

ON THE ORDER OF THE RECIPROCAL SET OF A BASIC SET OF POLYNOMIALS

M. N. MIKHAIL

1. Introduction. For the general terminology used in this paper the reader is referred to J. M. Whittaker [2], [3]. Let

$$p_n(z) = \sum_i p_{ni} z^i$$

be a basic set, and let

$$z^n = \sum_{i=0}^{D_n} \pi_{ni} p_i(z).$$

The order ω and type γ of $\{p_n(z)\}$ are defined as follows. Let $M_i(R)$ be the maximum modulus of $p_i(z)$ in $|z| \leq R$. Let

$$(1) \quad \omega_n(R) = \sum_i |\pi_{ni}| M_i(R),$$

$$(2) \quad \omega(R) = \limsup_{n \rightarrow \infty} \frac{\log \omega_n(R)}{n \log n},$$

$$(3) \quad \omega = \lim_{R \rightarrow \infty} \omega(R);$$

and, for $0 < \omega < \infty$, let

$$(4) \quad \gamma(R) = \limsup_{n \rightarrow \infty} \{\omega_n(R)\}^{1/(n\omega)} e/(n\omega),$$

$$(5) \quad \gamma = \lim_{R \rightarrow \infty} \gamma(R).$$

If

$$P_n(z) = \sum_i \pi_{ni} z^i,$$

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