УДК 621.311

**THE ANALYSIS OF CURRENT DIAGNOSTIC DEVICES
IN POWER-SUPPLY SYSTEMS**

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Diagnostic variables of the electrical equipment are determined. Diagnostic features of the primary electrical equipment are considered. Classification of technical diagnostic devices is made. Perspective diagnostic systems of the electrical equipment are determined.

**Key words:** diagnostic variable, TDD (technical diagnostic device), generator, transformer, networking equipment, infrared imager monitoring.

УДК 519.6: 551.510.413.5(571.66)

**MULTICOMPONENT MODEL OF THE IONOSPHERE CRITICAL FREQUENCY
OVER KAMCHATKA**

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The article describes a multicomponent data model of the ionosphere critical frequency over Kamchatka and the results of its evaluation. Using the multicomponent modeling method proposed by the authors the data models were identified and their diagnostic verification was made, the prognosis of parameter variations was made. On the basis of the prognosis error analysis, we could reveal anomalies which occur during high solar activity periods and strong earthquakes periods in Kamchatka.

**Key words:** analysis of anomalies, the frequency of the ionosphere, the multicomponent modeling, wavelet transform, autoregressive

УДК 621.396.676.095:629.562

**POLARIZATION POWER LOSSES DURING MARINE HIGH-FREQUENCY
RADIO COMMUNICATION OF FISHING VESSELS**

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We ascertained the shipboard antennas with vertical signals polarization had polarized losses of signal power due to the direction change of polarization vector in the ionosphere and the Earth's magnetic field. Circularly polarized antennas don’t have these kinds of losses.

**Key words:** antenna, polarization, electric field strength, pattern.

УДК 519.856:[629.5.06:621.3]

**METHODS OF DETERMINING THE REMAINING WORKING CAPACITY F OBJECTS OF MARINE ELECTRICAL EQUIPMENT**

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The method offered in work based on the use of the model constructed by process of elimination of varied parameter. At the operational stage, this technique allows to make the current regulation and service of the equipment by real technical condition. Evaluation of the current state of diagnosis objects is based on the criterion of proximity of the technical condition of the object to a critical diagnosis. The estimate of the value of the drift point of diagnosing the state of the object in the space of diagnosis is selectedas criterion. Typical problem of using the function of several variables is converted to the task of using a function with variable parameters. This allows in aggregate with interval methods to consider only deterministic optimization models, avoiding the cumbersome analytical models and techniques and improve constructed on the basis of the use of analytical expressions of the gradient of the objective functions, boundary, etc., methods traditionally used in the optimization.

**Key words:** diagnostic feature, stochastic model, regular model, variation, adjustable parameter.

УДК 519.856:[629.5.06:621.3]

**STOCHASTIC MODELS AND OPERABILITY ANALYSIS
OF SHIP ELECTRICAL EQUIPMENT UNITS**

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The proposed method is based on the use of stochastic models constructed with elimination approach of variable parameters. This method allows to make current adjustment and equipment maintenance of the equipment according to the actual technical condition. The proposed method includes preliminary estimation of interval range of parameters change composing the component based on the analysis of static and dynamic modes of operation. The use of interval arithmetic operations provides for finding intervals of parametric control. The process of system’s degradation is modeled basing on Markovian process with the use of matrix form of Chapman-Kolmogorov equation. It allows to observe the process of system’s degradation and to perform an anticipatory control.

**Key words:** diagnostic attribute, stochastic model, regular model, variation, adjustable parameter.

УДК: 004.932.75'1

**FEATURE EXTRACTION IN THE PROBLEM OF HANDWRITTEN TEXT RECOGNITION**

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The article deals with making feature extraction algorithms while recognizing handwritten texts. For this purpose we use heuristic approach based on the analysis of these images. Algorithms of specific character formation of handwritten symbols are proposed on the base of this approach. The basic idea of the proposed algorithm is to build a set of preferred features which are typical of statistical characteristics of handwritten characters and to make decisions based on the comparison of these features. These characteristics are determined for each fragment of the given image of handwritten symbols. To test the efficiency of the proposed algorithms experimental studies were conducted in solving the problem of recognizing handwritten characters by their images.

**Key words:** basic images patches, handwritten characters recognition, features of handwritten characters, features preference of handwritten characters, features strong cohesion.

УДК [597.555.5+597.556.35](268)

**POLAR COD IN THE DIET OF BLACK HALIBUT
IN THE SEAS OF THE WESTERN ARCTIC**

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This paper presents the results of research carried out in the seas of the Western Arctic to identify type predator-prey relationships between halibut and polar cod in the areas of their habitat. The purpose of the work performed was to determine the nature and the degree of halibut influence on polar cod population in the areas of overlapping habitats in the northern Greenland, the Barents and the Kara Seas.

