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Abstract: In this paper, we derive several subordination results for a certain class of analytic functions defined by multiplier transformation. A number of interesting applications of the subordination result are also considered.

Deepa Sinha and Ayushi Dhama

SIGN-COMPATIBILITY OF SOME DERIVED SIGNED GRAPHS 23-40

Abstract: A *signed graph* (or *sigraph* in short) S is *sign-compatible* if there exists a *marking* μ of its vertices such that the end vertices of every negative edge receive ‘ -1 ’ marks in μ and no positive edge receives negative marks at both of its ends. In this paper, we characterize S such that some of its transformed sigraphs as \times -line sigraphs, semi-total line sigraphs, semi-total point sigraphs and total sigraphs are sign-compatible.

M. S. Mahadeva Naika, S. Chandankumar and M. Harish

SOME NEW MODULAR RELATIONS FOR RAMANUJAN'S
THETA FUNCTION

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Abstract: In this paper, we present some new eta-function identities for Ramanujan's theta function. We also establish general formulas for the explicit evaluations of ratios of theta function.

Flavia Colonna and Ajay K. Sharma

BOUNDEDNESS, COMPACTNESS AND ORDER BOUNDEDNESS OF
PRODUCTS OF COMPOSITION, MULTIPLICATION AND ITERATED
DIFFERENTIATION BETWEEN HARDY AND WEIGHTED BERGMAN
SPACES

57-100

Abstract: We characterize boundedness, compactness and order boundedness of products of composition, multiplication and iterated differentiation operators acting between weighted Bergman spaces by the behavior of some integral transforms involving the inducing symbols and obtain corresponding results when such operators act on Hardy spaces. Furthermore, we estimate the operator norm and the essential norm of these operators which map the weighted Bergman spaces into the space of bounded analytic functions. Under some restrictions on the symbols, essential norm estimates for these operators between weighted Bergman spaces on the open unit disk are also given.

George L. Karakostas

FRACTIONAL HYPEREXPONENTIALS AND HARDY'S ORDER OF
INFINITY VIA A SOLUTION OF ABEL'S EQUATION 101-121

Abstract: By using an arbitrary solution of the classic Abel's functional equation we define the fractional hyperexponential and discuss its basic properties. Then to any complex valued function defined on a neighborhood of ∞ of the extended complex plane we define a growth index, which classifies the functions in levels. Hence a completion of Hardy's logarithmico - exponential scale [11,12] for real valued L -functions is proposed. An application is given to a sublinear Volterra integral equation, where it is shown that, for levels $\sigma > 1$, the growth index of the solution does not exceed the growth index of the perturbation.