ON RELATIVE DEFECTS OF THE COMMON ROOTS OF SEVERAL MEROMORPHIC FUNCTIONS

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Abstract

A single valued function f of one complex variable is said to be a meromorphic function if its only possible singularities in the finite complex plane C are poles. The theory of distribution of values of meromorphic functions was first initiated by R. Nevanlinna(1926). The concept of Nevanlinna defect _(a; f) is a very significant achievement in the value distribution theory of meromorphic functions where a is any complex number finite or infinite. Milloux [2] introduced the concept of absolute defect with respect to f′, the first order derivative of f. Later Xiong [4] extended this definition to f(k) where k = 1, 2, 3, · · · and called it the relative Nevanlinna defect with respect to f(k). In [4] he has shown various relations between the usual defects and the relative defects of meromorphic functions. If _ C is a root of both the equations f1 = a and f2 = a then we say that _ is a common root of f1 = a and f2 = a. The purpose of this paper is to consider several meromorphic functions having common roots and find some relations involving their relative defects.