

SCHUR-CONVEX FUNCTIONS RELATED TO HADAMARD-TYPE INEQUALITIES

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Abstract. The Schur-convexity on the upper and the lower limit of the integral for a mean of the convex function is researched. As applications, a generalized logarithmic mean with a parameter is obtained and a relevant double inequality that is a extension of the known inequality is established.

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Key words and phrases: Schur-convex function, inequality, Hadamard's inequality; generalized logarithmic mean.

REFERENCES

- S. S. DRAGOMIR, Two mappings in connection to Hadamard's inequalities, J. Math. Anal. Appl. 1992, 167(1): 49–56
- [2] G. S. YANG AND M. C. HONG, A note on Hadamard's inequality, Tamkang. J. Math. 1997, 28 (1): 33–37
- [3] S. S. DRAGOMIR, Further properties of some mappings associated with Hermite-Hadamard's inequalities, Tamkang. J. Math. 34(1)(2003), 45–57
- [4] N. ELEZOVIĆ AND J. PEČARIĆ, A note on Schur-convex fuctions, Rocky Mountain J. Math. 2000, 30 (3): 853–856.
- [5] B. Y. WANG, Foundations of Majorization Inequalities, Beijing Normal Univ. Press, Beijing, China, 1990. (Chinese)
- [6] J. C. KUANG, Applied Inequalities, (Chang yong bu deng shi) 3nd ed., Shandong Press of science and technology, Jinan, China, 2002. (Chinese).
- [7] A. W. MARSHALL AND I. OLKIN, *Inequalities: Theory of majorization and its application*, New York: Academies Press, 1979.
- [8] B. OSTLE AND H. L. TERWILLIGER, A companion of two means, Proc. Montana Acad.Sci. 1957, 17(1): 69–70