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Inequalities Involving a Logarithmically Convex Function and Their Applications to Special Functions

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Abstract: It has been shown that if f is a differentiable, logarithmically convex function on nonnegative semi-axis, then the function $[f(x)]^a/f(ax)$, ($a \geq 1$) is decreasing on its domain. Applications to inequalities involving gamma function, Riemann's zeta function, and the complete elliptic integrals of the first kind are included.

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