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U. N. SINGH: HIS LIFE AND WORK

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U. N. Singh and Dinesh Singh

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Abstract: In this note we characterize the class of Hilbert spaces that are vector subspaces of the Hardy Space H^2 and on which the shift operator S of “multiplication by z ” acts as an isometry. A recent result due to L. de Branges is deduced as a corollary to the theorem proved here.

I. J. Maddox

A TAUBERIAN THEOREM FOR DISCRETE ABEL MEANS

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Abstract: Discrete Abel means were introduced by Armitage and Maddox [1], and Tauberian results relating bounded discrete Abel means and partial sums have been given by Maddox [3]. In the present note we consider a Tauberian theorem of a type not considered in [1], [3].

B. S. Komal and R. S. Pathania

COMPOSITION OPERATORS ON A SPACE OF OPERATORS

11-17

Abstract: A characterization of composition operators on a space of operators is obtained. It is shown that the class of composition operators derived on the Banach space of bounded linear operators into the Banach space of bounded functions on a Hilbert space H into itself is a Banach space. If $0 \in \text{ran } T$, then it turns out that no composition operators induced by T is invertible.

Surjit Singh and Pammy Manchanda

SEMINORMABILITY OF CERTAIN RING TOPOLOGIES ON NOETHERIAN KRULL DOMAINS

19-28

Abstract: Jo-Ann D. Cohen (Surjit Singh) has proved that if T is a Hausdorff (need not be Hausdorff) locally bounded ring topology on a Dedekind domain D for which the open ideals form a fundamental system of neighbourhoods of zero and there exists a non-zero topological nilpotent element for T , then T is normable (seminormable). We now prove that if T is a Hausdorff (need not be Hausdorff) locally bounded ring topology on a Noetherian Krull domain R for which the open divisorial ideals form a fundamental system of neighbourhoods of zero and there exists a non-zero topological nilpotent for T , then T is normable (seminormable).

N. S. Sohi and L. P. Singh

A CLASS OF BOUNDED STARLIKE FUNCTIONS OF COMPLEX ORDER

29-35

Abstract: By $S^b(A, B)$ ($b \neq 0$ complex), we denote the class of functions $f(z) = z + \sum_{n=2}^{\infty} \alpha_n z^n$ regular in the unit disc $E = \{z : |z| < 1\}$, such that $f(z)/z \neq 0$ in E and

$$1 + 1/b (zf'(z)/f(z) - 1) < \frac{1 + Az}{1 + Bz}, z \in E,$$

where A and B are fixed numbers, $-1 \leq B < A \leq 1$. Sharp coefficient estimates and argument of $f(z)/z$ are determined for functions in the class $S^b(A, B)$. Also we maximize $|\alpha_3 - \mu\alpha_2^2|$ over the class $S^b(A, B)$ and the sharp radius of starlikeness is obtained for the class $S^b(A, B)$.

G. C. Mandal, Swapna Mukherjee and Srikumar Mukherjee

ROTATIONAL MOTION OF A DUSTY VISCOUS FLUID CONTAINED IN THE SEMI-INFINITE CIRCULAR CYLINDER DUE TO AN INITIALLY APPLIED IMPULSE ON THE SURFACE

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Abstract: Here a study of the effects of the dust particles on the fluid flow is done. It is observed that the effect of the mass concentration of dust particles on the flow fluid is to increase the velocity field of dusty fluid. It appears that this problem has some bearing on the problems of transport of solid particles by air or water and the motion of solid particles in a rocket motor exhaust.

Nand Kishore, U. K. Misra and C. D. Panigrahi

ON A CLASS OF LIMITATION METHODS

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Abstract: Herein we have constructed a subclass of the regular matrix summability methods which has the property that every bounded sequence is limitable by at least one of its members. Indeed, this subclass behaves like the class of regular matrix methods in other respects too.

Beverly Diamond

THE EXTENDING OF CLOSED MAPS OVER PERFECT COMPACTIFICATIONS 57-62

Abstract: A completely regular Hausdorff space X is a 0-space if X has a compactification with 0-dimensional remainder, in which case X has a maximum compactification F_0X having this property. It is shown that if Y is a 0-space, $f : X \rightarrow Y$ is closed and KX is a perfect compactification of X , then f extends continuously to $f^k : KX \rightarrow F_0Y$ if and only if for any distinct pair of points $y, z \in Y$, $cl_k x f \leftarrow (y) \cap cl_k x f \leftarrow (z) = \emptyset$. It follows from this result that if (i) X is realcompact or metacompact and Y is a 0-space in which the set of q -points has discrete complement, or (ii) X is metacompact or locally compact realcompact and Y is a k -space which is also a 0-space, then any closed map from X into Y extends to a map from any perfect compactification KX of X into F_0Y .

T. K. Dutta

ON UNIFORM GENERALISED SYMMETRIC DERIVATES

63-74

Abstract: It is known [5, 6] that if the first symmetric derivative of a continuous f exists at each point in an interval (a, b) , then the ordinary derivative f' also exists in (a, b) except a set of the first category. In this paper we have proved analogous

result for generalised symmetric derivatives of odd and even orders by introducing the notion of uniform upper and lower symmetric derivatives.

Sunil Kumar Sinha

SOME CHARACTERIZATIONS OF THE EXTENDED HANKEL TRANSFORM
FOR DISTRIBUTIONS

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Abstract: Two characterizations of the extended Hankel transforms for distributions have been developed using the transformation of dilatations U_n exponential shifts T^{-p} . The standard operation formulae for the distributional extended Hankel transform are proved.

Naresh Kumar and G. S. Srivastava

ON THE DERIVATIVES OF A FUNCTION ANALYTIC IN A HALF PLANE

87-97

Abstract: Let $\sum_{n=1}^{\infty} a_n \exp(s\lambda_n)$ be a Dirichlet series whose sum $f(s)$ represents an analytic function in a half plane $Re s < A$. It is well known that the derivatives of $f(s)$ namely $f^{(n)}(s)$ are also analytic in the half plane $Re s < A$. In this paper, various results connecting the growths of $f(s)$ and its derivatives have been obtained. It has been shown that if f is of finite order, then the order and lower order of $f^{(1)}(s)$ are same as that of $f(s)$. Relative growth of maximum terms of $f(s)$ and $f^{(n)}(s)$ have also been studied.
