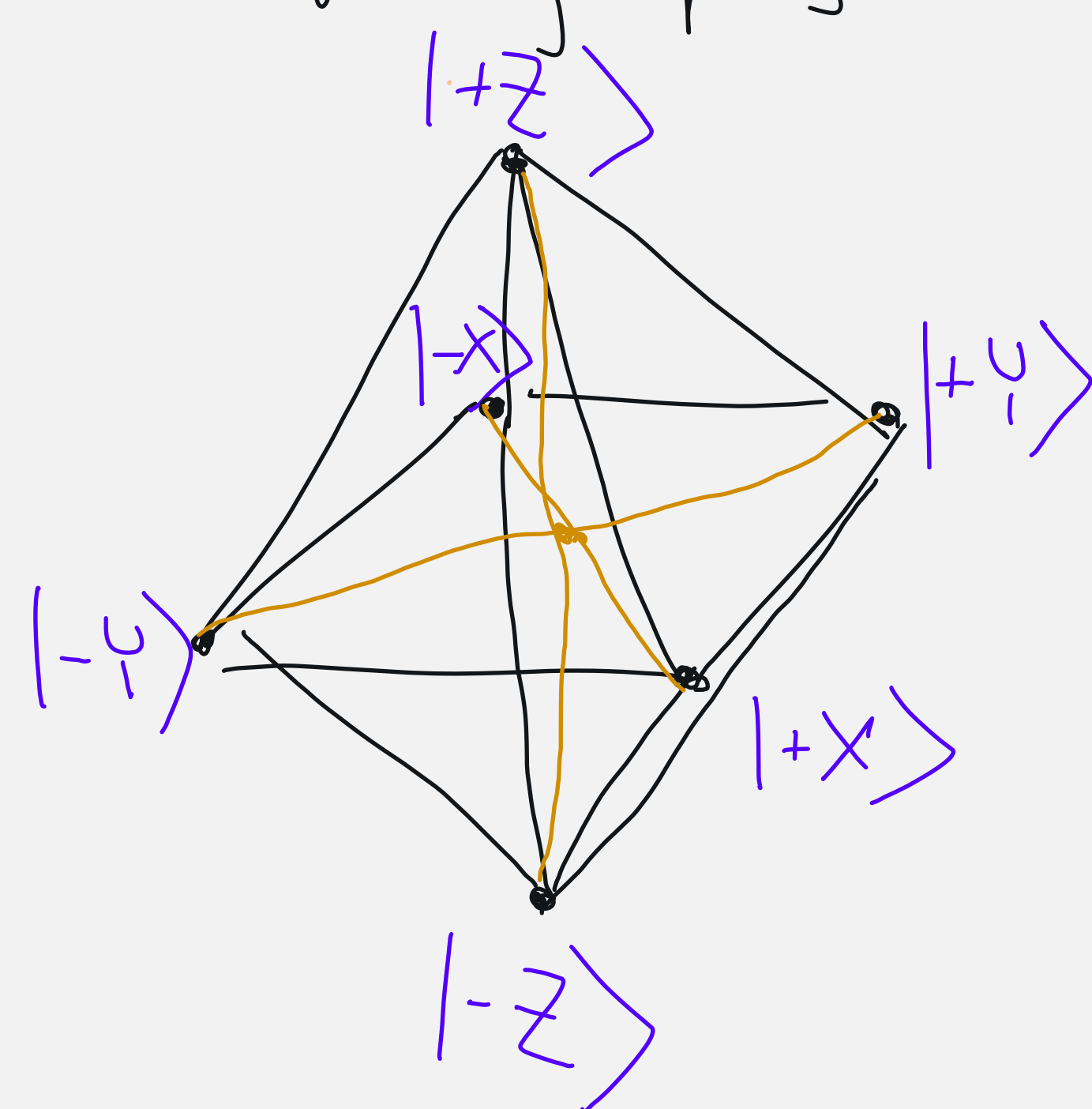


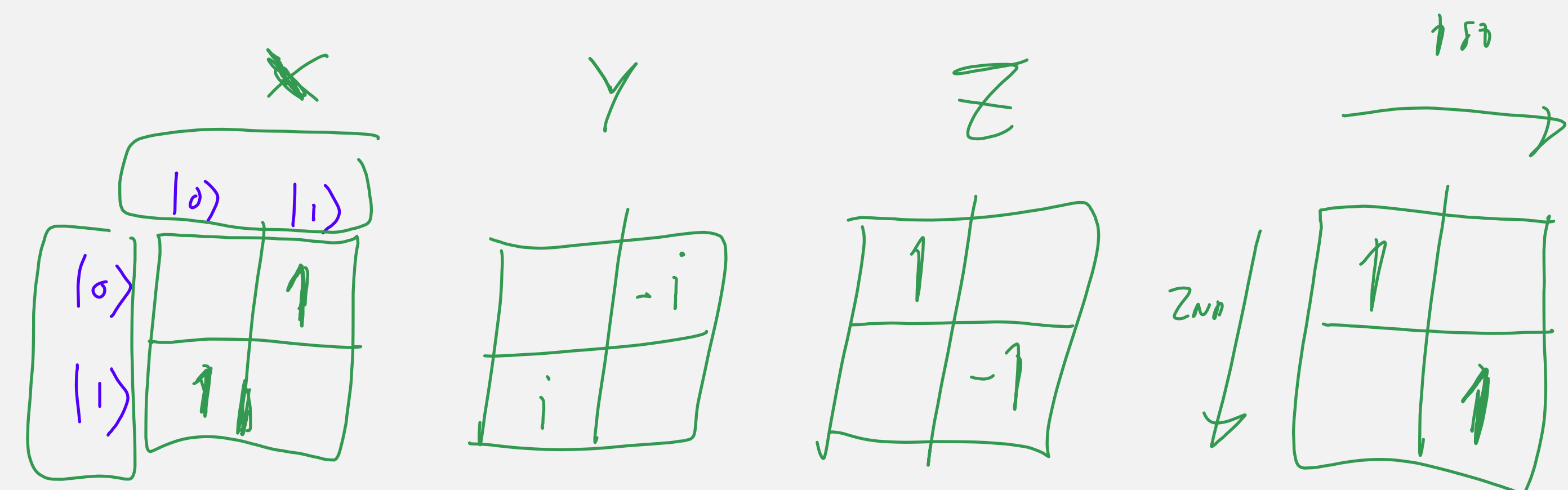
