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## CONTENTS WITH ABSTRACT



Let $\mathcal{T}_\rho$ be a one-sided Bernoulli shift, which acts on the product space $(\mathcal{X}_\rho, \mu_\rho) = \prod_{n=1}^{\infty}(I, \rho)$, where $(I, \rho)$ is a finite or countable state space with a probability distribution $\rho = \{\rho(i)\}_{i\in I}$, $\rho(i) > 0$, $\sum_{i\in I} \rho(i) = 1$. Let also $Y_d = \{1, 2, \cdots d\}$, $d \in \mathbb{N}$.

Suppose $\rho$ is not homogeneous, i.e. $\rho(i) \neq \rho(i')$ for some pair $i, i' \in I$, and let $d > 1$.

For given such $d$ and $\rho$, we construct a uncountable family $\bar{T}_\lambda, \lambda \in \Lambda = \Lambda(\rho, d)$, such that

(i) $\bar{T}_\lambda$ is isomorphic to a $d$-extension of $\mathcal{T}_\rho$, i.e. to a skew product on $\mathcal{X}_\rho \times Y_d$ over $\mathcal{T}_\rho$.

(ii) $\bar{T}_\lambda$ is an one-sided Markov shift, corresponding to an aperiodic irreducible positively recurrent Markov chain on the infinite countable state space $I \times \mathbb{N} \times Y_d$.

(iii) All the shifts $\bar{T}_\lambda, \lambda \in \Lambda$, are pairwise non-isomorphic.

(iv) Each of the shifts $\bar{T}_\lambda, \lambda \in \Lambda$, is not isomorphic to one-sided Markov shifts on finite state spaces (even in the case, when $I$ is finite).

**Abstract:** In this paper, we present some new results related to the convergence of solutions of certain third order nonlinear ordinary vector differential equations. Our results are generalizations and extensions of some of the existing ones in the literature especially Afuwape and Omeike [6], which itself is a generalization of Afuwape [2].



**Abstract:** In this paper, we obtain the functional $\left|a_2a_4 - a_3^2\right|$ for the class $f \in \mathcal{T}(\alpha)$. Also we give sharp upper bound for $\left|a_2a_4 - a_3^2\right|$. Our result extends corresponding previously known result.



**Abstract:** The aim of this paper is to prove common fixed point theorems for weakly compatible mappings in Menger spaces by using the notion of common property (E.A). We furnish some examples which demonstrate the validity of the hypotheses and degree of generality of our results. We also utilize the notion of $(CLR_S)$ property and prove a fixed point theorem for a pair of weakly compatible mappings. We extend our main result to four

finite families of self mappings. Our results improve and extend the results of Kutukcu [A fixed point theorem in Menger spaces, Int. Math. Forum, 1(32) (2006), 1543–1554; MR2258306]



**Abstract:** The objective of this paper is to obtain an upper bound to the second Hankel determinant $|a_2a_4 - a_3^2|$ for functions in certain subclass of analytic functions, using Toeplitz determinants.



**Abstract:** Measurability of ordinary and approximate de la Vallée Poussin (d.l.V.P.) derivatives and corresponding derivates are obtained.



**Abstract:** In this paper, utilizing the notion of common limit in the range property for two pairs of self mappings, we prove common fixed point theorems in fuzzy metric spaces. We give some examples which demonstrate the validity of our results. As

an application to our main result, we present a fixed point theorem for four finite families of self mappings in fuzzy metric space. Our results improve and extend the results of Sedghi, Shobe and Aliouche [A common fixed point theorem for weakly compatible mappings in fuzzy metric spaces, Gen. Math. 18(3) (2010), 3–12; MR2735558].