

Zbl 269.41014

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Chebyshev rational approximation to entire functions. (In English)

Math. Struct., comput. Math., Math. Modelling (to appear). (1974).

Let $f(\mathcal{Z})$ be an entire function with non-negative coefficients. Put

$$\min \max \left| \frac{1}{f(\mathcal{Z})} - \frac{1}{g_n(\mathcal{Z})} \right| = A_n(f)$$

where the minimum is taken over all polynomials of degree not exceeding n . The authors obtain various inequalities for $A_n(f)$ e.g. they prove that if $f(\mathcal{Z})$ is of infinite order then for every $\epsilon > 0$

$$A_n(f) > e^{-\epsilon n}$$

holds for infinitely many values of n , but if $f(\mathcal{Z})$ is of 0 order then for every $c > 0$

$$A_n(f) > e^{-cn}$$

holds for infinitely many n .

Classification:

41A20 Approximation by rational functions

41A50 Best approximation