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S.N. Kirillov, V.A. Revutskiy. ALGORITHM FOR ESTIMATING THE TYPE AND PARAMETERS OF ERROR-CORRECTION CODES BASED ON A SCHEME DECODER - ENCODER

Key words: error-correction code, convolutional code, analyzed binary sequence, satellite communication system, codes rate.

Estimation algorithm type and parameters of block and convolutional error-correcting codes (ECC) used in satellite communications systems, based on a scheme decoder-encoder is proved. It is shown that the proposed algorithm provides a probability of correct decisions about the type and parameters of ECC at least 0.8 for values of bit error probability in analysed binary sequence not more than 0.002.....3

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Key words: mammogram, cyst, preprocessing image, histogram transformation, average contrast, texture segmentation, selection of tumor, edge enhancement.

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Key words: continuous channel discrete mapping, generalized Fourier series, expansions coefficients, basis functions, Pugachev expansion, Karhunen-Loev expansion.

Continuous channel discrete mapping overall view is obtained. It represents generalized Fourier series expansions coefficients of which are evaluated according to linear functional dependence. Conversion from continuous input-output channel to discrete input-output channel is realized. Basis function expressions for channel input and output are derived. These expressions permit to evaluate basis functions in terms of recurrence operator transforms 12

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Key words: image, contour, complex contour analysis, Hermitian scalar product, autocorrelation and cross- correlation functions, image analysis.

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Key words: noise-immunity, discrete channel, synchronization, cyclical phasing.

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Key words: hyperbolic algorithm, mobile receiving point, sources of radio emission, passive radar.

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Key words: nonlinear oscillations, angle modulation, phase automatic control, matrix equations, limit cycle.

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Key words: linear autoregression, spectrum, time sequences modeling, redefined Yule-Walker's equation.

We propose and investigate a method of optimization of linear autoregressive models of magnetometric signals. It consists in weighing the autoregression coefficients with a vector of correction multipliers. Using this algorithm, we achieve two- to four-fold reduction of computational costs required to construct an overdetermined autoregressive model of magnetometric signals. This reduction is due to elimination of rectangular correlation matrices multiplication step during the solution of overdetermined linear system.....45

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Key words: MEMS gyroscope and accelerometer, temperature compensation, three-axis rotation platform.

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Key words: adaptive weighting functions, minimum level of side lobes.

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N.Y. Kolbneva, T.K. Artemova. CELLULAR SUBSCRIBER LOCATION ESTIMATION ACCURACY IN UL-TOA BASED METHOD

Key words: estimation of location; mobile station; base station; mobile object; UL-TOA; multipath signal; Time of Arrival; positioning methods.

Improved algorithm of cellular subscriber's location estimation by UL-TOA method using four or more reference base stations was proposed, tested on models and analyzed. Estimation accuracy of the location was studied for Raleigh and Gauss models of signal delays. The conditions of satisfactory accuracy achievement have been determined for urban communication channel. Recommendations for construction of system providing several times accuracy improvement were formulated. It is shown that six reference base stations are enough to achieve given accuracy in practice61

COMPUTER ENGINEERING AND APPLIED MATHEMATICS

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Key words: multi-threaded routing, two-phase routing, load balancing, genetic algorithms.

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Key words: fuzzy linguistic variable, expert estimation, competitive project.

The problem of competitive projects multicriteria selection solved during the group expert estimation under conditions of uncertain experts knowledge about both competitive projects estimates by estimation criteria and the criteria importance in the course of decision-making is considered. Approach to the problem of competitive projects selection, realizing representation of uncertain experts knowledge on the base of fuzzy linguistic variables is offered75

I.A. Saitov, O.V. Romanyuk. MODEL OF SELECTING NETWORK RESOURCES OF PACKET SWITCHING TO PROVIDE GUARANTEED SERVICE QUALITY AT IP-MICROFLOWS ACCESS BY RECORD OF GROUPING CONVERGENT TRAFFIC

Key words: Network calculus, network resources reservation.

