

**Simić, Slavko****A note on differences of power means.** (English) [Zbl 1265.26084](#)

Publ. Inst. Math., Nouv. Sér. 86(100), 35-39 (2009).

Let  $\tilde{x}_n = \{x_i\}_1^n$  and  $\tilde{p}_n = \{p_i\}_1^n$  be two sequences of positive real numbers,  $\sum_1^n p_i = 1$ , and put  $d_m = d_m^{(n)}(\tilde{x}_n, \tilde{p}_n) := \sum_1^n p_i x_i^m - (\sum_1^n p_i x_i)^m$ ,  $m > 1$ . The main result of the paper is the following inequality:  $d_{m-1} d_{m+1} \geq c_m (d_m)^2$ ,  $m \geq 3$ . A nontrivial lower bound for  $d_m$  is given, too. The author also proves analogous inequalities with definite integrals, instead of finite sums.

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**MSC:**[26D15](#) Inequalities for sums, series and integrals[26E60](#) Means**Keywords:**

logarithmic convexity

**Full Text:** [DOI](#)