



- Paveliev S. V.** Optimal on-line backup of information arrays and software modules in corporate networks based on Internet channels. N 3.
- Pechersky M. P., Livshits B. Yu.** The Moscow traffic management system (the *Start* system) and its further evolution. N 2.
- Podlazov V. S.** Scalable multiring fixed plants for multi-processor computation systems. N 2.
- Podlazov V. S., Sokolov V. V.** High dimensionality single-stage switches for multiprocessor and multimachine systems. N 6.
- Podlazov V. S., Stetsyura G. G.** Regular flat networks for supercomputers. N 1.
- Rad'ko S. G.** Evaluation of labor potential of management specialists. N 1.
- Rakhmatullin I. E.** Information resource management modeling as a part of industrial policy. N 3.
- Rud'ko I. M.** Evaluation of the distance from a target located in antenna's Fresnel region. N 6.
- Rykin S. E., Izosimov D. B., Bayda S. V.** Regularization of components switching for multidimensional discontinuous control in a real sliding mode. N 1.
- Saakian V. G., Levin M. A., Lovsky V. Yu., Miller A. M.** Auto-vokzal-2 bus conveyance sales system. N 2.
- Sachuk T. V.** The development of business strategies for territory growth. N 1.
- Sannikova I. N.** Information support for a learning organization. N 2.
- Schetinin V. G., Smolyakova M. K., Brazhnikov A. I.** The neural-network based synthesis of developing strategies for regional industrial production. N 3.
- Scientific and practical seminar «Modern control methods for complex social and economic systems».** N 5.
- Second Russian-Turkish Conference on Mathematical Models for Socio-Economic Progress.** N 1.
- Shelkov A. B., Pelikhov V. P., Gladkov Yu. M.** The techniques of travelling auditor's risks analysis and evaluation. N 5.
- Shelkov M. A., Gladkov M. Yu.** Integrated information registration systems for remote attacks repulsion. N 3.
- Shkuratov S. E.** Approach to strategic management of a small innovative enterprise. N 6.
- Shlain V., Gleibman A., Vagapov D.** Basic algorithms for an automatic faults detection and classification system in microchip manufacturing control. N 1.
- Sirina N. F., Tsyganov V. V.** Adaptive mechanisms of the prescient systems estimation and classification. N 6.
- Sokolov S. V., Pogorelov V. A.** Identification of stochastic process structure. N 2.
- Somov E. I.** Analytical synthesis of gyro-force program control of a free-flying space robot in net load transportation mode. N 6.
- Stolbov V. Yu., Fedoseev S. A.** A model of an intelligent production control system. N 5.
- Stukach O. V.** Signal-parametric invariance of control systems. N 2.
- Torgashov A. Yu.** Sequential synthesis of a robust multi-loop PID controller for a reactive distillation column. N 4.
- Vedeshenkov V. A.** A method for parcelling out the subsystems of sufficient dimension for parallel diagnosis of large digital systems with regular structure. N 5.
- Vybornov R. A.** Collective outcome incentive mechanisms in organizational systems with information manipulation. N 5.
- Vykhovanets V. S.** Separated parsing. N 1.
- Yakubovskaya N. N., Victorov V. K., Lisitsyn N. V.** Transportation system operation problem. N 1.
- Yegorov A. F., Savitskaya T. V., Mikhailova P. G.** Models and methods for on-line safety management of chemical processes. Part 2. Production models of knowledge representation in decision-making support systems. N 3.
- Yeliseev V. V., Ignatushchenko V. V.** On the problem of reliable execution of complex task sets in parallel control computer systems. N 6.
- Zen'kova L. P.** Investment cycles theory and transformational economy of Byelorussia. N 1.
- Zhirabok A. N.** An analog of Hankel matrix for a nonlinear dynamic system. N 2.
- Zhirabok A. N., Letenko A. A.** Logic-dynamical approach to bilinear systems diagnosis. N 5.
- Zhozhikashvili V. A., Petukhova N. V., Farkhadov M. P.** Computerized queuing systems and speech technologies. N 2.
- Zhozhikashvili V. A., Petukhova N. V., Zatsepin A. N., Azarov V. V.** Time control technologies in taxi dispatching center. N 2.
- Zhuchkov A. V., Tverdokhlebov N. V.** Cyber-resources architecture evolution in a large-scale scientific project. N 3.
- Zykov S. V.** Lifecycle management of corporate information resources. N 3.

