T. Patel and S. Pattanayak

ON weighted Toeplitz multipliers

Abstract: We have obtained results analogous to the results of A. Pelczyński and F. Sukochev on the Toeplitz Schure multipliers from the class of upper triangular trace class matrices to the class of absolutely summable matrices. We have obtained a necessary and sufficient condition for the weighted Toeplitz Multiplier \( \tilde{T}_\lambda \) to induce a bounded linear operator from \( S_1 \) into \( M_1 \). We have also got a condition for a sequence to be in the Fefferman multiplier class and the corresponding Toeplitz multiplier mapping the upper triangular trace class matrices to the class of absolutely summable matrices.

S. Shahmorad and A. Tari

ORTHONORMALIZED B-SPLINES method for the numerical solution of linear Fredholm integral equations

Abstract: In this paper, we orthonormalize the B-spline functions by Gram-Schmidt algorithm and then use them in solving the linear Fredholm integral equations. We prove the convergence of this method and obtain order of the error. And finally some examples are given to show accuracy of the method.
Junichi Nishiwaki and Shigeyoshi Owa

AN APPLICATION OF HÖLDERR INEQUALITY FOR
CONVOLUTIONS 235-244

Abstract: Let $A_p(n)$ be the class of analytic and multivalent functions $f(z)$ in the open unit disk $U$. Furthermore, let $S_p(n,\alpha)$ and $T_p(n,\alpha)$ be the subclasses of $A_p(n)$ consisting of multivalent starlike functions $f(z)$ of order $\alpha$ and multivalent convex functions $f(z)$ of order $\alpha$, respectively. Using the coefficient inequalities for $f(z)$ to be in $S_p(n,\alpha)$ and $T_p(n,\alpha)$, new subclasses $S^*_p(n,\alpha)$ and $T^*_p(n,\alpha)$ are introduced. Applying Hölder inequality, some interesting properties of generalizations of convolutions (or Hadamard products) for functions $f(z)$ in the classes $S^*_p(n,\alpha)$ and $T^*_p(n,\alpha)$ are considered.

Steven G. Krantz

PSEUDOCONVEXITY, ANALYTIC DISCS AND INARIANT METRICS 245-262

Abstract: We begin by studying characterizations of pseudoconvexity, and also of finite type, using analytic discs. The results presented are analogous to well-known ideas from the real variable setting in which “pseudoconvex” is replaced by “convex” and “analytic disc” is replaced by “line segment”.

The second part of the paper concerns regularity results for the Kobayashi metric. Of course this metric is defined using analytic discs, so the discussion is a natural extension of that in the first part of the paper. We also comment on the Carathéodory metric.
M. K. Gupta and P. N. Pandey

On subspaces of a Finsler space with a special metric

Abstract: In this paper, we derive certain geometrical properties of the subspaces of a Finsler space whose metric is given by an $h$-vector.

Sanjay Tahiliani

More on $g\beta$-closed sets and $\beta$-$g\beta$-continuous functions

Abstract: In this paper, we study some more properties of $g\beta$-closed sets. Further we define $\beta$-$g\beta$-continuous functions and study it’s basic properties. Also we investigate $g\beta$-open sets in a product space of a family of non empty topological spaces and prove that a projection map from the product space onto its factor space is $g\beta$-irresolute.

Preeti Dharmarha

On left weighted Weyl’s theorem

Abstract: This paper generalizes the notion of left essential spectrum and left Weyl’s theorem, when the space is non separable. The concept of left $\alpha$-Weyl’s theorem is introduced and a necessary and sufficient condition is proved for $f(T)$ to satisfy left $\alpha$-Weyl’s theorem when $T$ is a semi isoloid operator and $f$ is in $\text{Hol}(T)$. 
Prasanta Malik, Lakshmi Kanta Dey and Pratap Kumar Saha

On statistical cluster points of double sequences  293-300

Abstract: In this paper, we primarily study the set of statistical cluster points of double sequences in finite dimensional spaces. We also extend the notion of $\Gamma$-statistical convergence of single sequences [7] to double sequences and investigate some of its consequences.

