the key issues of the theory and practice of international criminal law – one of the most important and promising topics of scientific research. A complex approach to the study of the international criminal law phenomenon is due to the youth of the international criminal law system, which was allocated from the public international law structure not long ago. International criminal law is an autonomous complex (polyvalent) and integrative branch of international law. On the other hand it is one of the branches of international public law science and an independent academic discipline.

Sosenkov F.S.

Modern Russian social democracy about the unity of Russia and counteraction to separatism: political and legal position of the party «Fair Russia»

Key words: *the political party «Fair Russia» Sergei Mironov, N.V. Levichev, state unity, territorial integrity, centrifugal forces, separatism, the power centralization.*

The article considers the issues of the state unity in the ideology of contemporary Russian social-democracy (on the example of the political party «Fair Russia») and the political and legal views of its leaders. The author concludes that the unity of Russia is not the main ideology of the party «Fair Russia»; however the positions about the stated problems of the party leaders are expressed quite clearly. Russia is considered by the party leaders as a unified Federal state.

Fomichyov M.N., Shlyakhtina P.O.

Theoretical aspects of contractual relations in Civil law of Russia

Key words: *the Russian Federation, civil law, contractual relations, compensated work and services rendering, the Internet.*

The article considers the key aspects of regulating civil law relations regarding the conclusion of the compensated work and services rendering contract.

Section IX

Philosophical, socio-pedagogical and philological sciences

Vladimirov A.A.

The dualism of the global crises

Key words: *global crisis, capitalism, deficit, surplus, need.*

The article considers the dual nature of the modern global crises manifesting themselves both in overproduction and underproduction.

Zelenov L.A.

The concept and structure of the methodology

Key words: *method, principle, methodology, dialectics, activities*

In the article the methodology is considered as a doctrine about the methods of any human activity, and the term «method» is explained as a system of principles of a particular activity.

Sokolova E.G.

A text as a basis of foreign language teaching for non philologic students

Key words: *linguistic training, professionally oriented communication, intercultural competence, text, reading*

The subject of the article is the professionally oriented foreign language teaching on the basis of the text centered approach in non linguistic high schools. The author describes different types of foreign texts used in high schools. The definitions of the term «text», its function and text choice criteria are given, the steps of specialty text work during reading are described.