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CONTENTS

Arif Rafiq

Uniformly L-Lipschitzian mappings

1-13

Abstract: Let K be a nonempty closed convex subset of a real Banach space $E, T_i: K \to K, i=1,2,...,N$ be a finite family of uniformly L-Lipschitzian mappings with $\bigcap_{i=1}^N F(T_i) \neq \varphi$, where $F(T_i)$ is the set of fixed points of T_i in K. Let p be a given point in $\bigcap_{i=1}^N F(T_i)$ and $\{k_n\}_{n\geq 0} \subset [1,\infty)$ be a sequence with $\lim_{n\to\infty} k_n=1$. Let $\{\alpha_n\}_{n\geq 0} \subset [0,1]$ be a sequence such that $\sum_{n\geq 0} \alpha_n = \infty$ and $\lim_{n\to\infty} \alpha_n = 0$. For arbitrary $x_0 \in K$ let $\{x_n\}_{n\geq 0}$ be a sequence iteratively defined by

$$x_{n+1} = (1 - \alpha_n) x_n + \alpha_n T_n^n x_n, \ n > 0,$$

where $T_n^n = T_{n(modN)}^n$. Suppose there exists a strictly increasing function $\phi: [0, \infty) \to [0, \infty)$, $\phi(0) = 0$ such that

$$\langle T_n^n x - p, j(x-p) \rangle \le k_n ||x-p||^2 - \phi(||x-p||), \ \forall x \in K.$$

Then $\{x_n\}_{n\geq 0}$ converges strongly to $p\in \bigcap_{i=1}^N F(T_i)$. The results proved in this paper significantly improve the results of [3, 9].

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V. Renuka Devi, V. Jeyanthi and D. Sivaraj

CHARACTERIZATIONS OF CODENSE AND COMPLETELY CODENSE IDEALS

15-24

Abstract: Some characterizations of codense and completely codense ideals are given.

Xiangling Zhu

MULTIPLICATION FOLLOWED BY DIFFERENTIATION ON BLOCH-TYPE SPACES

25-39

Abstract: The boundedness and compactness of a class of linear operators related to differentiation operators and multiplication operators on Bloch-type spaces are discussed in this paper.

S. S. Kamath and Saroja R. Hebbar

Some New Approaches in edge domination

41-56

Abstract: We introduce here edge analogues of the set domination and the point-set domination. An edge dominating set $F\subseteq E(G)$ of a graph G=(V,E) is a set-edge dominating set (sed-set) of G, if for every set $T\subseteq E-F$, there exists a set $S\subseteq F$ such that $S\cup T$ is connected. An edge dominating set $F'\subseteq E(G)$ of a connected graph G=(V,E) is an edge-set edge dominating set (esed-set) of G, if for every $T\subseteq E-F$, there exists an edge $e\in F$ such that $T\cup \{e\}$ is connected. The minimum cardinality of a sed-set (esed-set) is called set-edge domination number (edge-set-edge domination number) and is denoted by $\gamma_s'(G)$ [$\gamma_e'(G)$]. We study the above parameters in detail and discuss their relationships with some known parameters.

S. Arumugam and Sithara Jerry

A NOTE ON INDEPENDENT DOMINATION IN GRAPHS

57-64

141-148

Abstract: The domination number $\gamma(G)$ of a graph G is the minimum cardinality of a dominating set of G and the independent domination number i(G) is the minimum cardinality of an independent dominating set of G. In this paper we investigate the structure of $K_{1,k+1}$ -free graphs of order n for which $i(G) = (k-1)\gamma(G) - (k-2)$, where $k \geq 3$.

A. Anastassiou George

RIEMANN-LIOUVILLE FRACTIONAL MULTIVARIATE OPIAL TYPE
INEQUALITIES ON SPHERICAL SHELLS
65-140

Abstract: Here is introduced the concept of Riemann-Liouville fractional radial derivative for a function defined on a spherical shell. Using polar coordinates we are able to derive multivariate Opial type inequalities over a spherical shell of \mathbb{R}^N , $N \geq 2$, by studying the topic in all possibilities. Our results involve one, two, or more functions. We produce also several generalized univariate fractional Opial type inequalities many of these used to achieve our main goals.

