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Turyn type sequences

For a given sequence $A = (a_0, a_1, \dots, a_n)$, let

$$N_A(s) = \sum_{i=0}^{i=n-s} a_i a_{i+s} \text{ for } s = 0, 1, 2, \dots, n, \text{ and } N_A(s) = 0 \text{ for } s \geq n + 1.$$

Four $(-1, 1)$ sequences X, Y, Z, W of lengths $n, n, n, n - 1$, are said to be of *Turyn type* if

$$(N_X + N_Y + 2N_Z + 2N_W)(s) = 0, \text{ for } s \geq 1.$$

It is conjectured that Turyn type sequences of lengths $n, n, n, n - 1$ exist for all even values of n . A summary of known results on this conjecture will be presented.