
Adem E. Üreyen

On Maximum Modulus Points and the Zero Set for an Entire Function of either Zero or Infinite Order

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Abstract. A maximum modulus point of an entire function f is a point w such that $|f(w)| = \max\{|f(z)| : |z| = |w|\}$. Denote by $R(w, f)$ the distance between a maximum modulus point w and the zero set of f . In 1938, A. J. Macintyre obtained lower asymptotic estimates for $R(w, f)$ as $|w| \rightarrow \infty$ valid outside of an exceptional set. The problem of asymptotic estimates valid for *all* sufficiently large $|w|$ was studied by I. V. Ostrovskii and the author for functions of finite positive order. In this paper, we study this problem for functions of either zero or infinite order.

Keywords. Entire function, zero order, infinite order, proximate order, type.

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