

INTEGRAL GENERALIZED MEANS

GHEORGHE TOADER

Abstract. Generalizing the integral representation of the arithmetic-geometric mean, some authors characterized more means by integrals. In this paper we extend a modified method used by Y.-H. Kim to construct generalized means.

Mathematics subject classification (2000): 26E60.

Key words and phrases: generalized mean, arithmetic-geometric mean, integral mean.

REFERENCES

- [1] J. ACZÉL, L. LOSONCZI, Z. PÁLES, *The behaviour of comprehensive classes of means under equal increments of their variables*, Gen. Ineq. 5, Oberwolfach 1986, Internat. Sem. Numer. Math. **80** (1987), 459–461.
- [2] P. S. BULLEN, D. S. MITRINOVIĆ, P. M. VASIĆ, *Means and Their Inequalities*, Reidel, Dordrecht, 1988.
- [3] D. M. E. FOSTER, G. M. PHILLIPS, *A generalization of the archimedean double sequence*, J. Math. Anal. Appl. **101** (1984), 575–581.
- [4] H. HARUKI, *New characterizations of the arithmetic-geometric mean of Gauss and other well-known mean values*, Publ. Math. Debrecen **38** (1991), 323–332.
- [5] H. HARUKI, T. M. RASSIAS, *New characterizations of some mean-values*, J. Math. Anal. Appl. **202** (1996), 333–348.
- [6] H. HARUKI, T. M. RASSIAS, *A new analogue of Gauss' functional equation*, Internat. J. Math. & Math. Sci. **18** (1995), 749–756.
- [7] Y.-H. KIM, *On some further extensions of the characterizations of mean values by H. Haruki and Th. M. Rassias*, J. Math. Anal. Appl. **235** (1999), 2, 598–607.
- [8] G. TOADER, *Some remarks on means*, Anal. Numér. Théor. Approx. **29** (1991), 1–2, 97–109.
- [9] G. TOADER, *Some mean values related to the arithmetic-geometric mean*, J. Math. Anal. Appl. **218** (1998), 358–368.
- [10] G. TOADER, T. M. RASSIAS, *New properties of some mean values*, J. Math. Anal. Appl. **232** (1999), 376–383.
- [11] SILVIA TOADER, *Derivatives of generalized means* Math. Ineq. Appl. **5** (2002), 3 (to appear).
- [12] S. TOADER, T. M. RASSIAS, G. TOADER, *A Gauss type functional equation*, Internat. J. Math. Math. Sc. **25** (2001), 9, 565–569.
- [13] J.-S. UME, Y.-H. KIM, *Some mean values related to the quasi-arithmetic mean*, J. Math. Anal. Appl. **252** (2000), 1, 167–176.