Xu, Wansong; **Fang, Mingliang**
On a theorem of Ozawa. (English) Zbl 0919.30021
J. Math. Study 29, No. 1, 25-28 (1996).

Let f and g be nonconstant meromorphic functions in the complex plane. Let $E(a, f)$ be the set of points counting multiplicity at which f assumes $a \in \mathbb{C} \cup \{\infty\}$. Assuming $E(1, f) = E(1, g)$, $E(\infty, f) = E(\infty, g)$, and $u = \lambda\Theta(\infty, f) + (z - \lambda)\Theta(\infty, g) + \delta_2(0, f) + \delta_2(0, g) > 3$ where $0 \leq \lambda \leq 2$, the author shows $f \equiv g$ or $fg \equiv 1$. Here

$$\delta_2(a, f) = 1 - \lim_{r\to\infty} \sup \left(\left(\overline{N}\big(r, 1/(f - a)\big) + \overline{N}_{(2}\left(r, \frac{1}{f - a}\right)\right) \Big/ T(r, f)\right)$$

where $N_{(2}\big(r, 1/(f - a)\big)$ counts only multiple zeros of $f(z) - a$. The results improve theorems of *H.-X. Yi* [Kodai Math. J. 13, 363-372 (1990; Zbl 0712.30029)] and *M. Ozawa* [J. Anal. Math. 30, 411-420 (1976; Zbl 0337.30020)].

Reviewer: L.R.Sons (DeKalb)

MSC:

30D30 Meromorphic functions of one complex variable (general theory)

Cited in **1** Document