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CONTENTS WITH ABSTRACT

Abstract: In this note, we prove the utility of Cauchy's nth root test and D'Alembert's ratio test in the context of Nörlund and Y summability of series in a complete, non-trivially valued, non-archimedean field of characteristic zero.

Abstract: In the present paper, we introduce a new generalized class $\mathcal{N}(\alpha, \mu, A, B)$ of non-Bazilevič functions. Such results as subordination and inclusion relationships, coefficient inequalities and sufficient conditions for functions belonging to its subclasses are proved by making use of the techniques of Briot-Bouquet differential subordination.

Abstract: In this paper we study Volterra-type integral operators $K : X \to Y$, where X, Y are Banach function spaces on $\mathbb{R}_+$ and their kernels belong to classes $P_n \cup Q_n$ introduced by R. Oinarov. As a consequence we obtain a criterion for boundedness of these operators in generalized Lebesgue spaces $L^{p(\cdot)}(\mathbb{R}_+)$.

Abstract: In this paper we give some new characterizations of semi α-preirresolute functions and also investigate some special properties of them. Moreover, we characterize PS-spaces by involving these functions.

Abstract: Using the Jakimovski-Leviatan method from the papers [3, 2], we introduce positive linear operators connected with hyperbolic functions and we study their approximation properties. This paper is motivated by articles [1-5].

Abstract: This paper deals with generalized quasi-Einstein manifolds. We find the necessary condition for a generalized quasi-Einstein manifold being Ricci-pseudosymmetric. Furthermore, we

Abstract: In this article we give an extension of Hölder's inequality and use it to solve some min-max problems concerning infinite products.

Abstract: An artificial neural network is built that uses the Kohonon learning rule involving a time dependent parameter. Sharp conditions are established so that our network admits synchronization.

Abstract: The existence of a positive solution is shown for the third order nonlocal boundary value problem, $y''' = f(x, y)$, $0 < x \leq 1$, $y(0) = y'(p) = \int_q^1 w(x)y''(x)dx = 0$, where $\frac{1}{2} < p < q < 1$ are fixed, and where $f(x, y)$ is singular at $x = 0$, $y = 0$, and possibly at $y = \infty$. The method involves a fixed point theorem for operators that are decreasing with respect to a cone.

Abstract: Some random fixed point results for continuous pseudo-contractive random maps are established.

Abstract: We consider conformal maps f of the open unit disc onto a concave domain, i.e. a domain whose complement with respect to is convex and unbounded. We say that f is a concave schlicht function if f is a concave domain. We also fix an opening angle for the domain f at ∞ which is less than or equal to πA, $A \in (1, 2]$ and denote this class of functions by $CO(A)$. In this paper we prove a representation formula using Blaschke products for those members f of $CO(A)$ for which the exterior of f is a convex unbounded polygon. Further, we present some examples supporting our conjecture that these polygonal maps are extreme points of the class $CO(A)$.

Abstract: In this paper, we characterize the boundedness and compactness of the extended Cesàro operator T_g between the weighted Bergman space and Bloch-type space, where T_g is defined by $T_g f(z) = \int_0^1 f(tz)\Re g(tz)\frac{dt}{t}$

Abstract: In this paper, we study the strong convergence of the three-step iterative process for generalized Φ-hemicontractive mappings under modified suitable conditions.

Abstract: Some sufficient conditions are provided for a class of integral operators to be bounded from weighted Bergman spaces or pluriharmonic function spaces to Lebesgue spaces on the unit ball, with a small parameter.

Abstract: The eigen values of the Jacobian matrix of the system of equations arising out of discretization of a two dimensional quasilinear elliptic equation with Dirichlet data, are shown to be negative under certain conditions involving quantities which are dependent on the differential expression. Similar results are obtained for the mildly nonlinear problem with Neumann data and upper bound for the spectral radius of the Jacobi matrix for solving the discretized system is obtained. Convergence of the modified Jacobi method is discussed.

Abstract: For a Banach space E with E' its dual, we prove that the Mackey topology $\tau(E', E)$ is the finest linear topology agreeing with itself on the bounded subsets of E'. If, in addition E is reflexive Banach lattice and $(X, \mathcal{A}, \mu)$ is a a finite measure space, then $(L^\infty(X, E'), \tau(L^\infty(X, E'), L^1(X, E)))$ is the finest locally convex Lebesgue topology on $L^\infty(X, E')$.

Belmannu Devadas Acharya, Mukti Acharya and Deepa Sinha

Abstract: A *signed graph* is an ordered pair $S = (G, \sigma)$ where $G = (V, E)$ is a graph and σ is a function, called the *signature* of S, that assigns a weight +1 or -1 (often called a 'sign') to every edge, accordingly designating it as being either *positive* or *negative*. Similarly, a *marked signed graph* is a signed graph each vertex of which is designated to be positive or negative. A marked signed graph S is *cycle-compatible* if for every cycle Z in S the product of the signs of its vertices equals the product of the signs of its edges. Given signed graphs $S = (G, \sigma)$ and $\Gamma = (H, \xi)$ the signed graph Γ is *S-cycle-compatible* if $H \cong L(G)$ and for every cycle Z in Γ,

$$\prod_{e_1e_2 \in E(Z)} \xi(e_1e_2) = \prod_{e \in V(Z)} \sigma(e).$$

In this paper, we give a characterization of a signed graph S whose signed line graph $L(S)$ is *S-cycle-compatible*.

Takanori Ibaraki and Wataru Takahashi

Abstract: In this paper, we introduce an iterative sequence to approximate a common fixed point of a finite family of generalized nonexpansive mappings in a Banach space. Then, we prove a weak convergence theorem for the finite family of generalized nonexpansive mappings. Using this result, we obtain some weak convergence theorems concerning generalized nonexpansive mappings. In particular, we apply our result to solve the feasibility problem in Banach spaces.

Abstract: The goal of this paper is to present a new method for finding approximation of eigenfunctions and eigenvalues of the one-dimensional Schrödinger operator. The novelty of the method is that it is based on construction of exponentially increasing solutions. This approach has some advantages because exponentially increasing solutions are relatively stable, whereas eigenfunctions are always unstable.