

Title: On Daróczy's problem for additive functions

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In this paper we investigate the functional equation

$$\sum_{i=1}^n \alpha_i A(\beta_i x) = 0$$

which holds for all $x \in \mathbb{R}$ with an unknown additive function $A : \mathbb{R} \rightarrow \mathbb{R}$ and fixed real parameters α_i, β_i , where $i = 1, \dots, n$. The case $n = 2$ is discussed by Z. DARÓCZY [?]. Here we formulate sufficient conditions for the existence of nontrivial solutions in terms of the parameters $\frac{\beta_1}{\beta_n}, \dots, \frac{\beta_{n-1}}{\beta_n}$ and $\frac{\alpha_1}{\alpha_n}, \dots, \frac{\alpha_{n-1}}{\alpha_n}$.

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