

INEQUALITIES FOR THE INCOMPLETE GAMMA FUNCTION

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Abstract. We prove some monotonicity results for the incomplete gamma function,

$$\Gamma(a, x) = \int_x^{\infty} e^{-t} t^{a-1} dt,$$

from which some inequalities for $\Gamma(a, x)$ follow.

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REFERENCES

- [1] M. ABRAMOWITZ AND I. A. STEGUN, EDS., *Handbook of Mathematical Functions with Formulas, Graphs and Mathematical Tables*, Dover, New York, 1965.
- [2] A. LAFORGIA AND S. SISMONDI, *Monotonicity results and inequalities for the gamma and error functions*, J. Comp. Appl. Math. **23** (1988), 25–33.
- [3] A. LAFORGIA AND A. ELBERT, *An inequality for the product of two integrals relating to the incomplete Gamma function* (to appear) on J. In. Appl.
- [4] F. QI AND S.L. GUO, *Inequalities for the incomplete gamma and related functions*, Math. Inequal. Appl. **2** (1999), 47–53.