Abstract: Let $n \in \mathbb{N}$, $S$ be a nonempty finite subset of the set of integers, $S^c$ be its complement, and $\mathcal{J}$ be the family of translations of $S^c$ by $ln$, $l \in \mathbb{Z}$. For such a family, $\mathcal{J}$-regularity of a $q$-variate stationary sequence over $\mathbb{Z}$ is studied. If $S$ contains exactly $n$ elements, a description of a $\mathcal{J}$-regular sequence in terms of its spectral density is obtained. Some examples are given for the case where $S$ contains more than $n$ elements.

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