

## **Section I**

### **Informatics, management systems, telecommunications and radiolocation**

**Vichuzganin V.V., Shibaeva N.O., Kononov S.N.**

The remote monitoring system use and complex marine technical systems diagnostics efficiency improving

Keywords: *marine complex technical systems, monitoring, diagnostics*

*The article is devoted to the problem aimed at the remote monitoring system use and complex marine technical systems diagnostics efficiency improving.*

**Zaporozhtsev A.V.**

Technical systems information models

Key words: *organizational-technical systems, technical systems complex, equipment, hub, information model.*

*When developing a technical system information model it is necessary to reflect a particular technical system structural properties. Depending on the technical system type, different approaches to the information model structure should be used. Besides, in the information model it is necessary to display a system structure of the technical system functioning. This will make it possible to specify each technical system element location, that is indispensable for the works on the technical system maintenance organization.*

**Kuvykina E.V.**

Crossroad traffic control system mathematical model

Keywords: *conflict transport flows, control algorithm, the non-local description*

*This article focuses on the crossroads traffic control. This transport system adequate mathematical model has been built within the service systems with variable structure theory. It is based on non-local description principle which assumes that the system is observed only in some specific time periods. Control system behavior is studied from point of view of the queues appearance process according to the conflict flow and described as a multidimensional random sequence.*

**Loginov V.I.**

Non-iteration frequency distribution parameters optimization method in mixer adders ranges

Keywords: *cognitive radio, non-iteration algorithm, frequency distribution*

*One of the three non-linear frequency converters models, aimed at calculation solving and problems on frequency distribution parameters optimization using non-iteration algorithms, the mixer-adder ranges filtration area peculiarities and the full algorithm optimal frequency distribution parameteres finding parallelization possibilities are considered.*

**Fedotkin M.A., Rachinskaya M.A.**

Conflicting non-ordinary Poisson flows cyclic control process simulation model

Keywords: *simulation model, stationary mode, the system quasi-load, quasi-optimal control*

*The article describes the simulation model for the two conflicting flows cyclic control system and the service for their requirements. The algorithm determining the moment when the system reaches the stationary mode is given. The estimates for the basic system quality indices are presented. The algorithm for finding the quasi-optimal control parameters is described.*

## **Section II**

### **Reliability and resource in transport engineering**

**Adamov E.I., Otdelkin N.S., Sikarev S.N.**

Devices for cargo dust suppression dusty fire risk at overloading with grab cranes

Key words: *dust generation, bulk cargo, grab crane, bulk cargo loss*

*The article describes the dust control technical means, which reduce bulk cargo loss overloading and the dust negative impact on the environment when they are overloaded with grab cranes. It is noted that during bulk cargo overloading with grab cranes and reloaders dust control is one of the biggest challenges concerning common environmental prob-*

lems. It is offered to work out a new bunker dedusting device for bulk cargo with a special bunker with a changing capacity, which eliminates the drawbacks.

### **Section III**

## **Shipbuilding, ship repair, and ecological safety of the ship**

**Kupaltseva E.V., Ronnov E.P.**

The «small» passenger vessel propulsion estimation at the initial design stage

Key words: *resistance to the vessel's movement, wetted surface, the vessel's hull shape lines*

*The questions concerning the vessel's towing resistance components determination at the initial design stage are considered. To determine a «small» passenger ship's wetted surface area on the analysis base Zinkovsky- Gorbatenko verified formula is offered. It takes into account the specific ship contours. The method for determining the residual ship resistance based on the formula offered by A. B. Karpov. This method is verified for ships with Froude number more than 0,28.*

**Kurnikov A.S., Mizgirev D.S., Miheeva T.A.**

The ejector-cavitator design of as one of the ship's systems elements

Keywords: *cavitation, the cavitation generators, hydrodynamic cavitator, jet devices, the ejectors, the ejectors-cavitators, the method of calculation.*

*The article discusses the cavitation phenomenon and its beneficial use at processing various technological environments. The cavitation phenomena types classification and devices required to generate them is given. The hydrodynamic cavitator application expediency, in particular the ejector-cavitator in the polluted waters purification. This unit design method and its application prospects in ship systems is introduced.*

**Lobastov V.P., Zelinchenko E.V.**

Normative requirements for the «river-sea» pushed convoys design navigation

Keywords: *«River-sea» pushed convoys navigation, pusher (energy section), barge(cargo section), design load, hull strength.*

