UNIQUENESS OF MEROMORPHIC FUNCTIONS
CONCERNING DIFFERENTIAL POLYNOMIALS

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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 $\Theta(\infty, f) > \frac{2}{3}$, 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 $|f^n(z)(f(z)-1)|^{(k)} \equiv 1$ or $f(z) \equiv g(z)$. This generalizes and improves some results given by M.L. Yang, S.S. Bhoosnurmath and R.S. Dyavanal.

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REFERENCES

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