

ABSTRACTS

Management Information System and Devises. 2009. N 147.

UDC 004.732

Investigation of data transmission processes in real-time mode / G.V. Babich, V.I. Hahanov, Murad Ali A. // Management Information System and Devises. 2009. N 147. P.4-9.

The mechanisms of data transmission processes in real-time mode, characteristics of real-time traffic and general requirements to real-time data transmission have been considered. The architecture of RTP/RTCP protocol has been represented as an example of realization of considered mechanisms. The analysis of compliance of indicated realization to considered requirements has been executed. The tasks, which should be solved for providing of compliance of requirements to real-time data transmission, have been defined. For those tasks solving the usage of swarm intelligence apparatus and AntNet system have been proposed.

Fig. 3. Ref.: 4 items.

UDC 519.713:681.326

Testability analysis approach for pseudo-random testing in BIST system / E.N. Kulak, M.A. Kaminska, Y.K. Konstantinova // Management Information System and Devises. 2009. N 147. P.9-15.

Testability analysis for digital devices for pseudo-random test pattern generation is offered. Strategy of circuit with low testability measures modification is proposed. Method allows to analyze testability for combinational circuits which consist of 1000000 logic gates.

Tab. 2. Fig. 2. Ref.:11 items.

UDC 681.325

Increase in reliability of on-line testing methods using natural time redundancy / A.V. Drozd // Management Information System and Devises. 2009. N 147. P.15-24.

This paper addresses to questions of on-line testing for the computing circuits processing the approximate data. A problem of low reliability of on-line testing methods in checking the result is considered. This problem is connected to ignoring the natural time redundancy, which allows detecting the errors produced by the circuit fault during some interval of time. It reduces detection probability of errors, which are essential to reliability of result. The increase of this probability leads to detection of inessential errors and reduces reliability of on-line testing methods. The method of segments checking, which provides check of segments in the calculated result with the error detection probabilities determined by the natural time redundancy, is offered. This method significantly increases reliability in checking the result.

Tab. 3. Fig. 8. Ref.:18 items.

UDC 517.95 : 519.63

About one method mathematical modeling of some process with the help of R-function method / A.V. Artjukh, N.V. Gibkina., M.V. Sidorov, E.E. Agapov // Management Information System and Devises. 2009. N 147. P. 25-31.

Consider the time-independent incompressible free convection flow in simply connected 2D-domains. According to the R-function method and method of successive approximations numerical solution was build.

Fig. 2. Ref.: 10 items.

UDC 519.86

Models and methods of optimization of URAGAN-2M torsatron mode of deformation / S.A. Martynov, V.P. Vorobyova, M.S. Krugol, A.Yu. Yurkin, M.A. Khazhmuradov // Management Information System and Devises. 2009. N 147. P. 32-37.

Models and methods of three dimensional modeling of screw-type winding of URAGAN-2M toroidal magnetic system are considered. Using of the kinematic modeling methods and finite-element method for determining of the geometric and mode of deformation parameters of URAGAN-2M screw-type winding are based.

Fig. 6. Ref.: 6 items.

UDC 621. 555.6

Optimum experiment planning at study the device for checking quality of dielectric materials / N.D. Koshevoy, E.M. Kostenko, A.V. Zabolotny // Management Information System and Devises. 2009. N 147. P. 38-42.

Methods of optimum experiments planning by price expenses were used for study the device for checking quality of dielectric materials. Efficiency of these methods were shown, moreover the best results were got, when method of the iterating experiments planning were use, but the worst ones were when we use the method of casual searching.

Tab. 6. Ref.: 3 items.

UDC 621.396.96

Title of the paper / K.S. Vasiyta., M.V. Bulayenko // Management Information System and Devises. 2009. N 147. P.42-46.

The mathematical model of communication network and methods of construction of the systems on the basis of the rational distributing of elements, facilities and communication channels in the process of providing of management is analyzed

Tab. 1 Fig. 1. Ref.: 5 items.

UDC 631.432:626.86

Automated control system of agricultural cultures' water well being with drip irrigation / V. Pastushenko, A. Stetsenko // Management Information System and Devises. 2009. N 147. P.46-52.

The article is devoted to designing of the structure, algorithm of work and technical realization of the automated control system (ACS) of soil's moistness with drip irrigation of the agricultural cultures within the modular field subject to the stochastic disturbances' actions. In the work's algorithm for moistness's control fuzzy logic mechanisms was used and simulated in Fuzzy Logic Toolbox of Matlab system. The algorithm of the all ACS's work is represented. The software for organizing of automated reading of meteorological forecast from the Internet site is developed. The technical realization of the control system on the bases of Microchip's microcontroller PIC16C71, GSM module and automated work station (AWS) of dispatcher is proposed.

Tab. 1. Fig. 7. Ref.: 2 items.

UDC 681.326:519.613

Technology of a covering of defective blocks reserve components / V.I. Hahanov, S.V. Chumachenko, E.I. Litvinova, O.V. Zaharchenko // Management Information System and Devises. 2009. N 147. P.52-64.

The technology of the minimum covering of defective blocks reserve components is offered at restoration of working capacity of a logic part of digital system on a crystal. General provisions and rules of a covering for a matrix of configured logic blocks with defective cells are considered. Criteria of a covering of defective cells are developed. Examples of realisation of algorithm are resulted.

Fig. 17. Ref.: 12 items.

UDC 004.932.2

Projective methods in the tasks on image normalization and recognition / O.V. Gorokhovatskyi // Management Information System and Devises. 2009. N 147. P.64-69.