*Considering the increase tendency orders for the design and construction «river-sea» pushed convoys, which should be carried out basing on the Russian River Register Rules requirements, the experimental studies results concerning pitching, wave loads and vessels seaworthiness are presented. The possibility of training, based on them and the Regulations additional requirements for this type of vessels are substantiated.*

**Murzaev I.I., Burmistrov E.G.**

Central and Southern Russia shipyards competitiveness prospects improvement by means of their productive opportunities cooperation

Keywords: *shipyards competitiveness, shipyards co-production; uniform methodological ship construction principles at various shipyards; shipyards cooperation task on based on uniform methodological principles*

*To improve Central Russia shipyards competitiveness in relation to their high –performance technological equipment procurement manufactures effective use an idea of South Russia shipyards co-production possibilities with outfitting, commissioning capabilities is put forward. Ships construction uniform methodological principles on cooperating shipyards and the corresponding goals set are substantiated.*

**Ronnov E.P., Kochnev U.A.**

The high holding power anchor self –balancing conditions substantiation

Keywords: *anchor high holding power, anchor balancing*

*In this article the mathematical approaches to anchor assemblies composites mass determination and the distance between the gravity center and its rotation axis are presented. The angle comparative calculation was carried out with the help of which the leg might restore within the selected characteristics.*

**Than F.F.**

The small amphibian air-cushion vehicles movability characteristics approximate determination with a flexible ballonet type enclosure skirt

Keywords: *amphibian air cushion vehicle (ACV), movability resistance, propulsion*

*A real model ship is used for tests. To calculate the analogical vessels movability rate, an aerodynamic resistance coefficient was determined. It can be used for the amphibian air cushion vehicle propulsion with the similar booth forms and a flexible «skirt». The amphibian air cushion vehicle with a flexible «skirt» propulsion estimation is made with its motion under the sea wave conditions. The calculation results and the propulsion approximate estimation data while designing an amphibian air cushion vehicle are represented graphically.*

## **Section IV**

### **Financial and accounting-analytical problems of the modern economy**

**Veselov G.V., Dreiband D.V., Kosinov S.P., Mineev V.I., Cherneva R.I.**

The inner navigation ship crew's official wages system improvement

Keywords: *efficiency, inner water transport, salary, the navigation staff*

*The article considers the problem concerning inner water transport ship crew's official wages. The recommendations on the official wages system improvement are given*

**Guryashina O.A.**

The substantiation of the «unrecognized» expenses sum introduction into the classical capital cost model

Keywords: *estimation, weighted average capital cost, income tax, tax base, expenses, key rate, refinancing rate, interest rate*

*In the article the necessity concerning the expences division into includes need of division of expenses on «recognized» and «unrecognized» using theclassical weight average capital cost model is substantiated. The improved classical model taking into account the last Russian tax law changes of the in the sphere of limit percent size restriction recognized as an expense is offered.*

**Zamotaeva O.A., Dorofeeva M.S.**

The projects on reconstruction ranking and fixed assets modernization methods

Key words: *fixed assets reproduction, failure risks, expert scoring method, ranking method*

*The article discusses the heuristic methods use for solving the actual problems concerning selecting the projects on fixed assets reconstruction and modernization. The algorithm for the company's fixed assets maintenance development is shown The offered methods application is illustrated by the materials from the functioning enterprise.*

**Kraynova V.V.**

Shipping companies internal control information support

Keywords: *information supply, internal control, information system, shipping company*

*The information security definition is given and the system for the shipping companies internal control implementation taking into account a particular branch specificity is developed. «The information quality notion» is theoretically substantiated and recommendations for the corporate information systems make it possible to unite all the shipping company departments into a single information space.*

**Salmin P.S.**

The financial responsibility centres structure simulation based on the Volga Basin Administration integrated scorecard balanced indicators

Keywords: *balanced scorecard, strategic business unit, organizational structure, financial responsibility centre, financial structure, management accounting*

*In the article the financial responsibility centers structure formation method for budgetary institutions such as Volga Basin Administration is offered. The method is based on the balanced scorecard development, which includes an additional prospect concerning «Relationships with licensees». The simulation result is a financial results formation scheme in relation to financial responsibility centers and also the suggestions on the planning and accounting system improvement.*

**Sofronova V.V., Filneva T.A.**

Credit organizations financial stability. Problems and the keys to their solution

Keywords: *financial stability, a bank, credit risk*

*The article is devoted to the Russian commercial bank stability evaluation. The article presents the commercial banks financial stability analysis results with the authors' methods use. The ways of the banks financial stability increase are offered.*

## **Section V**

### **Economics, logistics and transport management**

**Zhmachinsky V.I., Iljushchenko I.G.**

Economic crisis: the misfortune or the benefit?

