

ABSTRACTS

N.F. Valeev

THE MULTIPARAMETER INVERSE SPECTRAL PROBLEMS FOR FINITE-DIMENSIONAL OPERATORS

Abstract. The problem of restoration of the parameters of the linear operator from a finite set of eigenvalues was considered. A new scheme of its solution proposed. This method for solving the joint eigenpair problem of a family of matrix pencils is then presented, which, in turn, gives all solution of the problem.

Keywords: dynamic systems, inverse spectral problem, control of fundamental frequencies, mathematical model.

Yu.G. Voronova

ABOUT PROBLEM OF KOSHI FOR LINEAR HYPERBOLIC SYSTEM OF THE EQUATIONS WITH ZERO GENERALIZED LAPLACE INVARIANTS

Abstract. In the work it is shown that the solution of the generalised problem of Koshi for linear hyperbolic system of equations with zero generalized Laplace invariants is reduced to the solution of a problem of Goursat for system of the same kind. The exact solution of a problem of Koshi for one two-componental system of the equations is constructed.

Keywords: Laplace transformations, Riemann function, generalized Laplace invariants, problem of Goursat.

A.M. Gaisin, Zh.G. Rakhmatullina

REAL SEQUENCES WITH FEJÉR GAPS

Abstract. We study the characteristics of the distribution of positive indefinitely increasing sequences that are most frequently used in the theory of entire functions and exponential series. We prove the equivalent propositions that interpret the given characteristic.

Keywords: entire functions, exponential series, condensation index, counting function.

B.E. Kanguzhin, B.D. Koshanov

NECESSARY AND SUFFICIENT CONDITIONS OF RESOLVABILITY BOUNDARY PROBLEMS FOR NON-UNIFORM POLYHARMONICS EQUATIONS IN BALL

Abstract. In the work are different boundary value problems for nonhomogeneous polyharmonic equations in a sphere of an arbitrary dimension. Also is to construct in the explicit form the Green function for Dirichlet problem for nonhomogeneous polyharmonic equation in a sphere.

Keywords: Dirichlet problem, Neumann's problem, the polyharmonics equation.

L.M. Kozhevnikova, R.Kh. Karimov

BEHAVIOR ON INFINITY OF DECISION QUASILINEAR ELLIPTICAL EQUATIONS IN UNBOUNDED DOMAIN

Abstract. The Dirichlet problem for quasilinear second order elliptic equations is considered in unbounded domains $\Omega \subset \mathbb{R}_n$, $n \geq 2$. The upper estimates, characterizing the dependence of behavior solutions on geometry domain Ω are established.

Keywords: decay, quasilinear elliptical equation, Dirichlet problem, unbounded domain.

A.S. Krivosheyev

BASIS IS BROKEN BY RELATIVELY SMALL GROUPS

Abstract. It is studied the basis in invariant subspace. These basis is constructed from linear combinations of exponential monoms, which belongs to this subspace. The indices of exponential monoms is broken by relatively small groups.

Keywords: basis, exponent, invariant subspace, entire function.

L.L. Luhova, O.M. Mulyava, M.M. Sheremeta

PROPERTIES OF HADAMARD'S COMPOSITIONS OF GELFOND-LEONT'EV DERIVATIVES FOR ANALYTIC FUNCTIONS

Abstract. For entire and analytic functions in the unit disk the convergence and the growth of Hadamard's compositions of Gelfond-Leont'ev derivatives are investigated. It is studied the behavior of the maximal terms of this compositions.

Keywords: analytic function, Hadamard's composition, Gelfond-Leont'ev derivative, maximal term.

Kh.A. Khachatryan

ON SOLVABILITY OF SOME CLASSES OF URYSOHN NONLINEAR INTEGRAL EQUATIONS WITH NONCOMPACT OPERATORS

Abstract. In present paper the classes of nonlinear integral equations with non completely continuous operators are considered.

It is assumed that conservative nonlinear operator of Wiener-Hopf-Hankell-Hammerstein type is a linear minorant to the initial Urysohn operator. The alternative theorems of the existence of positive solutions of above-mentioned class equations are proved. The asymptotic behavior of the obtained solutions at infinity is investigated. The article is finalized by the presentation of some examples arising in applications.

Keywords: Wiener-Hopf operator, eigen-value, limit of solution, one parameter family of positive solutions, asymptotic properties, Carateo'ory condition.