

STRESZCZENIA

A Companion of the generalized trapezoid inequality and applications

Mohammad W. Alomari

Submitted by: Jan Stankiewicz

Abstract: A sharp companion of the generalized trapezoid inequality is introduced. Applications to quadrature formula are pointed out.

AMS Subject Classification: 26D15, 26D20, 41A55

Keywords and Phrases: Trapezoid inequality, Midpoint inequality, Ostrowski's in-equality Bounded variation, Lipschitzian, Monotonic

Preserving subordination and superordination results of generalized Srivastava-Attiya operator

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Submitted by: Jan Stankiewicz

ABSTRACT: In this paper, we obtain some subordination and superordina-tion-preserving results of the generalized Srivastava-Attiya operator. Sandwich-type result is also obtained.

AMS Subject Classification: 30C45

Keywords and Phrases: Analytic function, Hadamard product, differential subordination, superordination

In fluence of boundary conditions on 2D wave propagation in a rectangle

N. K. Ashirbayev, J. N. Ashirbayeva

Abstract: Work is devoted to generalization of a differential method of spatial characteristics to case of the at task about distribution of waves in rectangular area of the final sizes with gaps in boundary conditions. On the basis of the developed numerical technique are received the settlement certainly - differential ratios of dynamic tasks in special points of front border of rectangular area, where boundary conditions on coordinate aren't continuous. They suffer a rupture of the first sort in points in which action P - figurative dynamic loading begins. Results of research are brought to the numerical decision.

AMS Subject Classification: isotropic environment, dynamic load, plane deformation, special point, tension, speed, wave progress, numerical solution, algorithm

Keywords and Phrases: 65L10; 65L15; 65L60; 76E06

On duality between order and algebraic structures in Boolean systems

Aneta Dadej and Katarzyna Halik

Submitted by: Andrzej Kamiński

Abstract: We present an extension of the known one-to-one corre-spondence between Boolean algebras and Boolean rings with unit being

two types of Boolean systems endowed with order and algebraic structures, respectively. Two equivalent generalizations of Boolean algebras are discussed. We show that there is a one-to-one correspondence between any of the two mentioned generalized Boolean algebras and Boolean rings without unit.

AMS Subject Classification: 06E05, 06E20, 06E75

Keywords and Phrases: lattice, 0-lattice, join-semilattice, 0-join-semilattice, distributive 0-lattice, B-ring, \cap -join-semilattices, Boolean algebra, algebraic ring, Boolean ring

New univalence criterions for special general integral operators

Ali Ebadian, Janusz Sokół

Submitted by: Jan Stankiewicz

Abstract: In this work we consider some integral operators on the special subclasses of the set of analytic functions in the unit disc which are defined by the Hadamard product. Using the univalence criterions, we obtain new sufficient conditions for these operators to be univalent in the open unit disk. We give some applications of the main results.

AMS Subject Classification: Primary 30C45; Secondary 30C80

Keywords and Phrases: Hadamard product, integral operator, univalent functions

Convolution properties of subclasses of analytic functions associated with the Dziok-Srivastava operator

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Submitted by: Jan Stankiewicz

Abstract: The aim of this paper is to introduce two new classes of analytic function by using principle of subordination and the Dziok-Srivastava operator. We further investigate convolution properties for these classes. We also find necessary and sufficient condition and coefficient estimate for them.

AMS Subject Classification: 30C45

Keywords and Phrases: analytic function; Hadamard product; starlike function; convex function; subordination and Dziok-Srivastava operator.

Supra β -compact and supra β -Lindelöf spaces

Jamal M. Mustafa

Submitted by: Jan Stankiewicz

Abstract: In this paper we introduce the notion of supra β -compact spaces and investigate its several properties and characterizations. Also we introduce and study the notion of supra β -Lindelöf spaces.

AMS Subject Classification: 54D20

Keywords and Phrases: β -open sets, supra β -open sets, supra β -compact spaces and supra β -Lindelöf spaces

Some new generalized classes of difference sequences of fuzzy numbers defined by a sequence of Orlicz functions

Sunil K. Sharma

Submitted by: Marian Matłoka

Abstract: In the present paper we introduce some new generalized classes of difference sequence spaces of fuzzy numbers defined by a sequence of Orlicz functions. We also make an effort to study some topological properties and prove some inclusion relations between these spaces.

AMS Subject Classification: 40D05, 40A05, 46S40

Keywords and Phrases: fuzzy numbers, Orlicz function, difference sequence spaces

On a study of double gai sequence space

N. Subramanian, U. K. Misra

Submitted by: Jan Stankiewicz

Abstract: Let χ_2 denote the space of all prime sense double gai sequences and χ_2 the space of all prime sense double analytic sequences.

This paper is devoted to the general properties of χ_2 :

AMS Subject Classification: 40A05,40C05,40D05

Keywords and Phrases: gai sequence, analytic sequence, double sequence, dual, mono-tone metric.

Instability to differential equations of fourth order with a variable deviating argument

Cemil Tunç

Submitted by: Józef Banaś

Abstract: The main purpose of this paper is to give two instability theorems to fourth order nonlinear differential equations with a variable deviating argument.

AMS Subject Classification: 34K20

Keywords and Phrases: Instability; Krasovskii criteria; differential equation; fourth order; deviating argument

Instability to nonlinear vector differential equations of fifth order with constant delay

Cemil Tunç

Submitted by: Józef Banaś

Abstract: We consider a certain vector differential equation of the fifth order with a constant delay. We give new certain sufficient conditions which guarantee the instability of the zero solution of that equation. An example is given to illustrate the theoretical analysis made in the paper.

AMS Subject Classification: 34K20

Keywords and Phrases: Vector differential equation, fifth order, instability, delay