Keywords: *economic crises; cyclic recurrence; crisis management; crisis management model.*

*The article considers the economic crisis nature and essence from its perception (positive or negative) point of view. On this basis the crisis management concept is formulated and an anti-crisis management innovative model in terms of economic instability is offered*

**Plotnikova A.I.**

Tax risks management methods analysis in shipping activities

Key words: *risk, economic risk, tax risk, management methods, shipping activities, management decisions.*

*In this article tax risks management scientific approaches and methods analysis concerning the risk management in shipping activities were carried out. The author offers the research logical sequence: risk management classical methods, economic and tax risk methods analysis, shipping companies tax risk management methods synthesis. The author's approach concerning tax risk management methods analysis and systematization in navigation at different stages from the strategic and operational management points of view.*

**Urtmintsev Y.N., Gorokhova I.A.**

Complex model of port transport and reloading vehicles calendar distribution on work sites during non-metallic construction materials delivery

Keywords: *nonmetallic construction materials, extraction, transportation, unloading, the boats and reloading equipment work. optimization*

*In the article the optimal fleet and floating reloading equipment distribution on non-metallic construction materials delivery's work sites with calendar differentiation periods is substantiated, taking into account restrictions on the transport and reloading vehicles availability. The considered task economic–mathematical model is given. The approximate decision searching optimal method is offered.*

**Chuplygin G.N.**

A customer's interest as an IWT competitiveness factor

Keywords: *client, 's need, speed, profit, transport company*

*The article deals with customers' needs satisfaction as IWT competitiveness factors: goods turnover acceleration, transport costs reduce, transport services availability improvement by cargoes and passengers delivery rates increasing, passengers, the conversion of shipping companies into transport ones.*

## **Section VI**

### **Operation of ship power equipment**

**Kurnikov A.S., Mikheeva T.A., Arefiev N.N.**

The oxygen generator use in composed ship's diesel engine feeding system to improve ecological safety

Keywords: *oxygen generator, exhaust gases, cyclone-foam apparatus, twin-adsorber scheme*

*This article considers the oxygen generator use opportunity on a ship to reduce diesel engines harmful emissions.*

**Khvatov O.S., Burda E.V., Tarpanov I.A.**

Ship power plant with the power distributor simulation model

Keywords: *power plant, frequency converter, power distributor, DC-link.*

*The article presents ship power plant with propulsion electrical installation with a common DC link mathematical and simulation models. The transition processes when starting the motor, turning on the power regulators and connecting the additional load to one of the generators are shown graphically.*

**Chichurin A.G., Shurayev O.P.**

Oily water utilization by the ship diesel engine exhaust gases heat

Keywords: *oily water, diesel engine exhausts gases heat*

*The problems concerning ship oily water collection and disposal are discussed. It is shown that the oily water can be segregated into two groups – with a high and low oil products concentration. A method to dispose oily water by means of the heat produced by diesel engine exhaust gases is offered.*

## **Section VII**

### **Information technology and the education development**

**Kuznetsova T.A.**

Beams analysis using «Abaqus» software package

Keywords: *«Abaqus», software package finite element simulation, beams.*

*The article discusses the Abaqus software system scope and structure, based on the finite element method. Its use is shown on the beams. analysis examples.*

## **Section VIII**

### **Actual problems of law and state**

**Kravets I.P., Bebnev M.A.**

Federal Bailiff Service legal support within its functional task realization

Keywords: *Federal Bailiffs Service, federal program, information systems, electronic Russia.*

*The article deals with the Federal Bailiff Service activities legal support concerning the public administration system improvement based on the information and telecommunication technologies use, as one of the information society formation goals.*

## **Section IX**

### **Philosophical, socio-pedagogical and philological sciences**

**Volkova V.V.**

Process of foreign language teaching in different leveled groups

Keywords: *different leveled groups, teaching, motivation, methods, foreign language, differentiated approach.*

*In the article the problem of English language teaching in different leveled groups is considered. The author offers the kinds of works directed on the increase of motivation of foreign language studying, on the overcoming of difficulties in the teaching process of students with different level of preparation.*

**Guro-Frolova Y.R.**

Electronic foreign language teaching at non-linguistic higher educational institution

