ON THE VALUE DISTRIBUTION OF SOME DIFFERENTIAL POLYNOMIALS WHICH INVOLVE TWO DISTINCT TRANSCENDENTAL MEROMORPHIC FUNCTIONS

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Abstract: In the present note we deal with the value distribution of those differential polynomials which involve two distinct transcendental meromorphic functions and obtain analogous results of G. P. Barker and A. P. Singh [1], C. C. Yang [6], W. Doeringer [3], X. Z. Xiao and Y. Z. He [5], Hong-Xun Yi [7], S. S. Bhoosnurmath and K. S. L. N. Prasad [2] for these kind of differential polynomials.

Keywords and Phrases: Differential polynomials, monomials, transcendental meromorphic functions, small functions, value distribution.

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1. Introduction, Definitions and Notations

Let f be a non-constant meromorphic function in the complex plane and $m(r, f)$, $N(r, f)$, $T(r, f)$ have their usual meanings in the Nevanlinna Theory [4]. Let $S(r, f)$ denotes any quantity satisfying $S(r, f) = o(T(r, f))$ as $r \to \infty$ except possibly a set of finite linear measure. Let $a(z)$ be a meromorphic function in the plane satisfying $T(r, a(z)) = S(r, f)$ as $r \to \infty$.

Definition 1.1. *A monomial in f is an expression of the form*

$$M[f] = (f(z))^{l_0}(f^{(1)}(z))^{l_1}...(f^{(k)}(z))^{l_k}$$