CONTENTS

Abstract: In this paper, we extend celebrated fixed point theorems of Boyd-Wong and Matkowski from the class of continuous mappings to a wider class of mappings which also include discontinuous mappings at the fixed point. As a by-product, we provide a new solution to the open problem on the existence of a contractive mapping which has a fixed point but is discontinuous at the fixed point (see Rhoades [Contractive definitions and continuity, Contemporary Mathematics 72(1988), 233-245], p. 242).

Abstract: In this paper we consider a dynamic elastic shallow shell of variable thickness and we show, under suitable scalings on the applied forces and unknowns, that the solution of the three dimensional model converges to the solution of a two dimensional model as thickness goes to zero.

Abstract: The aim of the present paper is to obtain some new fractional integral inequalities for convex functions. Saigo fractional integral operator is used to establish the results.

Abstract: As a generalization of the Schwarzschild solution, Vaidya presented a radiating metric to develop a model of the exterior of a star including its radiation field, named later Vaidya metric. The present paper deals with the investigation on the curvature properties of Vaidya metric. It is shown that Vaidya metric can be considered as a model of different pseudosymmetric type curvature conditions, namely, $C \cdot C = \frac{m}{r^3} Q(g, C)$, $R \cdot R - Q(S, R) = \frac{m}{r^3} Q(g, C)$, etc. It is also shown that Vaidya metric is Ricci simple, vanishing scalar curvature and its Ricci tensor is Riemann-compatible. As a special case of the main result, we obtain the curvature properties of Schwarzschild metric. Finally,

we compare the curvature properties of Vaidya metric with another radiating metric, namely, Ludwig-Edgar pure radiation metric.

Ana Cecilia García Lomelí, Santos Hernández Hernández and Florian Luca

Abstract: Let $(T_n)_{n\geqslant 0}$ and $(P_n)_{n\geqslant 0}$ be the Tribonacci and the Padovan sequences given by $T_0 = 0$, $T_1 = T_2 = 1$, $P_0 = 0$, $P_1 = P_2 = 1$ and the recurrence formulas $T_{n+3} = T_{n+2} + T_{n+1} + T_n$, $P_{n+3} = P_{n+1} + P_n$ for all $n \geqslant 0$, respectively. In this note we study and completely solve the Diophantine equation $P_n - T_m = P_{n_1} - T_{m_1}$ in non-negative integers (n, m, n_1, m_1) with $(n, m) \neq (n_1, m_1)$.

Bijan Kumar Patel and Prasanta Kumar Ray

Abstract: The aim of this article is to study the sequence of Horadam quaternions that generalize all other quaternions by a recurrence relation of order two.

Hemant Kumar Nashine and Ravi P. Agarwal

Abstract: In this paper, we discuss solution of a class of quadratic integro-differential Equations (1.1) using new type of measures of noncompactness. To do this, first we introduce generalized μ-set contraction operator and establish Darbo type fixed point result. An illustrative example is given to verify the result.

Monimala Nej and A. Satyanarayana Reddy

Abstract: In this paper, we study $F_n(x, k)$, the number of binary strings of length n containing x zeros and a longest subword of k zeros. A recurrence relation for $F_n(x, k)$ is derived. We express a few known numbers like Fibonacci, triangular, number of binary strings of length n without r-runs of ones and number of compositions of $n + 1$ with largest summand $k + 1$ in terms of $F_n(x, k)$. Similar results and applications are obtained for $\widehat{F}_n(x, k)$, the number of all palindromic binary strings of length n containing x zeros and longest k-runs of zeros.

Renukadevi S. Dyavanal, Madhura M. Mathai and Ashwini M. Hattikal

Abstract: In this paper, we focus on uniqueness problems of a meromorphic function $f(z)$ sharing a set with its linear difference polynomial and obtained results extend earlier results of J. Zhang, B. Chen and Z. Chen.

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