RELATIVE $(p,q,t)L$–TH ORDER ORIENTED SOME GROWTH PROPERTIES OF WRONSKIAN

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Abstract. In the paper we establish some new results depending on the comparative growth properties of composite transcendental entire and meromorphic functions using relative $(p,q,t)L$-th order and relative $(p,q,t)L$-th lower order and wronskian generated by one of the factors.

REFERENCES

[1] W. BERGWEILER, *On the growth rate of composite meromorphic functions*, Complex Variables Theory Appl., **14**, 1–4 (1990), 187–196.

[2] L. BERNAL, *Orden relative de crecimiento de funciones enteras*, Collect. Math., **39** (1988), 209–229.

[3] T. BISWAS, *Some comparative growth rates of wronskians generated by entire and meromorphic functions on the basis of their relative (p,q)-th type and relative (p,q)-th weak type*, J. Fract. Calc. Appl., **10**, 2(2019), 147–166.

[4] T. BISWAS, *Relative (p,q,t)-th order and relative (p,q,t)-th type based some growth aspects of composite entire and meromorphic functions*, Honam Math. J., **41**, 3 (2019), 463–487

[5] S. K. DATTA, T. BISWAS AND C. BISWAS, *Measure of growth ratios of composite entire and meromorphic functions with a focus on relative order*, Int. J. Math. Sci. Eng. Appl., **8**, IV (2014), 207–218.

[6] W. K. HAYMAN, *Meromorphic Functions*, The Clarendon Press, Oxford, 1964.

[7] O. P. JUNEJA, G. P. KAPOOR AND S. K. BAJPAI, *On the (p,q)-order and lower (p,q)-order of an entire function*, Math., **282** (1976), 53–67.

[8] B. K. LAHIRI AND D. BANERJEE, *Relative order of entire and meromorphic functions*, Proc. Natl. Acad. Sci. India, Sect. A., **69** (A) (3) (1999) 339–354.

[9] I. LAINE, *Nevanlinna Theory and Complex Differential Equations*, De Gruyter, Berlin, 1993.

[10] D. SOMASUNDARAM AND R. THAMIZHARASI, *A note on the entire functions of L-bounded index and L type*, Indian J. Pure Appl. Math., **19**, 3 (1988), 284–293.

[11] D. SATO, *On the rate of growth of entire functions of fast growth*, Bull. Amer. Math. Soc., 69 (1963), 411–414.

[12] X. SHEN, J. TU AND H. Y. XU, *Complex oscillation of a second-order linear differential equation with entire coefficients of $[p,q] − \varphi$ order*, Adv. Difference Equ., **2014**, 1:200(2014), 14 pages, http://www.advancesindifferenceequations.com/content/2014/1/200.

[13] G. VALIRON, *Lectures on the General Theory of Integral Functions*, Chelsea Publishing Company, New York, USA, 1949.

[14] C. C. YANG AND H. X. YI, *Uniqueness theory of meromorphic functions*, Mathematics and its Applications, 557, Kluwer Academic Publishers Group, Dordrecht, 2003.

[15] L. YANG, *Value distribution theory*, Springer-Verlag, Berlin, 1993.