

QUOTIENTS AND ISOMORPHISM THEOREMS OF UNIVERSAL HYPERALGEBRAS

M. Mehdi Ebrahimi, A. Karimi, M. Mahmoudi

In this paper, taking homomorphisms, dual homomorphisms, and strong homomorphisms between universal hyperalgebras, three different categories of universal hyperalgebras are introduced. Isomorphisms in these categories are determined. Then, defining quotients of universal hyperalgebras over equivalence relations and congruences, isomorphism theorems for universal hyperalgebras are proved.

ON CERTAIN WEIGHTED INTEGRAL INEQUALITIES WITH MIXED NORM

Pankaj Jain, Pawan K. Jain, Babita Gupta

Necessary as well as sufficient conditions are obtained for the boundedness of two dimensional Hardy-Steklov Operator $(T_2 f)(x, y) = \int_{a(x)}^{b(x)} \int_{a(y)}^{b(y)} f(s, t) dt ds$ and the corresponding geometric mean operator $(G_2 f)(x, y) = \exp \left(\frac{1}{xy} \int_0^x \int_0^y \ln f(s, t) dt ds \right)$. The Boundedness property is studied between the Lebesgue spaces with mixed norm. The idea is to reduce the corresponding two dimensional inequality in terms of a pair of one dimensional inequalities.

CONNECTEDNESS IN TOPOLOGY OF INTERVAL-VALUED FUZZY SETS

Tapas Kumar Mondal, S.K. Samanta

In this paper we study the connectedness property in the topology of interval-valued fuzzy sets.

QUASI-HARMONIC MORPHISMS

Cornelia-Livia Bejan

The ideas of [1] are continued here, by introducing and studying the quasi-harmonic morphisms between tamed manifolds, which generalize the classical harmonic morphisms, [3]. Some examples are given at the end.

ON THE FUNDAMENTAL ALGEBRA OF A DIRECT PRODUCT OF MULTIALGEBRAS

Cosmin Pelea

This paper deals with multialgebras. An important instrument in this paper is the fundamental relation of a multialgebra, which can bring us into the class of the universal algebras. In this paper we will try to establish in what conditions the fundamental algebra of a product of multialgebras is the product of their fundamental algebras.

SOME REDUCTION FORMULAE INVOLVING SRIVASTAVA-DAOUST DOUBLE HYPERGEOMETRIC FUNCTION

M.I. Qureshi, M. Sadiq Khan, M.A. Pathan

This paper deals with two interesting reduction formulae involving double hypergeometric function of Srivastava-Daoust. These have been derived by utilizing Pfaff-Saalschütz and two of Gauss summation theorems. Wellknown quadratic transformations for Gauss ${}_2F_1$, Whipple's transformation and Watson's summation theorems for ${}_3F_2$ are obtained as special cases of our main results.

WEIGHTED INTEGRAL INEQUALITIES FOR HARDY AND GEOMETRIC MEAN OPERATORS WITH KERNELS OVER CONES IN \mathbb{R}^n

Aleksandra Čižmešija, Lars–Erik Persson, Anna Wedestig

In this paper we prove criteria for boundedness of a general multidimensional Hardy-type integral operator with an Oinarov kernel and of the related limiting geometric mean operator between two Lebesgue spaces. The integrals are taken over cones in \mathbb{R}^n with the origin as a vertex. We also obtain two-sided estimates, that is, lower and upper bounds for the $L_v^p \rightarrow L_u^q$ norms of these operators for all p and q satisfying $1 < p < \infty$, $0 < q < \infty$ for the Hardy-type operator case, and $0 < p, q < \infty$ for the geometric mean operator case.

SOME RESULTS ON F -SPECTRUM OF IMPLICATIVE AND BOUNDED BCK-ALGEBRAS

A. Hasankhani, S.N. Hosseini, H. Saadat

In this paper the following results for space X of the fuzzy prime spectrum of a given bounded implicative BCK-algebra Y , are proved:

1. The topological space X is Lindelöf and disconnected.
2. If Y is an integral domain, then X is irreducible.

SEPARATION DES REPRÉSENTATIONS UNITAIRES ET IRREDUCTIBLES DE $\widetilde{E}(2)$

Lobna Abdelmoula, Mohamed Selmi

On montre que l'ensemble moment généralisé sépare les représentations unitaires irréductibles du groupe $\widetilde{E}(2)$, revêtement universel du groupe $E(2)$ des déplacements du plan.

Separation of Unitary irreducible representations of $\widetilde{E}(2)$

We show that the generalized moment set separates the unitary irreducible representations of the universal covering group of $E(2)$.

BARRELLED WEIGHTED LOCALLY CONVEX SPACES

J.O. Olaleru

For the space $C(X)$ of all continuous complex valued functions on a completely regular Hausdorff space with the compact open topology, its countably barrelledness and barrelledness have already been characterized. However, the generalization of those results to the weighted spaces of continuous functions $CV_o(X)$ is still an important open problem. The known parallel result for the quasibarrelledness of $CV_o(X)$ has been studied on the assumption that $CV_o(X)$ has a fundamental sequence of bounded sets. In this paper, an attempt is made to characterize the countably barrelledness and barrelledness of weighted spaces of continuous functions without assuming that they have a fundamental sequence of bounded sets. A lot of consequences follow, including important results on weighted inductive limits.

ON CERTAIN REPRESENTATIONS OF MOCK-THETA FUNCTIONS

Remy Y. Denis, S.N. Singh, S.P. Singh

In this paper, an attempt has been made to establish certain new transformation formulae for the mock-theta functions of various orders.

