

## ON UNICITY OF MEROMORPHIC FUNCTION AND ITS $k$ TH ORDER DERIVATIVE

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*Abstract.* In this paper, we study the uniqueness problems on meromorphic function and its  $k$ th order derivative. The results in this paper improve the results given by K. W. Yu (On entire and meromorphic functions that share small functions with their derivatives, *J. Inequal. Pure Appl. Math.* 4(1)(2003), Art. 21), L. P. Liu and Y. X. Gu (Uniqueness of meromorphic functions that share one small function with their derivatives, *Kodai Math. J.* 27(2004), 272–279) and supplement a result of S. H. Lin and W. C. Lin (Uniqueness of meromorphic functions concerning weakly weighted sharing, *Kodai Math. J.* 29(2006), 269–280).

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