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MICROECONOMIC PROBLEMS OF INNOVATION PROJECTS MANAGEMENT 2

Mylnikov L.A.

The paper provides an overview of main approaches to management of innovation projects as well as describes the tasks of innovation management, which can be solved on macroeconomic and microeconomic levels. The analysis of difficulties and challenges encountered in solving the problems of microeconomic management of innovative projects is carried out. Based on this analysis the conclusion on actuality of development of methodological approaches to system modelling of innovative project regardless of its specificity is made.

Keywords: innovation project, management, decision-support system, algorithm, analysis, forecast, optimization.

ON THE PROPERTIES OF REGULAR DYNAMICAL SYSTEMS 12

Mironovsky L. A., Solovyeva T. N.

The conception of regular dynamical systems is introduced and the necessary and sufficient regularity conditions are defined. The Vyshnegradsky plane application to analysis of properties of third-order regular system is considered. The areas corresponding to different combinations of system cross-graniam eigenvalues signs are identified on this plane. The lines of equiconditionality of system matrix at balanced representation are mapped.

Keywords: regular systems, balanced realization, Hankel singular values, conditionality, Vyshnegradsky diagram.

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Kochetkov S.A.

The devices with differential inductive sensors designed for surface geometric parameters estimation are considered in the paper. The control and identification algorithms are designed under the assumption that determinate disturbances exist on the input of the system. The accuracy of parameters estimation can be tuned by feedback coefficients. The efficiency of proposed algorithms is proved by simulation results.

Keywords: differential inductive sensor, determinate disturbances, limit cycle, identifier of parameters, surface roughness.

CONTROL OF PRICE OF SERVICES PROVIDED BY COMPANIES OF TELECOMMUNICATIONS INDUSTRY 30

Bolodurina I.P., Ogurtsova T.A.

In the paper for the description of dynamics of behavior of user's base of companies of telecommunications industry the logistical model of Trays-Volterra with delay on time is used. The problem of identification of parameters of the model on the basis of real data of user's base and the tariff policy of cellular communication operators is considered. The problem of optimum control of behavior of the enterprises on the basis of L.S. Pontrjagin maximum principle for systems with constant delay is numerically solved.

Keywords: dynamic model, optimum control, cellular communication, operator, tariff policy.

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Gorelik V.A., Zolotova T.V.

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Keywords: mathematical expectation, dispersion, correlation coefficient, risk coefficient.

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Chkhartishvili A.G.

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Keywords: uncoordinated information management, coordinated information management, Nash equilibrium.

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Shchepkin A.V.

The paper is dedicated to questions of construction of parameters of activity of employees on the basis of which the distribution of limited fund of compensation is made as well as to the analysis of efficiency of distribution procedures.

Keywords: mechanism of stimulation, distribution of limited fund of compensation, efficiency of distribution procedures.

CONTROL OF CHEMOTHERAPY ON FERROMAGNETIC NANOPARTICLES 56

Babushkina N.A.

The paper presents the mathematical model of chemotherapy on ferromagnetic nanoparticles. The model describes the process of tumor cells death when the method of magnetic localization of the antitumoral preparation inside the tumor is applied. This method allows destroying the oxygenated tumor cells located near the blood vessels as well as hypoxic tumor cells located on the tumor periphery. The method allows to increase the efficiency of chemotherapy to a considerable extent. One of the control parameters of this method is the intensity of the external electromagnetic field at the moment of medicine introduction. This intensity defines the efficient dose size and the period of desorption of the preparation on ferromagnetic nanoparticles inside the tumor.

Keywords: mathematical model, chemotherapy, tumor cells, electromagnetic field intensity, effective dose size, preparation desorption.

CONTROL OF OBJECT MOVEMENT IN THREAT ENVIRONMENT 64

Dobrovidov A.V., Kulida E.L., Rudko I.M.

The paper considers the problem of object route selection and velocity profile in a threat environment when some observers located in preset area try to detect it. In the paper the probability of an object undetection through whole route by any of the observers is taken as a criterion for object route selection. The discrete optimization method of this criterion based on the dynamic programming principle is proposed provided that the object movement time is restricted by known value.

Keywords: object route selection, performance of object routing, probability of object undetection through whole route, dynamic programming.

OPTIMIZATION OF TIME SEQUENCE INTERVALS OF QUANTIZATION PULSED SYSTEM OF TERMINAL CONTROL 76

Andrienko A.Ya., Tropova E.I., Chadaev A.I.

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Keywords: optimization intervals of quantization, statistically equivalent system, maximum principle.

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