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G. Murugusundaramoorthy and P. Usha

Certain classes of analytic functions defined by hypergeometric functions 457-478

Abstract: Making use of Dziok-Srivastava operator, we define a new subclass of analytic functions with negative coefficients and obtain coefficient estimates, distortion bounds and the results on integral transform. Further we investigate the results on neighbourhood and partial sums. Some interesting consequences of our result are also stated without proof.

B. K. De

On quasi-Einstein spaces 479-485

Abstract: In the present paper we obtain a necessary and sufficient condition for a Riemannian space to be a quasi-Einstein space. Next we study decomposable and semi-decomposable quasi-Einstein spaces.

Sevtap Sümer Eker and Shigeyoshi Owa

Integral means inequalities for fractional derivatives of uniformly convex functions with negative coefficients 487-493

Abstract: Integral means inequalities are obtained for the fractional derivatives of order $p + \lambda \quad (0 \leq \lambda < 1, \quad 0 \leq p \leq n - 1, \quad n \geq 2)$ of functions belonging to uniformly convex functions with negative coefficients. Relevant connections with various known integral means inequalities are also pointed out.

B. Srutha Keerthi, B. Adolf Stephen, A. Ganghadaran and S. Sivasubramanian

Some properties of hypergeometric functions for certain subclasses of starlike functions 495-504

Abstract: The purpose of the present paper is to give a sufficient condition for [Gaussian] hyper geometric function to be in a subclass of starlike function of order α, which is also necessary condition under additional restrictions. Furthermore, an integral operator related to the hypergeometric function is also considered.

A. A. Shaikh, Sanjib Kumar Jana and S. Eyasmin

On weakly pseudo quasi-conformally symmetric manifolds 505-518

Abstract: The object of the present paper is to introduce a type of non-flat Riemannian manifold called weakly pseudo quasi-conformally symmetric manifold and proved its existence by several non-trivial examples and also obtained many interesting results.

P. Chandrakala and S. Antony Raj

Radiation effects on MHD flow past an impulsively started vertical plate with uniform heat flux 519-532

Abstract: Numerical technique is employed to derive a solution to the transient natural convection flow of an incompressible viscous fluid past an impulsively started semi-infinite vertical plate with uniform heat flux in the presence of magnetic field and thermal radiation. Heat transfer effects are taken into account and the governing equations are solved using implicit finite-difference method. Transient and steady-state velocity and temperature profiles, the local as well as average skin friction and the Nusselt number are shown graphically. The effects of heat transfer for different parameters like magnetic field parameter, radiation parameter, Prandtl number and thermal Grashof number are studied. It is observed that the number of steps for convergence to steady state depends strongly on Gr.

George A. Anastassiou

Fractional Poincaré type inequalities 533-571

Abstract: Here we present Poincaré type fractional inequalities involving fractional derivatives of Canavati, Riemann-Liouville and Caputo types. The results are general L_p inequalities forward and converse, univariate and multivariate on a spherical shell. We give applications to ODE and PDE. We present also mean Poincaré type fractional inequalities.

Sergiu I. Vacaru and Juan F. González-Hernández

Nonlinear connections on gerbes, Clifford-Finsler modules and the index theorems 573-606

Abstract: The geometry of nonholonomic bundle gerbes, provided with nonlinear connection structure, and nonholonomic gerbe modules is elaborated as the theory of Clifford modules on nonholonomic manifolds which positively fail to be spin. We explore

an approach to such nonholonomic Dirac operators and derive the related Atiyah–Singer index formulae. There are considered certain applications in modern gravity and geometric mechanics of Clifford–Lagrange/ Finsler gerbes and their realizations as nonholonomic Clifford and Riemann–Cartan modules.

C. S. Bagewadi, D. G. Prakasha and Venkatesha

A study of Ricci quarter-symmetric metric connection on a Reimannian manifold 607-615

Abstract: The paper is dealt with the study of Einstein manifold admitting Ricci quarter-symmetric metric connection $\overline{\nabla}$ and several interesting results are obtained.

