ABSTRACTS
Radioelektronika i informatika. 2006. № 3.

UDC 621.37:621.391

The test of statistical hypotheses at use polynomials of decisive rules, optimum by moment's criterion of the sum of asymptotic probabilities of errors / Y.P.Kunchenko, V.V.Palagin // Radioelektronika i informatika. 2006. № 3. P.4-11.

One from moments criterions of quality for test of statistical hypothesizes for synthesis of highly effective decisive rules on based of use of stochastic polynomials high order and moments-cumulants description of random variable is offer in paper. Is shown, that the non-linear processing of random variable can essential reduce probabilities of errors of new non-linear decisive rules on a comparison with a well known linear decisive rule, which is optimum by a probability criterion of a sum of probabilities of errors.

Fig. 2. Ref.: 11 items.

UDC 620.179.14

Definition of time constant of a magnetizing winding of the electromagnetic transducer / V.V.Sebko // Radioelektronika i informatika. 2006. № 3. P.12-15.

For research of transient phenomenons in the metal cylinder which is in the radiator, at a modification of increment of temperature of the air cylinder abruptly and periodically, it is necessary to create such conditions at which the electric time constant of the electromagnetic transducer will be much less thermal time constant of the metal cylinder, in this case it is possible to define practically instantaneous modifications of increments of temperature.

Tab. 4. Fig. 1. Ref.: 11 items.

UDC 621.315.596

Microelectronic multisensor silicon structures / A.V. Borysov|, P.A Yaganov // Radioelektronika i informatika. 2006. № 3. P.16-21.

Ways for the implementation of high-sensitive integral microelectronic multi sensor silicon structures are investigated in this work, along with the methods of development of measuring transformers with a broad spectrum of functionalities. The construction and production technology of such structures are also discussed, features of physics parameter measuring transformers realized on their basis are given, and some data experimental research of sensoric properties are presented.

Fig. 9. Ref.: 17 items.

UDC 621.391: 681.324

Models of local overloads in networks with switching packages / J.M. Bidnyj, O.M. Bukhanko, J.M. Koltun // Radioelektronika i informatika. 2006. № 3. P.22-24.

In the given work it is carried out comparisons of two different systems used in the theory of communication networks, M/M/1/N - in case of switching datagramms IP and M/M/1/D, in case of switching packages ATM. For each of systems there are such quantitative characteristics, as probability of blocking, average length of turn in the buffer, an average waiting time in turn and normalized efficiency. On the basis of the received results the made conclusions about opportunities of occurrence and development of overloads in the given networks. Also the made conclusion that network ATM less in subject of overload, than a network IP. Necessity of minimization of probability of blocking is determined at the set parameters of a network.

Fig. 7. Ref.: 4 items.

UDC 006.91

The Grabbs' criteria of the verification for the abnormality research with the measurement results which are distributed on arcsine law / G.G. Safaryan, M.P. Sergienko // Radioelektronika i informatika. 2006. № 3. P.25-28.

There was researched the Grabbs' criteria of the verification for the abnormality with the measurement results which are distributed on arcsine law. There were researched the events when upto three of the measurement results had deviated. The points were got which have 0.95 level of confidence.

Fig. 8. Ref.: 4 items.

UDC 519.859

Complete class of Φ-functions for circles and polygons with rotations / M.V. Zlotnik // Radioelektronika i informatika. 2006. № 3. P.29-33.

The article considers the complete class of Φ-functions for circular and polygonal -objects. The Φ-functions may be used when modeling cutting, packing and covering 2D problems for analytical description of interaction of geometric objects with translations and rotations.

Fig. 7. Ref.: 12 items.

UDC 618.514.01:517.977.5

The task of dynamic synthesis for the harmonious oscillator as the object of control / A. E. Radievski // Radioelektronika i informatika. 2006. № 3. P.33-37.

Within the procedure of analytical construction of optimal regulators we consider the task. of dynamic synthesis for the harmonious oscillator as the object of control. From the whole solution under consideration the solution of the structure and parameter synthesis, principle of the realization optimal regulator.

Ref.: 13 items.

UDC 517.373:517.443:517.444:519.6

About one method of computation of 3D discrete invert Radon transformation / A.D. Tevjashev, V.S. Smirnova // Radioelektronika i informatika. 2006. № 3. P.37-43.

Considered one method of computation of 3D discrete invert Radon transformation. Developed modification of this method, that provide great decrease of error. Developed comparative analysis of errors of this methods.

Tab. 1. Fig. 6. Ref.: 4 items.

