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COMPOSITE MEROMORPHIC FUNCTIONS AND THEIR COMPARATIVE GROWTH PROPERTIES

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Abstract

A single valued function of one complex variable which is analytic in the open 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 it has no singularities other than poles in the open complex plane. Let f be a meromorphic function and g be an entire function in the open complex plane C. Then the composition f _ g is defined as f _ g(z) = f(g(z)) for all z 2 C. The theory of distribution of values of entire and meromorphic functions was first developed by R. Nevanlinna (1926). The function T(r; f) is called the Nevanlinna's Characteristic function of f. The ratio $\frac{T(r,f)}{T(r,g)}$ measures the comparative growth of f with respect to g. The aim of this paper is to study the comparative growth properties of meromorphic functions and their compositions using L_ − order and L_ − type where L = L(r) is a slowly changing function.

Key Words and Phrases : Slowly changing function, Entire and meromorphic function, Comparative growth, L_ − order , L_ − type, L − bounded index, Non uniform L − bounded index.

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