SUBADDITIVE ERGODIC THEOREMS IN $C(X)$
Wojciech Slomczynski

We prove several versions of the mean subadditive ergodic theorem in the space of continuous functions on a compact space. We give necessary and sufficient conditions for the uniform convergence in the following cases: convergence of a non-negative continuous subadditive process to 0, convergence to an invariant function, and convergence to a constant in the mean and uniquely ergodic cases. We also give applications to continuous cocycles.

A VERSION OF KULIKOV'S CRITERION
Ladislav Bican, Robert El Bashir
(No abstract)

STABILITY OF THE NOTION OF DICHOTOMY OF LINEAR IMPULSIVE DIFFERENTIAL EQUATIONS IN A BANACH SPACE
D.D. Bainov, S.I. Kostadinov, P.P. Zabreiko

In the paper sufficient conditions for stability of the ordinary and exponential dichotomy of impulsive equations under small perturbations of the points of impulse effect are found.

DIMENSIONS IN MULTIVALUED ALGEBRAIC STRUCTURES
Giuseppe Tallini
(No abstract)

DIMENSIONE FRATTALE E PROBLEMI DI SCALA
Rosanna Iembo

This work treats the scale problem involved in the calculation of the fractal dimension for a statistically self-affine set and shows the need for the use of multifractals.

A NOTE ON MULTIPLICATIVE HYPERRINGS
D.M. Olson, V.K. Ward

Previous work of R. Rota on multiplicative hyperrings is clarified and it is proved that a unitary strongly distributive hyperring must be a ring which renders redundant portions of the work by Rota and Procesi and Rota. An example is given to show that Rota's version of the Fundamental Homomorphism Theorem is given along with proof of the usual Second and Third Homomorphism Theorems.

LINEAR SPACES WITH TRANSITIVE COLLINEATION GROUP AND S-HYPERFUNCTIONS
Domenico Lenzi

The notion of Steiner function on a group $(G, +)$ is equivalent to that of Steiner triple system (i.e.: a linear space whose lines have cardinality 3) (G, L) such that $(G, +)$ acts on it as a transitive collineation group. This function is the involution of G that fixes 0 and associates to any x in $G \setminus \{0\}$ the unique element x' of $G \setminus \{0, x\}$ such that $0, x$ and x' are collinear (i.e.: $\{0, x, x'\}$ in L). In this paper we extend the notion of Steiner function to that of right S-hyperfunction on a group $(G, +)$. In such a way we characterize all the linear spaces having a transitive collineation group. Moreover, we prove several properties of the right S-hyperfunctions.

ON CERTAIN AKTIVIS ALGEBRAS
A.R.T. Solarin

It is proved that certain algebras satisfying Bol-Moufang type identities are Aktivis algebras under the usual operations defined on them, instead of the commutator and the associator brackets. It is also proved that any loop which satisfies both RM and LM identities is G-loop.

CONVERGENCE SUBSPACES AND NORMALITY
Marcello Paoli, Emanuele Ripoli

In the literature regarding convergence spaces, the concepts of subspace and normal space are not found unless topological spaces are being dealt with. In this paper, the introduction gives a summary of the definitions and properties of convergence spaces that are used in that which follows. In section 1 there is the definition of convergence subspace and the relationships between the properties of space and subspace are studied; the relationships between topological spaces and subspaces are presented, in a generalized manner. Section 2 continues with an examination of the properties inherited from a convergence subspace. The properties taken into consideration are pseudo-topology, pretopology, Hausdorff, T_2, Urysohn, idempotent closure, regularity, diagonality, ω-diagonality and others. In section 3, there is the introduction of the notion of normal convergence space and, after having demonstrated some properties of those spaces, 3.3 studies the relationship between regularity and normality, arriving at results which, in the particular case of topological spaces, coincide with those well known in topology. 3.4 and 3.5 illustrate a property equivalent to normality whereas 3.6 shows that a closed set of a convergent space, $c - p$, with idempotent closure and normal is normal in the inherited convergence. Even in this case, there is correspondence with the analogous properties of topological spaces.

DEUX REMARQUES SUR LA SEMI-NORMALITÉ
Gabriel Picavet

(No abstract)

DIMENSION D'ALEXANDROFF D'UN ESPACE UNIFORME
Bernard Brunet

In this paper, we generalize to uniform spaces the notion of metric dimension introduced by P. Alexandroff and we compare this new dimension (dim) with the covering dimension (dim). Particularly, we establish that these two dimensions coincide for compact spaces and give lastly some examples of non paracompact uniform spaces X such as dim X = dim X.

PERIODIC SOLUTIONS OF IMPULSIVE HYPERBOLIC EQUATIONS OF FIRST ORDER
Drumi Bainov, Zdzislaw Kamont, Emil Minchev

A theorem on impulsive hyperbolic differential inequalities is proved. The result obtained is applied to the investigation of the periodic solutions of impulsive hyperbolic equations of first order.

UN'INTERPRETAZIONE FRATTALE DI LEGGE ESPONENZIALE
Rosanna Iembo

An exponential can yield 'the' fractal dimension of a fractal set. The mainstream lenght-drainage area relationship does not give such a result because of the statistical self-affinity of the main water course.

NONLINEAR SINGULARLY PERTURBED SYSTEMS OF DIFFERENTIAL EQUATIONS AND APPLICATIONS

A. Slavova, D. Panteleev

In this paper a survey of the most effective methods in singular perturbations is presented. Many applied problems can be modeled by nonlinear singularly perturbed systems, as for example, problems in kinetics, biochemistry, semiconductors theory, theory of electrical chains, economics, etc. We consider asymptotic and constructive methods that are very useful from the point of view of their numerical and computer realizations. Applications of these methods to cellular neural networks are given.