

A. Alexandrov. Telematics – Skill, Science, Profession, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 5–16. (in Russian)

The globalization of markets in conditions of different cultures generates rather complex information problems. The sciences about complexity - fractal geometry and theory of the determined chaos - offer new tools of the analysis of open systems. By more formal consideration this new paradigm appears by generalization of existing methods of processing of the information and allows solve some problems of transport telematics and intermodality. This new sight reduces opportunities of the control in quickly varying situations, increases uncertainty and, at the same time, offers a general picture, how the world market works.

Keywords: telematics, intermodality, fractal, geometry, chaos

E. Petukhov. Statistical Models Design of Transport Development, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 17–25. (in Russian)

In the paper opportunities of information separation about transport development according to possessed statistical data of the following countries:

- 1) countries developing stably,
- 2) joining countries (EU),
- 3) countries of Eastern Europe and former USSR;

as well as existence of mutual regularities of transport development, and application in their investigation of statistical analysis, methods of forecasting and modelling.

Keywords: design, transport, models

D. Dontsov, A. Medvedev. Investigation of Optimization Opportunities of Freight Transportation Traffic in Conditions of Riga, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 26–28. (in Russian)

A try to generalize problems of freight transportation on the territory of the city and develop new possible optimal routes of traffic via center are done.

Possible routes are proposed and partial evaluation of duration and time of traffic on separate directions is done.

Transport Department of Riga Council, Latvia Carriers Association has expressed the interest to the results of the work.

Keywords: truck, traffic, problem, optimization

G. Goncharov, I. Terentyev, A. Grakovsky. Application of Chaos Systems Theory to the Analysis of Subsurface Location Signal, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 29–32. (in Russian)

Alternative signal digital processing in the systems of real time is based on the conception of noise components of signal as chaotic oscillations of environment “oscillator-environment”, described by Lorenz model. Method of digital processing of subsurface sounding radar signals based on their reflections into attractor space (domain of attraction) with the further classification, or

“filtration”, responses from targets. Original approximation algorithm of Lorenz attractor by algebraic surfaces of the sixth order is proposed. Results of practical application of the method for processing of the experimental data of georadar obtained when surface sounding on the test polygon are presented.

Keywords: one surface location, signal, morphology, chaos, and attractor

I. Terentyev, G. Goncharov, A. Grakovsky. Method of Skeleton Construction through Spline Interpolation, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 33–38. (in Russian)

We suggest a method of skeleton construction through spline interpolation.

Keywords: vectorization, text recognition, skeleton

Y. Yurshevich. Risks Simulation Modelling in Business Processes, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 39–46. (in Russian)

To learn to manage risks, or rather, to make decisions providing minimum risk, it is necessary to be able to evaluate it precisely. For evaluation of risk degree various analytical models are used widely. They allow just generally describing the process idealizing and simplifying its elements. Simulation decision is another method of risks evaluation in business processes. In the paper several analytical and simulation models for the solution of problem of securities portfolio and risks analysis of investment project are viewed.

Keywords: risks, simulation, modelling, business

Y. Kopytova. Information Law – a New Branch of Modern Law, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 47–56. (in Russian)

Implementation of information technologies in all spheres of modern life puts new problems for the society in management sphere. Information is an absolutely special object demanding legal regulation. Therefore a new branch of law emerges – information law.

The author has defined the most significant problems of information law such as: software aids as an object of intelligent privacy; Internet as an event for law system; legal bases of libraries as information systems; legal aspects of electronic commerce; counteraction to computer crimes.

Keywords: law, information technologies

Yu. Krasnitsky. About Distribution of Equivalent Current in Aperture of Spherical Mirror Antenna, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 57–62. (in Russian)

Procedure of numeral calculation of dependency of phase distribution and equivalent current amplitude induced on aperture of spherical mirror antenna from position of irradiator on the optical axis of mirror is proposed. It is shown that it is advisable to choose as optimal one such position of irradiator, for which current distribution is characterized by mean value of phase on aperture equal to zero. Polynomial approximation of functions describing behaviour of phase along mirror aperture is viewed; influence of higher decomposition members is evaluated. For found distributions the correspondent polar pattern are constructed. All calculation procedures are implemented with the help of computation system Matlab.

Keywords: mirror, antenna, spherical, distribution

Yu. Krasnitsky. Pulse Characteristic Evaluation of Lightning Discharge Radiation Channel According to Atmospherics, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 63–69. (in Russian)

Methodology of definition of parameters of initial current pulse in lightning discharge channel, the distance to which is considered to be known according to the registered atmospheric is proposed. For elimination of influence of characteristics of receiver the analyzed signal is preliminary exposed to inverse filtration. Then, on the basis of assumption about dipole character of electric magnetic field created by separate element of lightning channel, the evaluation of inductive compound of corrected signal is performed. Definition of current pulse parameters at the heart of discharge channel includes minimization of functional created by the difference of squared modules of induction components of spectrums of analyzed and model atmospherics. The last step consists of evaluation of pulse characteristics of channel radiation via disconsolation of the corrected atmospheric disturbance using obtained above form of current pulse.

Keywords: pulse, evaluation, radiation, atmospherics

A. Medvedev, E. Rasimenok. Problems and Conception of Riga Watter Supply Network Development, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 70–74. (in Russian)

For solution of existing complex of Riga water supply problems and reduction of general pollution of Riga Gulf possible versions as using surface, and underground sources are considered and evaluated.

Keywords: environment, city, pure water

S. Polyakov. Perspectives of Exclusive Cars Production Development in Latvia, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 75–78. (in Russian)

In tendencies of development of small-scale, medium-scale business, production sphere of a modern Latvia a stable orientation to the application of science intensive technologies is watched.

Production orientated to the issue of author's production of small series, in particular, cars, have not bad perspectives of growth in Latvia. Needed production squares of the enterprise in this case are not large. Cars are assembled manually, with insignificant use of mechanization that ensures high quality of assembly and exclusiveness of product. However, with such conditions of production the requirements to personnel, enterprise management system is high.

Keywords: car, production, exclusive

A. Skalsky. Frame as a Signal Structure of Information Recording and Storage System, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 79–84. (in Russian)

A frame is presented serving as a signal in the information recording and storage systems.

Keywords: frame, signal, recording, storage

I. Terentyev, G. Goncharov. Back Propagation Neuron Networks for Pattern Recognition Problem, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 85–91. (in Russian)

We suggest a method of pattern recognition on the basis of back propagation neuron networks application.

Keywords: graphic image, optical recognition of graphic images, frame, neural networks, pattern, and activation function

V. Vavilov, I. Yatskiv. Classification Algorithm with Covering, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 92–95. (in Russian)

In the paper methods of data clusterization are viewed, which receive classification where different classes have several mutual objects. Method B_k of coverings is considered and its software implementation.

Proposed methodology is orientated to the analysis of small multitudes of data.

Keywords: clusterization, covering, distance matrix, and maximum complete subgraph

V. Vogolenok, M. Zilberman. Development Tendencies of Telecommunication Services Market in Latvia, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 4, 2002, pp. 96–100. (in Russian)

In the paper a try to forecast mostly perspective directions of telecommunication services market in conditions of Latvia is done.

Authors have conducted the analysis of a modern state of technical level of telecommunication systems and given its comparison with mostly perspective for today technical aids and technologies of telecommunications of the leading worldwide manufacturers such as Siemens, Alcatel, Ericsson, Nokia.

Keywords: telecommunication, networks, data transmission