

## **CONTENTS & ABSTRACTS**

IMPLICATIVE ALGEBRA OF CHOICE AS A BASE OF INFORMATION TECHNOLOGIES AND CONTROL SYSTEMS IN CONTINUUM DOMAIN	VIRTUAL ANALYZERS OF MARKETING INFORMATION IN AN ENTERPRISE MANAGEMENT SYSTEM
solving computational control tasks on the basis of universal logical-and-algebraic tool of implicative choice algebra.  ORGANIZATHION OF DISTRIBUTED	OF THE MIDDLE-TERM STOCK MARKET TRENDS
CALCULATIONS IN PARSEC PROGRAMMING SYSTEM WITH THE EXAMPLE OF DIGITAL VIDEO COMPRESSION	The paper studies basic regularities of the switching activity in process of returning the stock-market to the initial channel of the system's evolution. It reveals two distinctive features of the return intervals. The first feature is the minimization of the fractal dimension of the evolution trajectory, while the second
The paper examines a new approach to the distributed calculations organization in the Internet, based on the mathematically complete and closed model of tree-type structures calculus, realized by means of PARSEC programming system. The PARSEC language is supplemented with the operators for resources administration and bulk data transfer. The effectiveness of the proposed net resources control technique is shown by the example of real-time compression encoding for H.261 videoconferences and for MPEG digital video.  MULTIVARIANT ANALYSIS AND STOCHASTIC	one is the minimization of intermittency index.  SYSTEM-LEVEL SELF-DIAGNOSIS OF RECONFIGURABLE SYSTEMS
OPTIMIZATION USING PARALLEL PROCESSING TECHNIQUES	CONTINGENCY AND SOFTWARE CRITICALITY ANALYSIS IN INTERNATIONAL SPACE STAION PROJECTS
Abramov O.V., Katueva Y.V.	Mikrin E.A., Pelikhov V.P.
The problem of choosing optimal parameter values for analog devices and systems is considered. Special attention is paid to the algorithms that reduce the computation cost of optimization problem. Several parallel techniques for multivariate analysis and stochastic optimization are discussed.  EFFECTIVE TECHNIQUES FOR FINDING	The paper classifies basic types of contingencies, which might take place at the long-functioning space station. It also defines and describes key features of critical functions performed by space station's automatics and software. The software is categorized by danger classes according to NASA and ESA requirements.
THE SHORTEST SOLUTION OF LINEAR LOGIC EQUATIONS	OPEN QUEUING SYSTEMS WITH SPEECH RECOGNITION
Zakrevsky A.D.	Zhozhikashvili V.A., Bilik R.V., Vertlieb V.A., et al.
The paper offers effective techniques that considerably reduce the amount of searching performed for finding the shortest solution of linear logic equations. It presents software implementation results, estimates the competitiveness of the programs developed and discusses their application areas.	The problem of wide audience access to information is discussed. The paper introduces the idea of an open queuing system and discusses the application of speech recognition technology to organize a voice interface for information systems. The existing system with the access to databases via the phone is described.
ANALYSIS AND ON-LINE DIAGNOSTICS OF THE SYSTEMS DESCRIBED AS NONSTATIONARY STOCHASTIC	THE CONTROL OF TWO-MODULE SPACE ROPE SYSTEM ROLLING
PROCESSES	Kalashnikov L.M., Malyshev G.V., Svotin A.P.
Grebenyuk E.A.	The problem of rolling a space rope system by controlling the rope tension is considered based on the following assump-

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eter control relative to it.

tion: the system is revolving along the circular orbit; it con-

sists of 2 modules connected with a imponderable and none-

lastic rope and is in the state of either libration or vertical sta-

ble equilibrium. A tension control program is proposed that

presumes the availability of basic trajectory and multiparam-

The problem of detecting the changes in the properties of

cointegrated nonstationary processes is discussed. A cumula-

tive sum algorithm is offered for detecting the cointegration

loss. The effectiveness of the approach proposed is demonstrat-

ed with the solution to the problem of analyzing a group of Rus-

sian market indices described as nonstationary time series.