#### УДК 681.88:639.2.06(571.66)

**HYDROACOUSTIC METHODS FOR SECURITY OF WATER BIOLOGICAL RESOURSES   
OF KAMCHATKA**

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The article describes the disadvantage of the present fishing-boat monitoring satellite system. The decrease of efficiency of such observation is marked. In addition to the present methods they propose hydro acoustic methods of observing the geographical location of the vessels and their work in Kamchatka coastal waters and in the two-hundred-mile economic area of the Sea of Okhotsk and the Bering Sea.

**Key words:** monitoring of fishing, protection of water biological resourses, positional hydroacoustic aids.

УДК 519.71

**ON STABILITY CONDITIONS OF FUZZY TS SYSTEMS**

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This paper addresses fuzzy control systems, asymptotically stability analysis and fuzzy controllers design. PDC-based stabilization method for Takagi – Sugeno fuzzy systems is discussed. The paper proposed asymptotic stability sufficient conditions for fuzzy control systems via fuzzy Lyapunov function. It is shown via fuzzy Lyapunov function approach that less conservative asymptotic stability conditions for close-loop fuzzy systems may be obtained. The stability conditions can be reduced to linear matrix inequality problems. Therefore they can be solved efficiently in practice by convex programming techniques. The results may be used in problem solving of nonlinear systems stability.

**Key words:** nonlinear fuzzy control systems, Takagi – Sugeno fuzzy models, fuzzy Lyapunov function, stability, fuzzy controller, linear matrix inequalities.

УДК 621.396:639.2.06

**POSSIBILITY OF CONSTRUCTING GLOBAL FISHER MONITORING SYSTEM BASED   
ON SATELLITE STATIONS OF AUTOMATIC IDENTIFICATION SYSTEM**

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The possibility of constructing global fisher monitoring system based on satellite stations of automatic identification system placed on low-orbit satellites is considered. It allows accomplishing monitoring task for 950 ships concentrated on 2667 km – radius zone in one satellite time over.

**Key words:** automatic identification system, automated monitoring system, satellite station, slot, transponder.

УДК 621.396.932

**SIGNAL FADING IN THE RECEPTION POINT IN FISHERY**  **SHIP HIGH-FREQUENCY  
 RADIO COMMUNICATION**

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Principal causes and prevention methods of radio signal fading in northern latitudes are considered. The most effective method is optimal model selection of radio-wave propagation by the variation of signal working frequency.

**Key words:** signal fading, frequency selection, communication terminal, ionosphere, working frequency.

УДК 621.396:639.2

**THE FACTORS WHICH INFLUENCE EFFICIENCY OF BRANCH FOR FISHERY   
MONITORING SYSTEM**

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The major factors influencing functioning of branch for fishery monitoring system now are considered. The problem of reception of the qualitative target data generated on the basis of satellite positioning of the trade ships is formulated. Ways of the decision of priorities for improvement of efficiency of the control over a craft of water biological resources in the circumstances are offered.

**Key words:** Centre for fishery monitoring and communications, the technical control means, of branch for fishery monitoring system, satellite stations, trade vessels, the control over a craft.

УДК 621.35

**RESEARCH OF THE TERMOCHEMICAL PROCESSES OCCURRING   
AT INFRINGEMENTS IN CONTACT CONNECTIONS   
OF THE POWER ELECTRIC EQUIPMENT**

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The result of research of the thermochemical processes occurring in contact connections and adjacent them elements of a design of an electric equipment is resulted. A number of data on dynamics of development of such infringements is collected. Comparison of the results received by means of given model, with given received by an empirical way is spent. Assumptions of the reasons of distinctions between model and the empirical data are resulted.

**Key words:** an electric equipment, contact connection, isolation, thermochemical processes.

УДК 552.08

**PREDICTION OF MAGNITUDE OF SYSTEMATIC ERROR OF ASSAY RESULTS**

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This article covers using the method of test portion mass variation in quality control of assay results allowing to predict a magnitude of systematic error of the analysis results.

**Key words:** assay, quality control of assay result, method of test portion mass variation, systematic inaccuracy.

УДК 656.6.08

**WRECKING OF THE TRAWLER «AMETIST»**

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On the 11th of February in 2011 the trawler «Ametist» disappeared in the Sea of Okhotsk. At that none of the crewmembers escaped and the distress wasn’t signaled. Admittedly the ship went down unexpectedly having lost stability. The calculations of ship stability in case of different loadings of the trawler «Ametist» are given in the article. The supposition of possible causes of the ship wreck is also mentioned.

**Key words:** ship stability, trawler «Ametist», ship wreck.

664.951.2:639.211

**REASONING FOR COLD STORAGE LIFE OF LOW-TEMPERATURE SALTED   
PINK SALMON**

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The article proves the cold storage life of low-temperature salted filleted pink salmon. The microbiological parameters of low-temperature salted pink salmon during cold storage are described. It is determined that the storage life of filleted pink salmon with 3–5% salt content at the temperature 18ºС below zero is 3 months.

**Key words:** salmon, lightly-salted products, pink salmon, cold storage, microbiological parameters.

УДК 664.951.6

**TECHNOLOGY OF FISH PRESERVES USING A NEW WAY OF MATURATION**

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The technology of fish preserves of low enzyme activity raw material is designed. The influence of potassium chloride concentration on the rate of biochemical maturation is established.

**Key words:** technology, herring, salting, biochemical maturation, potassium chloride.

УДК 664.8.047:582.272

**JUSTIFICATION FOR DRYING CONDITIONS OF BROWN ALGAE USING   
A VAPOUR COMPRESSION HEAT PUMP**

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Saving energy costs in the drying process on the developed test-bed of the dryer using a vapour compression heat pump is discussed in this article. The researches allowing to justify the drying conditions of brown algae are done.

