

## GEOMETRICALLY CONVEX FUNCTIONS AND ESTIMATION OF REMAINDER TERMS FOR TAYLOR EXPANSION OF SOME FUNCTIONS

XIAOMING ZHANG AND NINGGUO ZHENG

*Abstract.* In this paper, we establish two integral inequalities for geometrically convex functions. As consequences, we get the estimation for remainder terms of Taylor series for  $e^{-x}$ ,  $\sin x$  and  $\cos x$ .

*Mathematics subject classification (2010):* 26D15, 26D10.

*Keywords and phrases:* Inequality, geometrically convex function, remainder term.

### REFERENCES

- [1] P. MONTEL, *Sur les fonctions convexes et les fonctions sousharmoniques*, Journal de Math., **9**, 7 (1928), 29–60.
- [2] C. P. NICULESCU, *Convexity according to the geometric mean*, Math. Inequal. Appl., **3**, 2 (2000), 155–167.
- [3] C. P. NICULESCU AND L-E. PERSSON, *Convex Functions: Basic Theory and Applications*, Universitaria Press, Craiova, 2003.
- [4] X.-M. ZHANG, Y.-M. CHU, *The geometrical convexity and concavity of integral for convex and concave functions*, Int. J. Mod. Math., **3**, 3 (2008), 345–350.
- [5] X.-M. ZHANG, Y.-M. CHU, *New Discussion to Analytic Inequalities*, Harbin Institute of Technology Press, 2009. (Chinese)