

## **CONTENTS & ABSTRACTS**

THE PROBLEMS OF CONTROL PARADIGM GLOBALIZATION IN THE MATHEMATICALLY UNIFORM FIELD OF COMPUTER INFORMATION. PATH I. CYBERNATION OF SOCIOSYSTEM	of labor is discussed in terms of growing underemployment as machine enhanced productivity evolves from production of tangible goods to skilled and professional work. Ethical questions need to be re-framed to be relevant to reflect the evolution of work structures. Current developments create a positive feedback loop with adverse consequences for socio-political and environmental systems. Some analysts believe our current social system has already become highly unstable.
	ON THE MODELS AND METHODS FOR COMPLEX SOCIO-ECONOMIC DYNAMIC SYSTEMS CONTROL 38 <b>Zhukovskaya L. V.</b> The paper offers model, methods, and a technology for investigating and controlling complex socio-economic systems as applied to solving some regional and federal problems of overcoming the system crisis and subsequent transition to sustainable development.
THEORY DEVELOPMENT	TELECOMMUNICATIONAL ENVIRONMENT
<b>Lezhava G. K., Kamkamidze I. Sh., Verikishvili Z. I.</b> An approach to the problem of semantical information theory is	FOR INNOVATION ACTIVITIES SUPPORT
An approach to the problem of semantical information theory is considered. The approach is based on the application of an associative inductive inference system as an information receiver and enables to discern two information types: the database-forming information and the current topical information. A quantitative measure is defined for these two types of information.	Pinyavsky S. A.  A concept of cybercommunities formation as a natural phase in mankind evolution is discussed. Distinctive features of telecommunicational environment for innovation activities support related to this process are analyzed. The experience of the approach application to the scientific youth cybercommunity is expounded.
ON THE DUALITY OF NONLINEAR DYNAMIC SYSTEMS	MODELS AND METHODS OF SECURITY INSURANCE PROGRAMS
Zhirabok A. N.	Burkova I. V., Tolstykh A. V., Ouandykov B. K.
The duality of observability and controllability properties for non-linear continuous and discrete dynamic systems is established.	An approach to security insurance design based on a complex security level estimation system is proposed. The problem of cost minimization for the achievement of the required complex estimate is
PRORER MOTIONS OF NONLINEAR DYNAMIC DIGITAL PLANTS	formulated and solved.
Chadeev V. M.  The digital dynamic discrete-time systems are considered where admissible values of inputs and outputs are constrained by the fixed	A COMPUTER-AIDED TRAINING SYSTEM FOR CONTROL ROOM OPERATORS OF A CHEMICAL WEAPONS DESTRUCTION PLANT
number of bit. The number of possible structures is evaluated and the computer simulation results are presented. The paper shows that proper asymptotic response may be belong to one three types: zero, constant, or periodic.	Utkin A. Yu., Lebedev V. G., Kostikova N. A., et al.  Design concepts of a computer-aided training system for control room operators of a chemical weapons destruction plant and the functionality of its software modules are considered.
VARIABLE-STRUCTURE ADAPTIVE CONTROL SYSTEMS WITH PAIRED AND NONLINEARLY DEFORMABLE SWITCHING SURFACES	FINANCIAL COMPONENT OF ENTERPRISE'S STRATEGIC STABILITY
Dyda A. A., Markin V. E.	
The control of complex dynamic objects with uncertainties is discussed. New variable-structure adaptive control algorithms with paired and nonlinear deformable surfaces are offered. By an example	NEW METHODS FOR SOLVING THE PROBLEM OF ENTERPRISE'S PRODUCTION ACTIVITY PLANNING
of simple variable-structure adaptive systems, the paper shows that the approach proposed enables considerable improvement of system's dynamic performance with significant reduction of energy consumed for zero-overshoot control.	<b>Kuznetsov L. A., Chernykh M. V.</b> The possibility is shown and the description and solution methods of the volumetric planning problem based on the enterprise bookkeeping data are developed. The methods allow to solve the planning prob-
MULTICRITERION SELECTION AND ADJUSTMENT OF MODELS FOR EPIDEMIOLOGICAL DATA ANALYSIS IN RUSSIA	lems directly on specific enterprise data and to present the results in terms and concepts assumed in bookkeeping accounting. Formally, the planning problem is reduced to the well-known constrained optimization problem of a multivariable function that can be solved using
<b>Rykov A. S., Khorochilov V. O., Shchipin K. S.</b> The paper offers a dialog system for multicriterion selection and adjustment of predictive models for epidemiological data analysis.	the known techniques. In view of the problem's linearity the LP methods are preferable.
The elaborated multicriterion description seeks to obtain a better quality of time series forecasting, thus allowing to formulate the forecasting problem as an optimization one. The applications of the approach to the selection and adjustment of predictive models for dif-	APPLICATION PROSPECT OF A DIAGNOSTIC EXPERT SYSTEM OF A LAND-BASED COMPLEX FOR TESTING AIRBORN SOFTWARE OF AN INTERNATIONAL SPACE STATION
ferent diseases are demonstrated.	Mikrin E. A., Knutov A. S.  Passed on analysis results. A diagram of real time expert system
A POST-STRUCTURAL ANALYSIS OF PROGRESS IN ENGINEERING	Based on analysis results, A diagram of real-time expert system integrating with the existing testing complexes is offered. The tasks for an embedded expert system are determined and the hardware
Stapleton L, Kile K.	necessary for their implementation is outlined.
The paper examines developments in engineering and their impact on society from a post-structural perspective, focusing on social impact, especially on labor, and on the environmental impact of technology, particularly in terms of global increases in consumption. Displacement	CASC'2004: THE 4 <sup>th</sup> INTERNATIONAL CONFERENCE ON COGNITIVE ANALYSIS AND SITUATION DEVELOPMENT CONTROL

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