



Volume 8, Issue 2, Article 51

## \$\$\$-Geometric Convexity of a Function Involving Maclaurin's Elementary Symmetric Mean

**Authors:** [Xiao-Ming Zhang](#),

**Keywords:** Geometrically convex function, \$\$\$-geometrically convex function, Inequality, Maclaurin-Inequality, Logarithm majorization.

**Date Received:** 23/02/07

**Date Accepted:** 27/04/07

**Subject Codes:** Primary 26D15.

**Editors:** [Peter S. Bullen](#),

**Abstract:** Let  $x_i > 0, i = 1, 2, \dots, n$ ,  $x = (x_1, x_2, \dots, x_n)$ , the  $k$ th elementary symmetric function of  $x$  is defined as  $P_n(x, k) = \left( \binom{n}{k}^{-1} E_n(x, k) \right)^{\frac{1}{k}}$ , and the function  $f$  is defined as  $f(x) = P_n(x, k-1) - P_n(x, k)$ . The paper proves that  $f$  is a S-geometrically convex function. The result generalizes the well-known Maclaurin-Inequality.



[Download Screen PDF](#)



[Download Print PDF](#)



[Send this article to a friend](#)



[Print this page](#)