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SOME RESULTS ON THE GROWTH ESTIMATES OF COMPOSITE ENTIRE AND MEROMORPHIC FUNCTIONS

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Abstract

A single valued function of one complex variable which is analytic in the finite complex plane C is called an entire function. On the other hand a single valued function of one complex variable which has no singularities other than poles in the finite complex plane C is defined as a meromorphic function. Let f be a meromorphic function and g be an entire function defined in C. By the composition of f and g denoted by f og we mean by f og(z) = f(g(z)) for all z belongs to C. Also the growth estimate of T(r; f) with respect to T(r; g) is defined by the ratio T(r; f) T(r;g) as r tends to 1 where T(r; f) and T(r; g) respectively denote the Nevanlinna's characteristic function of f and g. In the paper we establish some theorems on the growth estimates of the composition of entire and meromorphic functions. Some examples are also provided to show that the conditions in the theorems are essential.

Key Words: Entire function, Meromorphic function, Composition, Growth estimate.

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