UDC 519.714.5

Implementation of concurrent logic controllers based on decomposition into state machine components /M. Wegrzyn, A.Wegrzyn // Radioelektronika i informatika. 2006. № 3. P.44-47.

The main aim of this paper is to demonstrate a practical application of the Petri net decomposition algorithm based on finding deadlocks and traps. Obtained in such decomposition Concurrent Digital Systems represented by set of State Machine components are implemented using Programmable Logic.

Fig. 6. Ref.: 11 items.

UDC 638.235.231

Subject-object based model of unauthorized access using malware to the computer information /V.A. Gorbachov, V.V. Stepanenko, I.N. Ivanisenko// Radioelektronika i informatika. 2006. № 3. P.47-50.

By development models of functioning of a malware the subject-object approach has been used. Within the limits of the given approach all set of electronic components is broken into two subsets: subjects and objects, depending on their activity. The work results can be used for construction formal models of the computer system safety policy.

Ref.: 5 items.

UDC 681.3:621.3.013

The method of the optimum designing of analog-digital circuits of biomedical devices taking into account electromagnetic compatibility / I.V. Prasol, A.V. Kobylinskiy // Radioelektronika i informatika. 2006. № 3. P.50-53.

The method of the solving problems of the optimum designing of analog-digital circuits, in particular circuits of biomedical devices is offered. The choice of the structure of generalized criterion of optimality is motivated. The method of the estimation of value of electromagnetic compatibility factor of analog-digital circuits is offered.

Fig. 1. Ref.: 4 items.

UDC 519.613:681.326

Design modeling for papeline units of digital signal processing / I.V. Hahanova // Radioelektronika i informatika. 2006. № 3. P. 53-58.

Architectural model of pipeline digital units of system level description are offered. Such models are oriented for efficient decreasing DSP design circle. Practical filter implementation into SoC is considered as a weighted proof for the suggested design route by using Matlab and Active-HDL tools.

Tab. 1. Fig. 8. Ref.: 6 items.

UDC 681.51.007

Cover models in problems of image segmentation by requantification // Mashtalir V., Chupikov A. // Radioelektronika i informatika. 2006. № 3. P.59-66.

Covering interdependence of a gray level range and image carriers of objects in a field of view is considered. Relations providing automation of synthesis of tolerance classes and their transformation to equivalence classes are introduced and studied for thematic image interpretation.

Tab. 1. Fig. 6. Ref.: 29 items.

UDC 519.85

Application of Game Theory methods in information protection problems. / M.V. Novozhilova, K.O. Ovechko // Radioelektronika i informatika. 2006. № 3. P.66-70.

Information protection is an acute issue of the day. This work adopts Game Theory methods with the purpose to solve the problems peculiar to information protection. Game Theory is an alternative way to handle this type of problems. It avoids many obstacles, peculiar to other approaches. Its methods regard antagonistic structure of the majority of the information security problems and provide trustworthy solutions.

Fig. 3. Ref.: 12 items.

UDC 519.816+004.89

Technological decisions acceptance of computer support on a basis multiple-way optimization / I.V. Varfolomeeva // Radioelektronika i informatika. 2006. № 3. P.70-75.

In order to computer support of decisions in technological preparation of hot stamping production a general multiple-way problem of the optimum technological decision search is put for the first time. As a function of choice (a principle of optimality) the minimal distance between the alternative decisions and «ideal» decision has been used considering the importance of optimality private criteria. On the basis of ranging elements with use of comparative scales, design procedure of the importance coefficients of optimality private criteria is developed, and the task of private criteria commensurability (i.e. reductions of qualitative criteria to quantitative scale) is also solved.

Fig. 1. Tab. 1. Ref.: 15 items.

UDC 004.93'1:519.23

Rank decision rules of random sequences determination /A. V. Omelchenko // Radioelektronika i informatika. 2006. № 3. P. 75-81.

Rank decision rules of random sequences determination with a different shift of distributions and a scale have been built. By using methods of statistical simulation the performances of developed decision rules have been researched. It was shown the rank decision rules of random sequences determination are steadier to a violation of the model suppositions than adaptive Bays's rule when random sequences with the normal distribution are determined.

Tab. 4. Ref.: 5 items.

UDC 004.738.52:004.031

About one of the methods of functional structure syntheses for web oriented information system based on standard classes // V.I. Sayenko, T.O. Kolientseva // Radioelektronika i informatika. 2006. № 3. P. 82-86.

The methods of the standard classes for web oriented information system is proposed. The method is relied on functional descriptors classifications. The method of functional structure synthesis was also proposed. The problems of practical realization are viewed.

Tab. 12. Ref.: 7 items.