Fausto Ongay

An example of a coquecigrue embedded in $\mathbb{R}^4$  301-309

Abstract: In this note I will describe a simple, but non-trivial, explicit example of a solution to the “coquecigrue” problem of Lo-day. More precisely, a Leibniz algebra structure will be defined on $\mathbb{R}^4$, and from this structure a digroup contained in this space, whose tangent space at the unit element inherits the original Leibniz algebra structure. This illustrates both, the properties that might be expected from the coquecigrues, and the difficulties still remaining in the full understanding of the problem.

Nesip Aktan

$\phi$-conformally flat Kenmotsu manifolds  311-318

Abstract: It is well known that a connected Kenmotsu manifold of dimension $\geq 5$ cannot be conformally flat. In this paper, we study $\phi$-conformally flat, $\phi$-conharmonically flat and $\phi$-projectively flat Kenmotsu manifolds such that the dimension of the manifold $> 3$. 
M. Sitaramayya and M. S. R. Varma

Geometry of some differential equations - I 319-348

Abstract: In this paper an attempt is made to understand various partial differential equations describing motion of objects like shallow waves (magnetic flows etc.) or in general flows in a medium as a geometric principle occurring in a Lie group. After analysing the motion of a rigid body about a point and the motion of an ideal incompressible flow the principle is formulated and the corresponding prototype of the equation is given. This equation was studied for several interesting examples from mathematical physics and physics. The needed differential-geometric tools were developed on the necessary Lie groups and their Lie algebras. Several interesting observations were inserted at several places. This paper gives a thorough, systematic and up to date understanding of certain special flows as geodesic flows on certain Lie groups with respect to a suitable invariant Riemannian metric.

Krishna Gopal Singha and P. N. Deka

Magnetohydrodynamic heat transfer in two-phase flow in presence of uniform inclined magnetic field 349-363

Abstract: The two-phase Magnetohydrodynamic flow and heat transfer problem in a horizontal channel is considered in presence of a strong uniform inclined magnetic field. The induced field is produced in the flow direction. The fluids of different phases are assumed to be immiscible, incompressible, steady, one-dimensional and fully developed. The viscosities and thermal conductivities are considered to be different for different phases. The transport properties of the two fluids are taken to be constant and the bounding plates are maintained at constant and equal temperature. The upper phase is conducting whereas the lower phase is non-conducting.
The interest of investigation is focused on upper-phase. The analytical solutions of velocities, induced magnetic field and temperature distributions are obtained and are computed numerically for different heights and viscosity ratios for two fluids and for two different values of electric load parameters $Re$. The computed results for velocity, magnetic field and temperature distributions are plotted for distances from the fixed horizontal plates and for different angle of inclinations.

Peter Danchev

Note on a decomposition of normalized unit groups in Abelian group algebras

in Abelian group algebras 365-368

Abstract: Let $G$ be an abelian group and $R$ a commutative unital ring. We find a criterion only in terms of $R$ and $G$ when the group $V(RG)$ of all normalized units in the group algebra $RG$ can be decomposed as $GV(RG_0)$ whenever $G_0$ is the torsion subgroup of $G$. This continues our recent investigations in $(An. Univ. Bucuresti - Math., 2005)$ and $(Bull. Allahabad Math. Soc., 2008)$ as well as it extends a result of Karpilovsky $(Expo. Math., 1990)$.

B. K. Lahiri

Banach space coefficients and fixed points of nonexpansive mappings

Banach space coefficients and fixed points of nonexpansive mappings 369-387

Abstract: In this survey article we examine the influence of several Banach space coefficients formulated during the last three decades to the existence of fixed points of non-expansive mappings.
S. Pirzada, Merajuddin and U. Samee

Inequalities in oriented graph scores 389-395

Abstract: We prove some necessary and sufficient conditions for a non-decreasing sequence of non-negative integers to be a sequence of numbers, called scores, attached to the vertices of oriented graphs.

S. P. Singh and Mahi Singh

Iterated contraction maps and fixed points 397-404

Abstract: The study of iterated contraction was initiated by Rheinboldt in 1969 [4]. The concept of iterated contraction proves to be very useful in the study of certain iterative process and has wide applicability. In this survey paper a brief introduction of iterated contraction maps is given and some fixed point results are proved.

S. S. Shukla and Sanjay Kumar Tiwari

Ricci curvature of slant submanifolds in generalized Sasakian space forms 405-417

Abstract: In this article, we establish inequalities between the Ricci curvature and squared mean curvature and also between $k$-Ricci curvature and the scalar curvature for a slant submanifold in a generalized Sasakian space form.

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