CONTENTS & ABSTRACTS

THE WAYS TO CREATE A VERSATILE COMPUTER MODELING TOOLKIT. 2

Pankova L. A., Pronina V. A.

The paper reviews modern computer modeling technologies and classifies computer models. The approaches to creating a versatile computer modeling toolkit based on state-of-the-art technologies are outlined.

ON THE PROBLEM OF RELIABLE EXECUTION OF COMPLEX TASK SETS IN PARALLEL CONTROL COMPUTER SYSTEMS. 6

Yeliseev V. V., Ignatushchenko V. V.

To provide the reliable execution of complex sets of interdependent tasks with random realization times in the parallel control computer systems, a new computer technology relying on static forecasting of task execution times is proposed. The reliable execution of the required task sets is regarded as their execution with the desired probability in a time not greater than the prescribed «directive» time. The technology offers a basically new approach to intelligent dynamic control of parallel computing processes.

HIGH DIMENSIONALITY SINGLE-STAGE SWITCHES FOR MULTIPROCESSOR AND MULTIMACHINE SYSTEMS. 19

Podlazov V. S., Sokolov V. V.

A method for regular building of high-dimensionality single-stage switches (flat switched networks) for modern supercomputers is considered.

INFLATION CONTROL: CONTEMPORARY APPROACHES 25

Nizhegorodtsev R. M.

The paper outlines the key problems of modern inflation processes control. The main ways to restrain the inflation are discussed. The failure of monetary methods of overcoming the inflation is shown, and a myth about the overheating of current Russian economy is destroyed. The recommendations on how to reduce the inflation in Russian economy based on technological modernization are made.

MULTIOBJECTIVE MOTIVATION SYSTEMS 31

Ivashchenko A. A.

The paper describes game-theory models of multi-criterion motivation systems where the activities of each controlled subject is de-

scribed by several indicators whose values determine the reward paid to the subject by the authority.

OPTIMALITY OF TREE-TYPE CONTROL HIERARCHY FOR A SYMMETRIC PRODUCTION LINE 36

Mishin S. P.

A model of a multilayer hierarchy controlling a «production line», i. e., a business process with workers interacting sequentially with the same intensity, is considered. Manager's costs are described by a power function dependent on the intensity of the sub-process controlled by the manager. The paper proves that the optimal tree-type hierarchy is the one for which the search is reduced to a constrained optimization problem. The optimal tree for a convex cost function is derived analytically.

A MANAGEMENT DECISION-MAKING SUPPORT SYSTEM WITH SIMULATION 43

Buyanov B. B., Lubkov N. V., Polyak G. L.

Functional and algorithmic structures of a decision-making support system comprising a mathematical model of management activity scenarios and a multi-criterion model of alternatives comparison are developed. A software suite implementing the developed procedures is described. The software provides the user interface enabling interactive formation of management scenarios and a preference system for the best decision-making.

THE PROBLEMS OF ENERGY-EFFICIENT CONTROL OF A SHEET-ROLLING COMPLEX. Part I. 50

Ghenkin A. L., Kudelin A. R.

Theoretical background of energy-efficient control of a sheet-rolling «furnaces—flattening-mill» system is outlined. The system's distinctive feature is the redistribution of energy between different parts of the processing train.

EXPERT-STATISTICAL METHODS FOR INFORMATION PROCESSING IN INTEGRATED PRODUCTION MANAGEMENT AND PROCESS CONTROL SYSTEMS . . . 55

Mandel' A. S.

The paper examines the possibility of expert-statistical methods application for information processing in production management and process control tasks within the integrated control system available at the enterprise.

