MATHEMATICA, Tome 53 (76), N° 1, 2011, pp. 73–80

UNIQUENESS OF MEROMORPHIC FUNCTIONS CONCERNING DIFFERENTIAL POLYNOMIALS

JINDONG LI and QIANG LU

Abstract. In this paper we study the uniqueness of meromorphic functions concerning differential polynomials, proving the following theorem: Let $f(z)$ and $g(z)$ be two nonconstant meromorphic functions satisfying $\Theta(\infty, f) > \frac{2}{n}$, and let n, k be two positive integers with $n \geq 12k+20$. If $[f^n(z)(f(z)-1)]^{(k)}$ and $[g^n(z)(g(z)-1)]^{(k)}$ share 1 IM (ignoring multiplicities), then either $[f^n(z)(f(z)-1)]^{(k)}[g^n(z)(g(z)-1)]^{(k)} \equiv 1$ or $f(z) \equiv g(z)$. This generalizes and improves some results given by M.L. Yang, S.S. Bhoosnurmath and R.S. Dyavanal.

MSC 2010. 30D35.
Key words. Meromorphic function, sharing values, differential polynomials.

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Received September 8, 2009
Accepted January 31, 2011

Chengdu University of Technology
Department of Mathematics
Chengdu, Sichuan, 610059, P.R. China
E-mail: jd-li86cdut@163.c0m

Southwest University of Science and Technology
College of Sciences
Mianyang, Sichuan, 637002, P.R. China
E-mail: luqiankuo1965@hotmail.com

The authors would like to thank the referee for some suggestions to improve the paper.