

**A. Vasilyev, V. Yeremeev. Fourier Fast Nested Transformations Optimization, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 8–17. (in Russian)**

New method of fast nested Fourier transformation (FNFT) is described in this work. Comparison of calculation efficiency of suggested and classical algorithms was shown. 60 point FNFT regarded as example. Texts of optimized programs for 3, 4, 5, 12 points FT included.

**Keywords:** FNFT, method

**Sh. Guseinov. About One Inverse Problems of Temperature Conductivity for Half-Closed Two-Ply Environments, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 18–33. (in Russian)**

When modeling and solving of many physical problems of thermal exchange (for example, when constructing complex systems, telecommunication systems, in construction, in machine-building, etc.) the question about definition of temperature conductivity with other known characteristics of the process arises. Such inverse problems of mathematical modeling are rather complex even for homogeneous environment. In the given paper the method of temperature conductivity coefficient definition for two-ply environment is proposed. At that, the proposed method allows without any additional information (for example, additional metering in some points of the examined object etc.) defining both coefficients of temperature conductivity and reconstructing the process of heat distribution, i.e. at the same time with the proposed algorithm the direct problems is solved are well.

The proposed method reduces the inverse problem about definition of coefficients of temperature conductivity of two-ply environment to the solution of algebraic system from two transcendental equations. Then, having solved this system (for example, by Newton method, various asymptotical methods, etc.) with the help of Green function of this problem the solution of the direct problem in analytical form is here as well.

**Keywords:** problem, inverse, conductivity

**M. Zilberman. Discrete and Analogue Filters Intended for the Processing of the Complex Radio Location Signals, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 34–42. (in Russian)**

In the given paper method and original versions of the construction of matched filters for complex radiolocation signals processing on the base of non-periodically commutated chains are proposed. Analytical expression of filter response on input ПЧМ-pulse is obtained. The results of numerical modelling are given.

**Keywords:** filters, discrete, signals, radio location

**A. Vasiliev, V. Yeremeev, E. Mamosov. Fast Algorithms in Poly-Phase Filtration, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 43–52. (in Russian)**

For today is shown that most efficient method of multi band poly-phase filtering with number of channels  $N=2^m$  based on recursive LP filter prototype employment.

In this work are suggested new poly-phase filtering algorithms for recursive LP filter prototype without any special restriction for number of channels.

**Keywords:** poly-phase, filtration, algorithms

**Yu. Logachev, A. Medvedev. Efficiency of Using Wind as an Alternative Source of Energy, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 53–56. (in Russian)**

Basic directions of efficiency increase of wind-driven mounts are viewed: increase of wind-using wind-engines; concentration of wind energy; optimal combination of characteristics of wind engines, generators and transmission; optimization of adjustment according to wind speed and mounts height.

**Keywords:** wind, alternative, energy

**V. Tseitlin, A. Stetyukha. Economic Reliability of Communication Junctions, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 61–64. (in Russian)**

Economic reliability of the system as ability to achieve the set economic result is viewed.

Regarding the communication junction the reliability of separate technical devices and elements is initial one, defining technological reliability of all complex functioning. Economic reliability summarizes total reliability in cost readings via needed costs values for the provision of necessary level of operational and technological compounds and cost evaluation of the consequences of their insufficient level.

**Keywords:** reliability, communication, junction

**I. Yatskiv, L. Gusarova, D. Morozov. Advanced Application of STATISTICA/WIN Package, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 65–70. (in Russian)**

We are discussing the STATISTICA universal package (version 5.5) and are studying the increase of its possibilities usage the STATISTICA BASIC in-built language. This language allows to investigator to create the user scripts which do easy some operations and procedures of package.

The *first script* is used for standardization of data (with 0 mean and standard deviation equal 1). The *second script* realizes additional similarity measures. The choice of similarity measure is the important step in clustering of objects. The *third script* realizes the classical bootstrapping technique.

**Keywords:** statistical software, user scripts, metrics, bootstrap

**R. Kopytov, E. Leonov. Business Reliability Supply from Practical Monitoring Position, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 71–80. (in Russian)**

System construction approach connected to the provision of reliability of various business directions notwithstanding of their functional content is viewed. Such system is developed on the phase of business planning and is supported on all phases of life cycle of enterprise. Application of the system will allow increasing the efficiency of managerial decision to managers taken with the account of various degree of uncertainty.

**Keywords:** reliability, business, monitoring

**L. Gringlaz, E. Kopytov. Application of the Methods of Multidimensional Statistical Analysis in Airports Classification Problems, *TRANSPORT and TELECOMMUNICATION*, vol. 3, No 2, 2002, pp. 81–87. (in Russian)**

In conditions of airport operations' increase a considerable role is played by the conformity of technical equipment of airports due to their functioning conditions, for example, climate conditions. One of the first steps during the solution of such problem is fragmentation of the multitude of the airports into some number of classes and attribution of the arbitrary airport to one of these classes. Climate characteristics of airports in winter period have been chosen as classifying features. Fragmentation of airports into some number of classes is performed with the help of cluster analysis method. Correlation of certain airport to one or another class is defined with the methods of discriminant analysis. Solution of the considered problems is performed on personal computer using STATISTICA package.

**Keywords:** multidimensional, discriminant, analysis, airport