



UNIQUENESS OF PRODUCT OF MEROMORPHIC FUNCTION WITH ITS SHIFTS AND DERIVATIVES

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Abstract. This paper investigates the uniqueness of the product of meromorphic functions concerning their shifts and derivatives. By employing Nevanlinna theory, we establish new uniqueness results that generalize and improve upon previous findings, particularly those of Chethan, Rajeshwari, and Bhuvaneshwari [2]. We consider transcendental meromorphic functions of finite order and analyze conditions under which their products with shifts or derivatives share values with a certain weight. Through rigorous theoretical proofs, we demonstrate that under specified conditions, two meromorphic functions must be identical if they satisfy particular value-sharing properties. Our findings contribute to the broader study of value distribution theory and meromorphic function uniqueness, offering extensions to classical results in complex analysis.

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