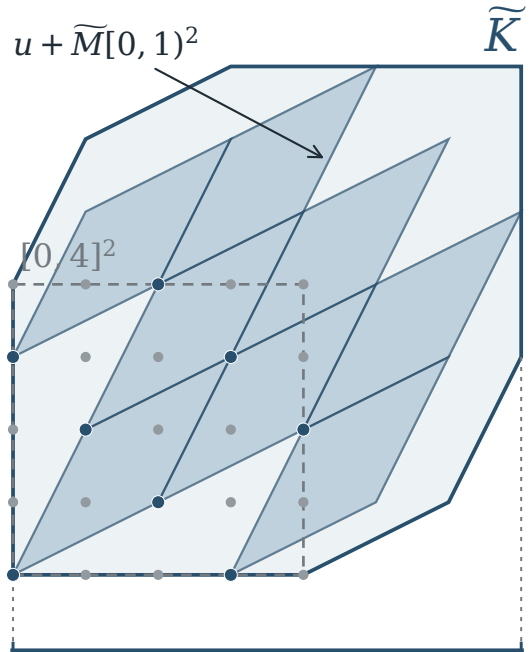
Packing and the coordinate-cover bound

An exact 2D analogue

Blue points: $\widetilde{B} \cap \widetilde{L}$ (the zero coset).



Columns of $\widetilde{M}$: $(2,1)^T$, $(1,2)^T$; $\det \widetilde{M} = 3$.

Eight half-open cells: total area $24 \le \text{area}(\widetilde{K}) = 43$.

The panel is not a computed view of the 120D body or its 13D projections.

Image created by ChatGPT

The actual 120-dimensional statement

$$B = \{0, \ldots, 73\}^{120}$$

$$L = M\mathbb{Z}^{120}, \quad \Delta = \det M$$

$$c \in G = \mathbb{Z}^{120}/L$$

$$H(c) = |B \cap (u_0 + L)|, \quad [u_0] = c$$

$$F_{\max} = \max_{c \in G} H(c)$$

$$K = [0,73]^{120} + M[0,1]^{120}$$

$$H(c)\Delta \le \text{vol}_{120}(K)$$

$$V(73) = \text{vol}_{13}(\pi_W K)$$

120 blocks; an exact 13-cover.

$$(F_{\max}\Delta)^{13} \le V(73)^{120}$$

$$307 \le \ell^* \le 352$$