The methods of image normalization and recognition with the use of projective analysis are offered. The influence of geometrical transforms and their combinations on Radon transform is shown and explored. The method of determination geometrical transform parameters of image and their combinations is offered for normalization, based upon projections, also method of construction and comparison for systems of image invariant features is presented, based upon Radon transform and moment invariants. Computer simulation experiments are performed, confirming the efficiency of the presented methods.

Tab. 1. Fig. 2. Ref.: 5 items.

UDC 681.003.66

Diagnostic model of IP-network / S.A. Sokolov, A.L. Stokipny, A.V. Goldaev // Management Information System and Devises. 2009. N 147. P.70-76.

The article provides a theoretical description of the diagnostic model of IP-network, which is based on the representation of the network as a set of events. Each event is the adoption of the diagnostic parameter values from the previously given set. Diagnostic parameters in quantitative form provides information about the current state of the sources of diagnostic information, which the authors identify three main types: software components, hardware components and communication channels. The proposed model allows for a specified time interval to establish a database of diagnostic information (DBDI) IP-network.

Fig. 2. Ref.: 9 items.

UDC 519.7

Evolutional approach to the optimization problems of transport type solving/ A.N. Gvozdinskiy, S.V. Melnik // Management Information System and Devises. 2009. N 147. P.76-81.

On the basis of the optimization problem analysis an observation of the modern optimization of transportation situation has been made. Present methods of optimization are observed and a new one is created. The new method is based on the evolutional approach and on genetic algorithms which allows to find an optimal solution much n faster and thus can be applied on higher data level. Also the created algorithm has lover hardware requirements so it's economically sound.

Tab. 1. Ref.: 4 items.

UDC 519.7

Research of the intellectual systems of decision-making is in the production planning / A.N. Gvozdinskiy, Yu.N. Kornienko // Management Information System and Devises. 2009. N 147. P.81-84.

On the basis of the substantial analysis of a subject domain intellectual control systems in industrial planning by the enterprise are investigated. In particular such intellectual methods as a method of ant colonies, genetic algorithm and block optimization of the linear programming are investigated. It is shown advantages and lacks each of these methods.

Fig. 1. Ref.: 6 items.

UDC 519.7

Analysis of the resource allocation methods in network systems / A.N. Gvozdinskiy, V.U. Kudriashov // Management Information System and Devises. 2009. N 147. P.85-89.

On the base of the problem domain analysis the methods of resources allocation in network systems were researched. Particularly the Hungarian method and the Dantzig — Wolfe method. Advantages and disadvantages of these methods were analyzed and shown.

Ref.: 5 items.

UDC 681.3

Methods of intellectual information search in a GRID-network / S.V. Minuhin, S.V. Znahur // Management Information System and Devises. 2009. N 147. P.89-94.

The article discussed methods of solving the problem of effective search and distribution of information resources through the use of artificial neural networks. Find information based on the distribution metainformation on the resource (document) by GRID-node network based on network Kohonena. Operation of the network can solve the problem Kohonena associations relevant repository metainformation. Request is processed at the associated subset of network nodes, which improves the time and quality of search engine.

Fig. 3. Ref.: 7 items.

UDC 519.816

Estimation of behavioural motives of interaction between subjects as an original cause of conflicts or cooperation in organizational systems / V.O.Timofeev, I.G. Denisova // Management Information System and Devises. 2009. N 147. P.94-100.

The construction of model of povedencheskogo co-operation is grounded between the subjects of organizational co-operation, by which it is possible to estimate the degree of conflict in the organizational system. The concept vehicle of theory of contradictions is utilized and an example of choice of alternative of conduct is made taking into account a reflection and vzaimorefleksii subjects.

Tab. 2. Fig. 2. Ref.: 2 items.

UDC 519.22

Numerical analysis some problems of optimal parameters definition for insurance company in conditions her investment activity / N.V. Gibkina, S.V. Dmytrenko // Management Information System and Devises. 2009. N 147. P. 94-100.

In given work we consider the problem of net premium definition for insurance company in conditions her investment activity. We consider traditional and innovation schemes of net premium calculation in long-term life insurance. Contrastive analysis of results for each scheme was done. As a result, we determine conditions in which insurance contract signing is profitable. Research is relevant for insurance companies that are interested in inculcation of innovation insurance schemes to increase competitiveness in insurance market.

Tab. 2. Fig. 1. Ref.: 4 items.

UDC 004.942:621.6:622.691

Taking into account of dynamics of constipation armature work during modeling of non-stationary modes of gas transport in the gas-main pipelines / A.D. Tevjashev, I.G. Gusarova, A.V. Kaminska // Management Information System and Devises. 2009. N 147. P. 100-113.

There are the mathematical model and the method of calculation of the non-stationary non-isothermal modes of transport of natural gas are considered in the work. They take into account the model of flow of gas through a constipation armature and allow to calculate gas streams parameters in the linear areas of main gas pipelines.

Tab. 1. Fig. 7. Ref: 2 items.

UDC 631.2 : 631.171 : 65.011.56

Optimum control of thermal modes in technologically active zones according to the given standards / A.P. Slesarenko, N.A. Romanchenko, A.S. Soroka // Management Information System and Devises. 2009. N 147. P. 113-120.

On the basis of effective mathematical models of computation and forecasting of energy flow distribution in multilevel electroheating and accumulating system (MEHAS), the methodology of development of controlled electroheating and accumulating installations which provide the standards of a thermal mode of a microclimate in industrial agricultural structures is grounded. The structure of system of automatic control with the block of MEHAS modeling in a contour of feedback is offered. The requirements to a mathematical model of MEHAS are formulated.

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