The article proposes a mathematical model of data block flows grouping on network level in terms of network calculus. Analytical calculation expressions of reserved network resources in isolated and grouped flows services in compliance with quality guarantee are obtained The article proves the proposals of effect record of resources saving from grouping at the expense of collective usage of inaccurate members of packet transmission scheduling when IP-microflows

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Z.V. Strakhova, N.I. Tsukanova. ONTOLOGY OF EDUCATIONAL AND METHODOLOGICAL COMPLEX

Key words: educational and methodical complex, ontology, concepts, classes, relations, taxonomy, tree of classes, hyperlink, summary table.

Programmatic superstructure which realizes ontology of subject area is proposed for the organization of quick access to educational and methodical complexes of the Department (EMC.). The development of ontology of «Educational and methodical complex» subject area was held, the opportunity of its realization in Microsoft Excel tabular processor was also shown. This programmatic superstructure provides not only the organization of quick access to necessary element, but also carrying out the analysis of EMC's development process at the Department 85

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A.N. Vlasov, M.V. Dubkov, M.A. Burobin, S.V. Zhimoloskin, A.B. Manoshkin. EXPERIMENTAL SETUP «INGIR-MEGA-15» FOR GETTING AND STUDYING INDUCTIVE DISCHARGE

Key words: experimental installation «INGIR-Mega-15», strong and rapidly decaying magnetic field, inductive pulsed discharge, long-lived plasmoid.

An experimental setup «inghirami-mega-15» for the formation of pulsed inductive discharge and carrying out its research is designed. Method and technique of energy input into strong magnetic field are developed. Theoretical estimates confirming technical feasibility of technical project of research are implemented. Preliminary experimental results of tests in test mode setting showing its efficiency and potential for the formation of long-lived plasmoids are considered 90

V.A. Korotchenko, JE.I. Sokolovsky, V.I. Solovyev, ZH.V. Solotenkova. STUDY OF PROCESSES PRIOR INTERRUPTION OF ELECTRIC CURRENT REED SWITCH WITH CONTROL COIL

Key words: breaking of reed switches, electrical attraction, field emission, movement of contact details.

The possibility of liquid-metal bridge formation in small reed switch MKA-14108 with permalloy contacts at break of electric current in the range of passport is confirmed experimentally. It is shown that the split with maximum current of 500 mA metal melting starts in about 10 μ s before opening the contact. This time interval is reduced with the decrease of current. It is stated that the melting of metal starts at the voltage between contacts of about 0.6 V regardless of torn current, which corresponds to the literature data. It is shown that the voltage on contact surface at the time of current disruption is independent of its value in range (100-500 mA) and is equal to 1.25-1.35 V 95

MANAGEMENT

A.N. Pylkin, A.V. Kroshilin, S.V. Kroshilina. REGULATION OF MATERIAL STREAMS IN INTELLECTUAL CONTROL SYSTEMS

Key words: systems of decision-making support, cognitive maps, fuzzy logic, management of material streams.

Approach to creation of decision-making support systems is offered and methods of intellectual management on the basis of multiple-factor hierarchical cognitive analysis are defined. The algorithm of creation of indistinct cognitive maps describing multicriteria information systems of material stream accounting is developed. The example of design and realization of a program

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E.I. Kistrina, G.E. Lokteyeva, S.J. Chikina. CAPACITY ASSESSMENT TOURISM MARKETS AS A TOOL FOR DEVELOPMENT MANAGEMENT AREA

Key words: tourism, domestic tourism, market capacity assessment, tourist services, management of area development.

The development of market relations in Russia encourages the development of tourism as one of the most important economic sectors that positively influence socio-economic situation in the country. One of the main instruments of territory development management is the assessment of market capacity of territory tourist services which allows reflecting quantitatively to increase income of the territory from tourism and its potential opportunities. The income growth with competent territory management taking into account the assessment of market capacity of tourist services on the example of municipality of Skopin and municipality of Skopin region will increase 15.7 times and will be 534 thousand rubles per year 105

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Key words: management, cellular communication, system of indicators of quality.

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Yu.D. Zhukov, A.V. Zivenko, A.L. Vinogradov. SOME ALGORITHM MEANS FOR POLYMETRIC MEASUREMENT ACCURACY IMPROVEMENT

Key words: polymeric systems, temperature correction, probe pulse.

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Key words: remote sensing, multispectral method, image fusion, color model.

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