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Title: On the weighted sum of consecutive values of an additive representation function

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Let $\mathbb{N}$ be the set of nonnegative integers. For any set $A \subset \mathbb{N}$, let $R_A(n)$ denote the number of solutions of the equation $n = a + b$ with $a, b \in A$. Recently, Kiss and Sándor established some relations between $|\lambda_0 R_A(n) + \lambda_1 R_A(n-1) + \cdots + \lambda_d R_A(n-d)|$ and $|\{m : m \leq n, \lambda_0 \chi_A(m) + \lambda_1 \chi_A(m-1) + \cdots + \lambda_d \chi_A(m-d) \neq 0\}|$, where $\chi_A(k) = 1$ if $k \in A$, otherwise $\chi_A(k) = 0$. In this paper, we improve one of the results of Kiss and Sándor to the best possible up to a constant factor.

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