

## Uniqueness of Meromorphic Function and its Differential Polynomial Concerning Weakly Weighted-Sharing <sup>1</sup>

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### Abstract

In this paper, we introduce the definition of weakly weighted-sharing which is between "CM" and "IM". Using the notion of weakly weighted-sharing, we investigate problems of meromorphic functions that share a small function with its differential polynomial, and give some results and also answer some questions of Kit-Wing Yu, which were also studied by L.P.Liu and Y.X. Gu[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.], S.H. Lin and W.C. Lin[S.H.Lin and W.C.Lin, Uniqueness of meromorphic functions concerning weakly weighted-sharing, Kodai.Math.J.,29 (2006),269-280.].

**2000 Mathematics Subject Classification:** 30D30, 30D35.

**Key words and phrases:** Meromorphic function, Uniqueness theorem, Small function, Weakly-sharing.

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<sup>1</sup>Received 04 March, 2010

Accepted for publication (in revised form) 30 August, 2011

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