CONTENTS

Abstract: Let N be any right nearring whose additive group is abelian and for each $a \in N$, let ρ_a denote the selfmap of N which is defined by $\rho_a(b) = ba$. Each ρ_a is an endomorphism of the additive group, $(N, +)$, of N and the right ring of N is defined to be the subring of the endomorphism ring of $(N, +)$ which is generated by $(\rho_a : a \in N)$. We determine the right rings of a number of Euclidean nearrings, that is, topological nearrings whose additive groups are n-dimensional Euclidean groups.

Abstract: Various types of connectedness and disconnectedness are introduced and studied using the concept of fuzzy pre-open set in fuzzy topological spaces.

Abstract: Some non-static exact solutions of Einstein's field equations corresponding to a field of flowing null radiation are presented. The geometry of these solutions is described by the Kerr-Schild metric. They admit a geodetic shear-free null congruence. In one of the solutions, the radiation and rotation are intimately linked. The other two solutions represent the radiating Kerr metric and a radiation absorbing Kerr metric respectively.

Abstract: We first develop a classification scheme for studying properties of a fixed non-zero element s of a commutative radical Banach algebra $\mathcal{R}$ We then use this scheme to investigate under what conditions s can have prime-like properties. By prime-like properties we include definitions of prime, almost prime, and almost semiprime. If $\mathcal{R}$ is an integral domain the first two properties are equivalent. Examples are given of $\mathcal{R}$ *not* an integral domain in which s is prime but *not* almost prime. Surprisingly, the latter two properties seem to be stronger properties.

These investigations are pertinent to unsolved problems in the theory of Banach algebras, including for example, the unbounded Kleinecke Shirokov Conjecture, We give several sufficient conditions which preclude prime-like properties but, unfortunately, are unable to give a complete answer.

We conjecture that a non-zero element s in a commutative radical Banach algebra $\mathcal{R}$ can never be almost or even almost semiprime. Let $\mathcal{R}^\#$ denote the unitization of $\mathcal{R}$. We also conjecture that such an element s can be prime only if the short exact sequence

$$0 \longrightarrow s\mathcal{R}^\# \longrightarrow \mathcal{R} \longrightarrow \mathcal{R}/s\mathcal{R}^\# \longrightarrow 0$$

splits, $s\mathcal{R}^\#$ is closed, $\mathcal{R}/s\mathcal{R}^\#$ is an integral domain but $\mathcal{R}$ is *not* an integral domain.

S. S. Bhatia and Babu Ram
ON CONVERGENCE OF CERTAIN TRIGONOMETRIC SUMS IN THE L^1
METRIC SPACE   399-405

Abstract: We consider here the L^1-convergence of the cosine sums introduced by Kumari and Ram [3] to a cosine trigonometric series and deduce a result of Teljakovaskĭi [7] as a corollary

Guo-Jun Wang and Wei Wang
GENERALIZATION OF THE SCHEEFFER'S THEOREM   407-413

Abstract: There is an interesting theorem in point set theory, the Scheeffer's theorem, which says that if G and A are a nowhere dense subset and a countable subset of R respectively, then for any given interval (a, b), there exists $c \in (a, b)$ such that $A + c$ does not intersect G. The aim of this paper is to generalize Scheeffer's theorem in two aspects: generalize G to be a set of first category; generalize R to be the so called translation space.

Blagovest P. Damyanov
ON THE PRODUCT OF DISTRIBUTIONS IN COLOMBEAU ALGEBRA   415-425

Abstract: The differential **C**-algebra $\mathcal{G}$ of generalized functions of J.-F. Colombeau contains the space $\mathcal{D}$ of Schwartz distribution as a $\mathcal{C}$-vector subspace and has a notion of association that generalizes the equality in $\mathcal{D}'$. This is particularly useful for evaluation of products of distributions, as they are embedded in $\mathcal{G}$, in terms of distribution again. This paper is devoted to a general property of the distribution products in Colombeau algebra together with its applications and to results on particular products of distributions with coinciding singularities, as embedded in $\mathcal{G}$. All formulas obtained are also easily transformed into regularized model products of classical distribution theory.

Satyanarayana Bhavanari
A NOTE ON Γ-NEAR-RINGS   427-433

Abstract: The concept of Γ-near-ring was introduced in [4]. The f-prime radical was defined and an element wise characterization was obtained in [5]. In this note, (i) some relations between near-rings and Γ-near-rings were observed; (ii) the concepts f-s-prime ideal, f-s-prime radical, f-α- nil element were introduced; an element wise characterization for the f-s-prime radical was obtained; and as a consequence it was proved that every element of f-s-rad (M) is an f-α-nil element for all $\alpha \in \Gamma$.

Abstract: In this paper, we first consider an iteration scheme given by a finite family of nonexpensive mappings and then prove a strong convergence theorem for a finite family of nonexpansive mappings in a Banach space. Further, using the result, we prove a strong convergence theorem which is connected with the problem of image recovery. Finally, we consider the problem of finding a common fixed point for a finite commuting family of nonexpansive mappings in a Banach space.

Abstract: Let G be a bounded locally compact Vilenkin group. We study the boundedness on the weighted weak Herz space over G for a class of sublinear operators. We also indicate the sharpness of our result by some examples. Then we discuss the boundedness on the weighted Herz-type Hardy space over G of the Calderón-Zygmund operator of the non-convolution type and we show these operators map the weighted Herz-type Hardy space into the weighted weak Herz-type Hardy space at the extreme case.

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