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ON THE GROWTH OF ENTIRE FUNCTIONS OF ORDER LESS THAN 1/2

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0. Introduction. Let $f(z)$ be meromorphic in the plane. Throughout this paper we shall assume familiarity with the standard notation of the Nevanlinna theory,

$$T(r, f),\ N(r, f),\ m(r, f),\ \delta(a, f),\ \cdots.$$

We define

$$M(r, f)=\max_{|z|=r}|f(z)|, \qquad m^*(r, f)=\min_{|z|=r}|f(z)|.$$

In [2], Anderson proved the following result.

THEOREM A. *Let $f(z)$ be meromorphic in the plane and such that for some ρ, $0<\rho<1$, either*

$$\pi\rho N(r, 0, f)\leqq \sin\pi\rho \log M(r, f)+\pi\rho\cos\pi\rho N(r, f)$$

or

$$\sin\pi\rho\log m^*(r, f)\leqq\pi\rho\cos\pi\rho N(r, 0, f)-\pi\rho N(r, f) \tag{1}$$

for all large r. Then

$$\beta=\varliminf_{r\to\infty}\frac{T(r, f)}{r^\rho}>0.$$

If, further, $\beta<\infty$ then

$$\alpha=\varlimsup_{r\to\infty}\frac{T(r, f)}{r^\rho}<\infty.$$

The inequality (1) and its conclusion have been used to show that for a meromorphic function of lower order $\lambda<1/2$,

$$\varlimsup_{r\to\infty}\frac{\log^+ m^*(r, f)}{T(r, f)}\geqq\frac{\pi\lambda}{\sin\pi\lambda}(\cos\pi\lambda-1+\delta(\infty, f)). \tag{2}$$

Later, Edrei [6] obtained this estimate by making use of the notion of the local form of the Phragmén-Lindelöf indicator. The estimate (2) is best possible. (For example, see [6, p 151].)

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