ON A BANACH SPACE WITH NO WEAKLY FRAGMENTED METRIC
A.K. Mirmostafae

In this paper, we will show that under certain restrictions on compact spaces X and Y , the weak topology of the Banach quotient space $C(Y)/\varphi^*(C(X))$ is not fragmented by any metric, where φ is a continuous function from Y onto X and $\varphi^* : C(X) \rightarrow C(Y)$ is its induced injection. Therefore, such a space does not admit any equivalent strictly convex norm.

FUZZY TRANSPOSITION HYPERGROUPS
Reza Ameri

In this note by considering the notion of transposition hypergroups, fuzzy closed sets, fuzzy normal hypergroups, and then we study the basic properties of these notions. In particular, we show that every fuzzy closed set in a fuzzy hypergroup and finally we give some equivalent conditions for fuzzy closed and fuzzy normal sets.

ON THE STRUCTURE OF CERTAIN OPERATORS ON SPACES OF ANALYTIC FUNCTIONS
B. Khani Robati

Let \mathcal{B} be a Banach space of analytic functions defined on the open unit disk. Assume S is a bounded operator defined on \mathcal{B} such that $SM_{z^n} = a^n M_{z^n} S$ for some complex number a with $0 < |a| \leq 1$ and for some positive integer n . We investigate the relation between compactness of $SM_z - aM_z S$ and the structure of S . Also we characterize the commutant of M_{z^n} for some positive integer n .

TOTAL BOUNDEDNESS, COMPLETENESS AND UNIFORM LIMITS OF METRIC-PRESERVING FUNCTIONS
Imchit Termwuttipong, Phikul Oudkam

In this paper, some properties of total boundedness, completeness and uniform limits of (strongly) metric-preserving functions are provided.

THE HELIX HYPEROPERATIONS
Thomas Vougiouklis, Souzana Vougiouklis

The H_ν -structures are hyperstructures where the equality is replaced by the non-empty intersection. The fact that the class of the hyperstructures is very large one can use it in order to define several objects that they are not possible to be defined in the classical theory. In the present paper we introduce a kind of hyperoperations which are defined on every type of matrices in order to obtain a hyperalgebra over non-square matrices.

ISOMORPHISM THEOREMS OF REGRESSIVE PARTIAL TRANSFORMATION SEMIGROUPS
Patanee Udomkavanich, Pichat Jitjankarn

For a poset X , a partial transformation α of X is called *regressive* if $x\alpha \leq x$ for all $x \in \text{dom } \alpha$. Let $T_{RE}(X)$, $P_{RE}(X)$ and $I_{RE}(X)$ denote respectively the full regressive transformation semigroup on X , the regressive partial transformation semigroup on X and the regressive 1-1 partial transformation semigroup on X . In 1992, A. Umar proved that for chains X and Y , $T_{RE}(X) \cong T_{RE}(Y)$ if and only if X and Y are order-isomorphic. This need not be true for any posets X and Y . Our purpose is to show that for any posets X and Y , $P_{RE}(X) \cong P_{RE}(Y)$ [$I_{RE}(X) \cong I_{RE}(Y)$] if and only if X and Y are order-isomorphic.

ON THE ϵ -APPROXIMATE FIXED POINT SETS OF NONEXPANSIVE MAPPINGS WITH WEAKLY COMPACT DOMAINS

Shahram Saeidi

We prove the following: Let C be a nonempty weakly compact convex subset of a strictly convex Banach space, and $T : C \rightarrow C$ be a nonexpansive mapping. Then $F(T) = \bigcap_{\epsilon > 0} \overline{F_\epsilon(T)}^W$ if and only if $F(T) = \bigcap_{\epsilon > 0} \overline{c\circ F_\epsilon(T)}$, Where $F(T)$ and $F_\epsilon(T)$ are the fixed point and ϵ -approximate fixed point sets of T , respectively.

ITERATIVE APPROXIMATION OF A COMMON FIXED POINT OF MULTI-VALUED MAPPINGS

Ljubomir Ćirić, Jeong S. Ume

Let C be a nonempty convex and closed subset of a strictly convex metric space X and $CB(C)$ be a family of all nonempty closed and bounded, not necessarily compact subset of C . In this paper the convergence of the Ishikawa iterates to a common fixed point of a pair of multi-valued mappings $S, T : C \rightarrow CB(C)$ which satisfy a very general condition (3) below, is considered.

A KÄHLER EINSTEIN STRUCTURE ON THE NONZERO COTANGENT BUNDLE OF A SPACE FORM

D.D. Poroşniuc

We obtain a Kähler Einstein structure on the nonzero cotangent bundle of a Riemannian manifold of positive constant sectional curvature. The obtained Kähler Einstein structure cannot have constant holomorphic sectional curvature and is not locally symmetric.

HARMONIC AND φ -PLURIHARMONIC MAPS BETWEEN \mathcal{C} -MANIFOLDS

Dorel Fetcu

We study some maps on products of metric framed φ -manifolds and we prove, using the results obtained, that any φ -holomorphic map between two \mathcal{C} -manifolds is harmonic. We find some results about φ -pluriharmonicity of the maps between two framed φ -manifolds, and specially in the case of \mathcal{C} -manifolds. Finally we give two results about the φ -pluriharmonicity of the projection $\pi : TM \rightarrow M$, where M is a \mathcal{C} -manifold.