MR1257107 (96e:30065) 30D15 30A10

Gardner, Robert B. [Gardner, Robert Bentley] (1-ETNS);
Govil, N. K. (1-ABRN)

Some inequalities for entire functions of exponential type. (English summary)

Proc. Amer. Math. Soc. **123** (1995), *no. 9,* 2757–2761.

Summary: "If $f(z)$ is an asymmetric entire function of exponential type τ, $\|f\| = \sup_{-\infty<x<\infty} |f(x)|$, then according to a well-known result of R. P. Boas, Jr. [Illinois J. Math. **1** (1957), 94–97; MR0084577], $\|f'\| \le \frac{1}{2}\tau\|f\|$ and $|f(x+iy)| \le \frac{1}{2}(e^{\tau|y|}+1)\|f\|$, $-\infty < x < \infty$, $-\infty < y \le 0$. Both of these inequalities are sharp. In this paper we generalize the above two inequalities of Boas by proving a sharp inequality which, besides giving as special cases the above two inequalities of Boas, yields some other results as well."

References

1. R. Boas, *Entire functions*, Academic Press, New York, 1954. MR0068627
2. R. Boas, *Inequalities for asymmetric entire functions*, Illinois J. Math. **1** (1957), 94-97. MR0084577
3. N. Govil, *An inequality for functions of exponential type not vanishing in a half-plane*, Proc. Amer. Math. Soc. **65** (1977), 225-229. MR0454010
4. B. Levin, *On a special class of entire functions and on related extremal properties of entire functions of finite degree*, Izv. Akad. Nauk SSSR. Ser. Mat. **14** (1950), 45-84. (Russian) MR0033892
5. Q. Rahman and G. Schmeisser, *Extension of a theorem of Laguerre to entire functions of exponential type*, J. Math. Anal. Appl. **122** (1987), 463-468. MR0877829

Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.