ON THE RISKS RELATED WITH EXPERTS' AND ANALYSTS' MISTAKES 60

Abramova N. A., Kovriga S. V.

A new approach to the analysis of the situations traditionally treated as experts' analysts' and decision-makers' mistakes is presented. The approach is based on the analysis of experts' practical activities and on the theoretical models accounting for both practice and psychological knowledge. Risk factors caused by inadequate interpretation of «mistakes» are analyzed by the known examples of preferences' transitivity violation.

AN INTERNAL MODEL OF MATHEMATICAL PRACTICE FOR INTERACTIVE SYSTEMS OF THEOREM PROOF CONSTRUCTION. Part 3. A proof Model 68

Gavrilova T. L., Kleschev A. S.

The paper completes the series of 3 articles describing the model of mathematical practice for an automated theorem proving system. Reasoning rules used in proof construction are formulated. A model of a complete proof is determined. The examples of mathematical statements in MMD language — a formal model of a mathematical dialect — and a model of correct complete proof for one of them are presented.

ANALYTICAL SYNTHESIS OF GYRO-FORCE PROGRAM CONTROL OF A FREE-FLYING SPACE ROBOT IN NET LOAD TRANSPORTATION MODE. 72

Somov E. I.

A method for analytical synthesis of spatial angular program motion of a free-flying robotized space module in net load transportation mode is presented. The paper shows that when the module performs a turn maneuver with a non-rigid load under general-form boundary conditions, weak excitation of elastic vibrations of the transported structure arise owing to analytically calculated gyro-force control.

EVALUATION OF THE DISTANCE FROM A TARGET LOCATED IN ANTENNA'S FRESNEL REGION 79

Rud'ko I. M.

The paper discusses a method for determining the distance from a target under space-time signal processing in the mode of passive location of targets positioned in the antenna's Fresnel region in case of the signal emitted by the target containing a narrowband component.

HOW TO INCREASE THE CITATION INDEX OF A SCIENTIFIC PUBLICATION. 83

Epstein V. L.

Comparative data on the citation frequency of printed and electronic publications are presented. The paper suggests to undertake Internet marketing of «extra-texts» from scientific papers. The proposed approach can presumably accelerate the dissemination of information about new scientific achievements, put into scientific and economic use the intelligent capital stored in our libraries as forestalled or underrated and undeservedly forgotten publications, create public scientific and informational environment for innovative economy.

EVALUATION OF INFORMATION SYSTEM'S OPTIMAL LIFETIME 85

Lisitsyn N. V., Victorov V. K.

The problem of information system's optimal lifetime evaluation is discussed. The algorithm for problem solving is based on the Bellman's optimality principle. Some examples are included.

A DISTRIBUTED MODULAR SYSTEM FOR SOLVING STANDARD REGIONAL PROBLEMS (with the example of hydrologic problems) 88

Lebedev V. V., Gansvind I. N., Gorokhova I. N., et al.

Based on the analysis of the general structure of a regional socio-economic system and its environmental subsystem, a functional structure of an automated system for solving standard regional hydrologic problems is offered.

APPROACH TO STRATEGIC MANAGEMENT OF A SMALL INNOVATIVE ENTERPRISE 91

Shkuratov S. E.

Basic approaches to the management of a small innovative enterprise are identified, and a strategic management model created in view of distinctive features of such enterprises is proposed. The strategy selection is based on the analysis of product design, resources availability, and business development status. The paper notes that the combination of these estimates enables the formation of a wide set of enterprise development alternatives from self-dependent work and market entry up to looking for a strategic alliance with a large-scale enterprise.

ADAPTIVE MECHANISMS OF THE PRESCIENT SYSTEMS ESTIMATION AND CLASSIFICATION 93

Sirina N. F., Tsyganov V. V.

The problem of the optimal synthesis of the complex adaptive mechanism based on quantitative and qualitative estimation of the results of the prescient system is stated. It is proved that the progressiveness of the estimation adaptive mechanism is sufficient for the progressiveness of the complex adaptive mechanism.