

Architectural layers of a production management system are defined with the focus on the generalization and structuring of enterprise

assert management (EAM) systems knowledge. The functions of such sys-

tems are listed, namely, equipment condition reports development based

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CONTENTS & ABSTRACTS

MODELS AND METHODS FOR ON-LINE SAFETY CONTROL OF CHEMICAL PROCESSES. PART 1. CONTROL UNDER UNCERTAINTY CONDITIONS 50

systems for chemical processes at all accident development is offered. The approach is based on risk analysis methodology and artificial in-

An approach to the design of multi-level industrial safety control

Yegorov A. F., Savitskaya T. V., Mikhailova P. G.

on raw data, scheduled and unscheduled maintenance planning based on secondary data, etc. A substantiation is adduced of EAM attribution to MES level. Some MES software tools popular in domestic market are discussed and the results of their comparative analysis are presented.	telligence techniques. The problem of optimal on-line industrial safety control of chemical processes under uncertainty conditions is defined and its solution technique based on neuron network models is proposed.
ON THE INVERSION OF NONLINEAR DYNAMIC SYSTEMS	FLOW DYNAMICS MODELING IN MULTI-AGENT SYSTEMS
Shumsky A. E.	Radchenko E. G., Yuditsky S. A.
The inversion problem for dynamic systems governed by nonlinear differential equations with smooth functions is investigated. Sufficient conditions of inversion existence are formulated. A relationship is established between the function algebra structures involved in problem solution and the mathematical structures used within the differential-geometric approach. Affine systems inversion technique is proposed.	The models of flow (cash, information, material, etc.) dynamics in complex systems comprised of many agents interacting with each other and the external environment are considered. The methods of generic and detailed modeling techniques for internal dynamics of multi-agent systems are offered on the basis of mathematical tool (event flows algebra, indicator functions, matrix trees, Petri nets, and activity graphs). A method for graphical description of flow dynamics simulation results is also accorded.
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Ismailov I. G., Kuznetsov Yu. O. The paper interrelates the solvability theorem for nonlinear integral	A MODEL OF AUTOMATED INFORMATION SYSTEM FOR SOLVING LARGE-SCALE COMPLEXES CONTROL PROBLEMS
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ual technique. The convergence theorem for successive approximations method under kernel and nonlinearity constraints is proved.	The paper discusses the concept of program-objective control as a
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Optimal investment and consumption strategies of a financial market agent benefiting from intermediate consumption and/or terminal wealth are investigated. An explicit analytical characterization of the optimal portfolio (speculative demand for risky assets and a hedge portfolio) is de-	THE TECHNIQUES TO ACCELERATE THE PERFORMANCE OF COLLECTIVE OPERATIONS IN MPI STANDARD78 Stetsyura G. G.
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Sizykh N. V.	IFAC 16 th WORLD CONGRESS
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