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# SOME COMPARATIVE GROWTH PROPERTIES OF DIFFERENTIAL POLYNOMIALS

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**Abstract**

A single valued function of one complex variable which is analytic in the finite complex plane is called an entire function. On the other hand a single valued function of one complex variable is said to be a meromorphic function if its only singularities in the finite complex plane are poles. If f is a meromorphic function and g is an entire function then the composite meromorphic function fog is defined as fog(z) = f(g(z)) for all z in the finite complex plane. The composition of two entire functions are analogously defined. The comparative growth of a function f with respect to another function g is measured as the ratio T (r, f) T (r, g) where T (r, f) and T (r, g) respectively denote the Nevanlinna's characteristic function of f and g. Several researchers studied the comparative growth of meromorphic functions and their derivatives under different conditions. Since the natural extension of a derivative is a differential polynomial, in this paper we study the comparative growth properties of composite entire or meromorphic functions and differential polynomials generated by one of the factors improving some earlier results.

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KeyWords and Phrases : Entire and meromorphic function,Differential polynomial, Lower proximate order, Composition, Growth.

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