
ROBERT YANG XU, University of Waterloo
Binary Kronecker constants of some integer sets

The Kronecker constant of a set $E \subset \mathbb{Z}$, $\alpha(E)$, is defined as the minimal difference possible when interpolating functions mapping from E to \mathbb{T} using a character in \mathbb{T} . In general, it is difficult to compute the Kronecker constant of a set, and therefore we use a slightly weaker notion: the binary Kronecker constant. The binary Kronecker constant of a set E , $\beta(E)$, is defined similarly, but instead of interpolating every function from E to \mathbb{T} , we only interpolate function mapping E to $\{-1, 1\} \subset \mathbb{T}$. It turns out we can infer the Kronecker constant from the binary Kronecker constant: $\beta(E) \leq \alpha(E) \leq 2\beta(E)$.

In this talk, we will compute the binary Kronecker constants for several interesting sets in the integers.