Key words: *electronic teaching, non-linguistic higher-educational institution, foreign language, blended learning, module teaching*

*The article deals with the problem of electronic teaching of the foreign language at non-linguistic higher educational institution. "Blended learning" technology is focused on. Productive models of electronic models are defined.*

**Koval O.I.**

Professionally-oriented english teaching to students of electroengineering speciality

Keywords: *communicative competence; electromechanical special terms; methods of teaching; vocabulary teaching.*

*This paper touches upon the problem of teaching professional communication to students of electromechanical department. The author presents a three-phase model of vocabulary learning. A variety of teaching techniques and assignments aimed at mastering electro engineering terminology are described. The article analyzes the problems of the quality of textbooks and highlights the criteria for effective teaching materials.*

*The author describes the goals and objectives to be achieved during the project, the terms of effective organization, stages of a project.*

**Orlova L.G., Kornilova E.S.**

The Development of Students' Reading Skills in Foreign Language at Technical University

Key words: *reading process, types of reading, pretext and posttext tasks.*

*The article deals with the development of students' reading skills. Different types of reading and the system of pretext and posttext tasks are analyzed.*

**Sedova E.A.**

The dynamics of the girls and boys' psychological peculiarities influencing the forming of the integrative and instrumental motivation of learning the foreign language

Key words : *psychological peculiarities, achieving success and avoiding failure motivation, functional mental states, foreign language anxiety, responsibility, an integrative motivation, an instrumental motivation*

*In this article the dynamics of the girls and boys' psychological peculiarities, influencing the forming of the integrative and instrumental motivation of learning the foreign language.*

**Sokolova E.G.**

A foreign language role in the professional activity of a lawyer in the sphere of marine and river transport

Key words: *foreign language communication, professionally oriented teaching, non linguistic high school, professional activity, professional tasks, lawyer, transport law.*

*The subject of the article is the goal setting in the professionally oriented foreign language teaching in non linguistic high schools and the problem of the foreign language academic discipline status in the professional education of future lawyers specializing in marine and river transport law. The author presents the analysis of the transport law specialists' professional activity and provides the examples of the lawyer duties with functional actions involving a foreign language.*

**Soloveva O.B.**

Characteristics of professionally oriented speech situations

Key words: *professional communication, speech situation, aim of speaking, modeling*

*The author of the article gives characteristics of professionally oriented speech situations, analyzes peculiarities of modeling, specifies factors, necessary for the process.*

**Tikhonov A.V., Klushnikova Zh.V.**

The role and place of the international youth movement in the structure of international relations

Keywords: *the international youth movement, youth policy, youth, youth organizations, the United Nations.*

*This article discusses the basic stages of the transformation of the international youth movement. A special role is given to the study of the forms of the international movement and its role in international relations and the future prospects of development.*

**Shamov A.N.**

Organizational and methodological provision in teaching a foreign language to master degree students in a non-linguistic university

Keywords: *A foreign language, teaching a foreign language on a specialized basis, teaching master degree students, the creation of an educational program, organizational and methodological provision, teaching master degree students resorting to the competence mode.*

*The article under consideration tackles the problem of teaching a foreign language in a non-linguistic university on a specialized basis and is mainly focused on students running their master's degree. The development of the language teaching program alongside the creation of organizational and methodological education are of the utmost importance.*

## **Section X Philosophy. Society. Culture**

**Balakshin A.S.**

Practical culture studying nature and basic principles

Keywords: *culture, culture studying, practical culture, social practice, social and cultural projecting, modeling, prognosing, regulation*

*The article considers new methodological approaches, aims, problems and basic principles of practical culture studying.*

**Vladimirov A.A.**

The human rights problem in the «law philosophy»

Key words: *philosophy, law, person, state, society sphere, the Constitution, the natural law.*

*This article discusses the human rights problems current methodology in the aspect of the «law philosophy» common system.*

**Zelenov L.A.**

The market universal nature (market universe)

Key words: *market economy functions, outlook, property*

*This article briefly analyzes «market» as a universal social field deployment activities and the society function with the commercial relationships dominance*

**Tikhovodova A.V.**

The global civil society concept peculiarities and contradictions

Key words: *global civil society, activist paradigm, the neo-liberal paradigm, postmodern paradigm, international non-governmental organization, social movements, global governance.*

*The article considers the global civil society concept and presents the up-to-date paradigms of its understanding. It focuses on the «global civil society» term interpretation ambiguity and its further concretization necessity. Different INGO types and the ways of their participation in the international relations system are characterized.*