R. C. Agrawal

NEW SETS OF TWO-OPERATIONS POSTULATES FOR ABELIAN GROUPS

Peter V. Danchev

Notes on λ -large subgroups of primary abelian groups and free valuated vector spaces

149-154

Abstract: For any ordinal $\omega \leq \lambda \leq \Omega$ we prove that a λ -large subgroup L of a p-primary C_{Ω} -group A is summable if and only if A is summable. This formally extends a classical result due to Linton ($Pac.\ J.\ Math.$, 1978) as well as an earlier one due to the author ($Alg.\ Colloq.$, 2008). Some other related criteria are also established.

Peter V. Danchev

A NOTE ON A FORMULA OF MAY CONCERNING NORMED UNITS IN ABELIAN GROUP RINGS

155-158

Abstract: W. May showed in (J. Algebra, 1976) that if G is an Abelian group and R is an indecomposable commutative unitary ring such that $\operatorname{supp}(G) \cap \operatorname{inv}(R) = \emptyset$, then $V(RG) = GV(RG_0 + N(RG))$. We prove that the converse implication is also true whenever G contains elements of infinite order.

Babban Prasad Mishra and Suyash Narayan Mishra

Absolute summability of functions based on (D,K) (C,α,β) summability methods

159-168

Abstract: In [6], the definition and some properties of absolute summability method (D,K) (C,l) for functions were given. In this paper, (D,K) (C,α,β) , $(k>0,\alpha>0,\beta>-1)$ absolute summability for functions are defined and some of its properties are investigated.

P. Vijayasaradhi and S. Vangipuram

Graph with a given maximal domination number

169-175

Abstract: In this paper we have proved the existence of a graph with a given maximal domination number and evolved a method of constructing such a graph using simple number theoretic concepts.

Swadheenananda Pattanayak and Sabita Sahoo

On order of a random entire function

177-184

Abstract: We study the random function $\sum_{n=0}^{\infty} a_n A_n z^n$, where A_n are dependent random variables which are Fourier-Stieltjes coefficients of a symmetric stable process. It is seen that when $\sum_{n=0}^{\infty} a_n z^n$, is an entire function of finite order ρ , then the random series $\sum_{n=0}^{\infty} a_n A_n z^n$, is almost surely an entire function of order less than or equal to ρ . Further it is shown that if the random entire function $\sum_{n=0}^{\infty} a_n A_n z^n$, is of finite order ρ , then its derivative is also of finite order which is less than or equal to ρ .

Vakeel A. Khan, Q. M. Danish Lohani and Masood Alam

On a class of difference sequences related to the p-normed space l^p defined by modulus function 185-192

Abstract: In this article we introduce the difference sequence space $m(\Delta, f, \phi, p)$, 0 , which is related to the*p* $-normed space <math>l_p(\Delta)$ and defined by modulus function. In this paper we study some inclusion relations between this space and other related space.

M. S. Mahadeva Naika and H. S. Madhusudhan

SOME INTEGRAL IDENTITIES FOR ROGERS-RAMANUJAN'S CONTINUED FRACTION

193-203

Abstract: On pages 51-53 of his 'lost' notebook Ramanujan recorded several identities involving integrals of theta-functions and incomplete integrals of first kind. All these integral identities were proved by S. Raghavan and S. S. Rangachari [8] using results from the theory of modular forms. On page 46 in his 'lost' notebook Ramanujan gave two integral representations for Rogers-Ramanujan continued fraction. One of these representation was proved by G. E. Andrews [2] and other one was proved by S. H. Son [12]. Motivated by these in this paper, we obtain several new integral identities for Rogers-Ramanujan continued fraction.

Alaa. E. Hamza and R. Khalaf-Allah

DYNAMICS OF A SECOND ORDER RATIONAL DIFFERENCE EQUATION

205-214

Abstract: The aim of this work is to investigate the global stability, periodic nature, oscillation and the boundedness of solutions of the difference equation

$$x_{n+1} = \frac{Ax_{n-1}}{B + Cx_n^2}, \qquad n = 0, 1, 2, \dots$$

where A, B, C are nonnegative real numbers and the initial conditions x_{-1}, x_0 are nonnegative real numbers such that $B + Cx_n^2 > 0$, $n = 0, 1, 2, \ldots$
