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THE SHARP UPPER BOUND FOR THE RATIO BETWEEN THE ARITHMETIC AND THE GEOMETRIC MEAN

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Abstract. In this note we present the sharp upper bound for the ratio between the arithmetic and the geometric mean for concave sequences. In this way the sharp reverse of the Arithmetic-Geometric Mean Inequality is obtained.

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REFERENCES

[1] J. M. ALDAZ, *C*oncentration of the ratio between the geometric and arithmetic means, J. Theoret. Probab. **23** (2010), 498–508.
[2] J. M. ALDAZ, *Comparison of differences between arithmetic and geometric means*, Tamkang J. Math. **42** (2011), 453–462.
[3] J. M. ALDAZ, *Sharp bounds for the difference between the arithmetic and geometric means*, Arch. Math. **99** (2012), 393–399.
[4] J. M. ALDAZ, *A measure-theoretic version of the Dragomir-Jensen inequality*, Proc. Amer. Math. Soc. **140** (2012), 2391–2399.
[5] G. BENNETT, *Meanningful Inequalities*, J. Math. Inequal. **1** (2007), 449–471.
[6] P. S. BULLEN, *A Dictionary of Inequalities*, Pitman Monographs and Surveys in Pure and Applied Mathematics, 97. Longman, Harlow, 1998.
[7] S. DRAGOMIR, *Bounds for the normalised Jensen functional*, Bull. Austral. Math. Soc. **74** (2006), 471–478.
[8] L. MALIGRANDA, J. E. PEČARIĆ, L. E. PERSSON, *Weighted Favard and Berwald Inequalities*, J. Math. Anal. Appl. **190** (1995), 248–262.
[9] A. MCD. MERCER, *Bounds for the A-G, A-H, G-H, and a family of inequalities of Ky Fan's type, using a general method*, J. Math. Anal. Appl. **243** (2000), 163–173.

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