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CONTENTS

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 $\bigcap\limits_{i=1}^{N} F(T_i) \neq \varphi$, where $F(T_i)$ is the set of fixed points of T_i in K. Let p be a given point in $\bigcap\limits_{i=1}^{N} F(T_i)$ and $\{k_n\}_{n\geq 0} \subset [1, \infty)$ be a sequence with $\lim\limits_{n\to\infty} k_n = 1$. Let $\{\alpha_n\}_{n\geq 0} \subset [0, 1]$ be a sequence such that $\sum_{n\geq 0} \alpha_n = \infty$ and $\lim\limits_{n\to\infty} \alpha_n = 0$. For arbitrary $x_0 \in K$ let $\{x_n\}_{n\geq 0}$ be a sequence iteratively defined by

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

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

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

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

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

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.

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.

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 $k \geq 3$.

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.

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.

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 supp(G)$\cap$ 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.

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.

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.

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.

Abstract: In this article we introduce the difference sequence space $m(\triangle, f, \phi, p)$, $0 < p < 1$, which is related to the p-normed space $l_p(\triangle)$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

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

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

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

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

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