**Key words:** black halibut, polar cod, ecosystem, the Barents Sea, the Greenland Sea, the Kara Sea, consumption, number, nutrition.

УДК 639.371.1(571.66)''2012''

**BIOLOGICAL STATE OF THE JUVENILE PACIFIC SALMON RELEASED
FROM THE HATCHERS OF KAMCHATKA REGION IN 2012**

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The paper contains results of biological analysis of the juvenile Pacific salmon released from the hatchers of Kamchatka region in 2012. We measured juveniles’ body length and weigh, sex ratio, coefficient of fatness, general activity level and the reaction to the external irritants.

**Key words:** the Pacific salmon, biological analysis, underyearling, the salmon hatchery (SH), Kamchatka.

УДК 005.95/.96:331.101.3

**THE PROBLEM OF STAFF INTERNAL MOTIVATION
DURING ADAPTATION PERIOD TO A NEW JOB**

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The present article covers the importance of internal motivational factors of employees during adaptation period. We offfer some socially-organizational measures to increase employer’s personal interest in working process.

**Key words:** motivation, adaptation, corporate culture, adaptation program, motivational orientation.

УДК 316.334.52:316.44

**REGIONAL SECURITY AS THE SUBJECT OF SOCIAL ANALYSIS**

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The article covers the definition of the term “securityˮ, peculiarities of its use and its classification. The definition of the term “regionˮ and peculiarities of its use are also stated. Sociological analysis of regional security was made.

**Key words:** security, region, social security, standard of living, social differentiation.

УДК 339.37:334.735

**COMPLEX ASSESSMENT OF RETAIL TRADE IMAGE
OF CONSUMER’S COOPERATION**

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In article is devoted to the main aspects and peculiarities of complex assessment application of the least studied competitive advantages – that is image of organizations and retail traders of consumers' cooperation. The method combines the technique of “three levelsˮ and model of an “ideal lineˮ. The method of “three levelsˮ represents consumer’s cooperation as an hierarchical system which has three levels, they are: macro-, meso- and micro levels. The model of an “ideal lineˮ allows to make an assessment of each level entity’s image approaching to an ideal condition from the consumers’, the public and personnel point of view.

**Key words:** competitive advantage, image, consumer cooperation, macro-, meso- and microlevel of consumer cooperation, model of “the ideal lineˮ.

УДК [339.738+339.923]:061.1ЕС

**PROCESS OF EURO-ZONE FORMATION**

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Stages of Economic and Monetary Union formation are considered. Its institutional structure is identified and described. The process of unified European currency application is described. Peculiarities of changing into currency “euroˮ in the countries of the European Union are shown.

**Key words:** European Union, European Monetary System, Economic and Monetary Union, Euro, Eurozone.

УДК 629.54(091)(571.66)

**HISTORY OF THE FIRST TRANSPORT SHIP WITH DIESEL POWER PLANT
OF KAMCHATKA JOINT-STOCK COMPANY**

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Information first used in the scientific documents about purchasing details and shipwreck of the first transport ship of Kamchatka joint-stock company was given. This ship played a great role in industrial and social development of Okhotsk-Kamchatka coast. Unique ship images are published for the first time ever.

**Key words:**. Northeast Russia, Okhotsk-Kamchatka coast, Kamchatka joint-stock company, marine transport fleet.

УДК 378.147:811.111

**TEST CONTROL OF STUDENTS’ KNOWLEDGE WHEN LEARNING A FOREIGN
LANGUAGE (ON THE EXAMPLE OF THE TEST SYSTEM ANALYSIS OF KNOWLEDGE ASSESSMENT - MARLINS ENGLISH LANGUAGE TEST)**

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The article deals with the complex description of testing as a form of control of students ' foreign language knowledge. The types and forms of foreign language knowledge are described and the advantages and disadvantages of test control of students’ knowledge are revealed. In the work a range of approaches in language learning test classification is systematized. A brief description of the existing international language testing systems used by shipping companies to test the employing seafarers is made. A special emphasis is given to the Marlins English Language Test - online knowledge assessment tool that tests seafarers’ understanding of written and spoken English.

**Key words**: testing, control of knowledge, classification, communication skills, international, educational process, forms of control.

УДК 378.147:811.111'373

**LEXICO-THEMATIC CHARACTERISTICS OF MARLINS ENGLISH TEST**

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The article is devoted to the lexico-thematic analysis of the Marlins English Test used for the assessment of the level of knowledge English among the marine specialists. The author of the article presents the main thematic groups of words used in the test, defines their correlation, compares the lexical content of the test with the academic programs of the marine specialities.

**Key words:** lexico-thematic group, professionalisms, Marine English, test.