Guangfeng Liu and Xianyi Li

Global attractivity of a nonlinear difference equation 617-627

Abstract: In this paper, we study the global asymptotic behavior of the following rational difference equation

$$y_{n+1} = \frac{r + py_n + y_{n-1}}{qy_n + y_{n-1}}, \quad n = 0, 1, 2, \ldots,$$

where the parameters $p, q, r \in (0, \infty)$, and the initial conditions y_{-1}, y_0 are positive real numbers. Our results partly show that local stability of the positive equilibrium of the equation implies global stability, which partly affirms Conjecture 10.5.2 in [M. R. S. Kulenovic and G. Ladas, Dynamics of Second Order Rational Difference Equations, 2002].

Donal O'Regan

Fixed point theory in Fréchet spaces for permissible Urysohn type maps 629-646

Abstract: New fixed point theorems for multivalued maps between Fréchet spaces are presented. We discuss first J maps, then admissible maps and finally permissible maps. In particular we use degree and index theory and a Lefschetz fixed point theorem to obtain applicable fixed point theorems in Fréchet spaces for general classes of maps.

Fu-Gui Shi

A new approach to fuzzy S-closedness 647-661

Abstract: A new definition of S-closedness is presented in L-topological spaces when L is a complete DeMorgan algebra. It is defined by means of semiopen L-sets and their inequality. This definition does not rely on the structure of the basis lattice L and no distributivity in L is required. It can also be characterized by semiclosed L-sets, regularly closed L-sets, regularly open L-sets, regularly semiopen L-sets, regularly semiclosed L-sets and their inequalities. When L is a completely distributive DeMorgan algebra, its many characterizations are presented.

G. R. Hiremath

A note on developability of $w\triangle$ spaces and metrizability of wM spaces 663-670

Abstract: A property designated as semi-$(\mathbb{C}_2)$ that a large class of topological spaces including the Moore spaces satisfy, is discovered and in terms of this property the new characterizations of Moore spaces and metrizable spaces are established:

1. A topological space is a Moore space if and only if it is a $w\triangle$ space with the semi-$(\mathbb{C}_2)$ and the quasi (α_1) properties.

2. A topological space is a Moore space if and only if it is a T_1 quasi-developable β space with the semi-$(\mathbb{C}_2)$ property.

3. A topological space is a metrizable space if and only if it is a wM (a fortiori, M or countably compact) space with the semi-$(\mathbb{C}_2)$ and the quasi (α_1) properties.

Edward Beckenstein and Lawrence Narici

Weighted operators in Orlicz and Lorentz spaces 671-690

Abstract: Let X and Y be real or complex Banach spaces with Schauder bases $\{x_n\}$ and $\{y_n\}$, respectively. If $x = \sum_{n\in\mathbf{N}} (x\,(n))\, x_n$ and $y = \sum_{n\in\mathbf{N}} (y\,(n))\, y_n$ are such that $x\,(n)\, y\,(n) = 0$ for every n; we write $x * y = 0$. An additive map $H : X \to Y$ such that $x * y = 0 \Rightarrow Hx * Hy = 0$ is called a *basis separating map*. By considering this limited form of multiplication-preservation, we utilized some function space-Banach algebra techniques to obtain automatic continuity and open mapping type results in [7] and [8]. Specifically, we developed a canonical form for basis separating maps which under certain circumstances reduces to what we call a *weighted composition* [Definition 3.3]. In order to define a weighted permutation, we need to know, given $h : \mathbf{N} \to \mathbf{N}$, for what nonvanishing sequences (**weights)** $w : \mathbf{N} \to \mathbf{K} = \mathbf{R}$ or $\mathbf{C}$ does $\sum_{n\in\mathbf{N}} w(n)x\,(h\,(n))\, y_n$ converges for all $x = \sum_{n\in\mathbf{N}} x\,(n)\, x_n \in X$? We obtain some general conditions under which w is a weight for maps between ℓ_p spaces (Theorem 4.1), Lorentz spaces (Theorem 5.6), and Orlicz spaces (Theorems 6.7, 6.11 and Corollary 6.12).