**Key words:** dryers, brown algae, drying, energy efficiency, heat pump, optimum drying conditions.

УДК 582.272

**ALGINATE CONTENT IN KAMCHATKA *FUCUS******EVANESCENS***

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Data of alginate content in brown algae *F. evanescens* from different areas are given in this article. The alginate content in different parts of the algae thallus is also considered here.

**Key words:** alginic acid, alginate, mannitol, fucus.

УДК: 504.61:911.37(571.66)

**WASTE INVENTORY IN KARAGINSKY MUNICIPAL AREA: OPENED PROBLEMS**

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Problems of the disposal of industrial and consumer waste in settlements of the Northeast part of the Kamchatka peninsula by the example of the taken inventory in Karaginsky municipal area are shown.

**Key words:** industrial and consumer waste, waste disposal facility, waste passport, class of hazard, environmental contamination.

УДК 664.8.022:582.26/.27

**ВLUE-GREEN AND RED ALGAE BIOMASS DESTRUCTION INFLUENCE   
ON ITS PHYCOBILIPROTEIN PIGMENTS EXTRACTION PROCESS**

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The article gives the results of the following research: blue-green algae (*Phormidium* species) and red algae (*Turnerella* and *Neoptilota* species) biomass destruction influences on its phycobiliprotein pigments extraction process. The necessity of cells disintegration for providing complete extraction is shown, as cellular shells prevent pigments extraction.

**Key words:** blue-green algae, red algae, phycocyanin, phycoerythrin, extraction, disintegration, spectrum.

УДК 316.62:331.101.3(571.66)

**VALUE SYSTEM AND WORK ETHIC: EXPERIENCE OF SOCIOLOGICAL RESEARCH**

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The article presents data of sociological research conducted in Kamchatka region for job satisfaction and work ethic. The findings allow us to determine the dominant meanings and values of labor and draw conclusions about the status and prospects of development of social and labor sphere in the region.

**Key words:** labor, values, value system, work ethic.

УДК 658:338.439

**SYSTEMATIC ASPECTS OF THE PRODUCTION STRATEGY FORMATION   
OF ENTERPRISES IN FISHING INDUSTRY IN AN ATMOSPHERE OF RISK**

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The paper gives the results of studies on the use of game theory as a tool that allows to reduce uncertainty and risk of an enterprise’s activities. The criteria of the formation of production strategy have been offered. The following parameters of the market situation may be used as criteria: dynamics of demand for a product; evaluation of market risk; expected profitability; investments reguired; provision by resources (with resources); expected volume of production.

**Key words**: economic efficiency, game theory, fishery enterprises, criterion of Vald, Savage, Gurvits.

УДК 316.486.22(571.66)

**BASIC TENDENCIES OF PROTEST MOOD DISTRIBUTION IN KAMCHATKA REGION**

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On the basis of sociological research data the general background and features of protest mood distribution among Kamchatka inhabitants are analyzed in the article. Social and electoral groups of active and latent protest are revealed. Based on social feeling of population data problems-reasons of the region social mood are found.

**Key words:** protest moods, social portrait, electoral portrait, sociological research.

УДК 658.14:625.7(571.66)

**SPECIFIC CHARACTER OF FORMING ENTERPRISE PROFITABLE SEGMENT   
CONCERNED WITH PUBLIC ROAD REPAIR AND CONSTRUCTION   
IN KAMCHATKA REGION**

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The article is about the specific character of forming road repair and construction enterprise profitable segment, pricing of state and municipal contracts. The practicality of different methods of cost estimate in Kamchatka region is analyzed.

**Key words:** repair and construction work, estimate standards, construction methodological documentation, income.

УДК 338.439

**WHAT IS THE VALUE OF BIOLOGICAL DIVERSITY?**

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The article considers some new methodical approaches to obtain the direct cost estimations of biological diversity. Such estimations can form the basis of effective economic mechanisms for preservation and sustainable use of the diversity of wildlife objects.

**Key words:** biodiversity, economic functions, cost estimation, use of natural resources, pacific salmons.

УДК 621.039.743

**PABULUM FOR REFLECTION: GEOLOGICAL, ECOLOGICAL AND POLITICAL**

**ASPECTS OF DEPOSITORY AND REPOSITORY OF NUCLEAR MATERIALS**

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This paper presents further consideration of the following interrelation in the energy production sphere:   
oil and gas business and international projects on the long-term storage of nuclear materials. There are discussed some Russian versions of construction of nuclear depositories as well as corresponding geological assessments,   
in particular for the north-west Russia.

**Key words**: nuclear energy, hydrocarbons, nuclear waste, international depositories, nickel, the SAMPO image*.*

УДК 32:573

**BIOPOLICY AND RISKS OF MODERNIZATION DEVELOPMENT**

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The article shows that one of the major problems is biopolitical processes and risks of modernization development of modern society.

The biological factors of growth which can become development drivers are considered, at the same time they can also put brakes on the society development. It shows a dialectic component of biopolicy. It is shown that, despite the importance of biopolitical knowledge in functioning of the society, biopolicy is in risk processes which aren't considered to the full in reaching the political decisions affecting public interests. Solution approaches to modernization development threats according to the author are formulated.

**Key words**: state biopolicy, biotechnologies, modernization development, world food crisis, reduction of genetic variety, food safety, global water crisis, soil erosion, pesticides, reforms in agriculture, natural resources, irrigational technologies, fishery, consequences of world crisis, biosphere development, risks of modernization.