stabilizer polytopes + eigenvectors

31/5/25



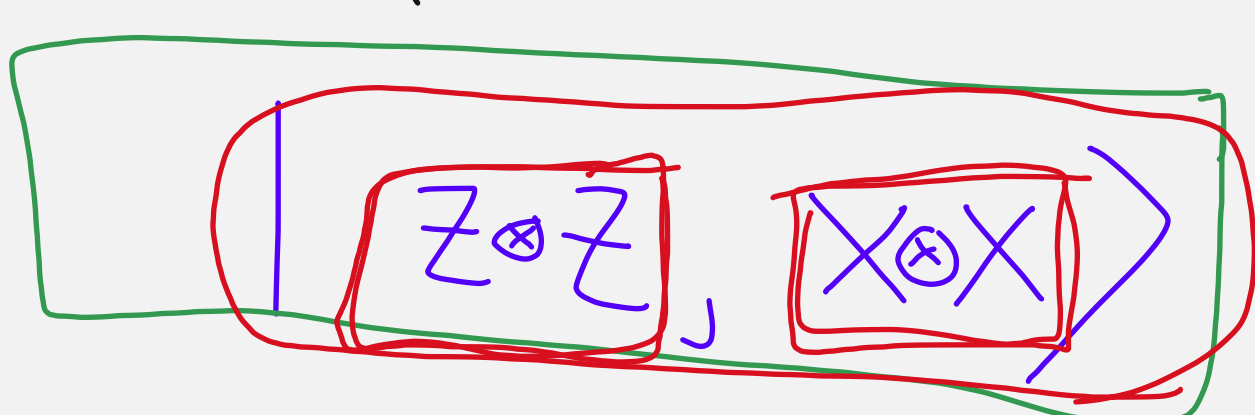
$$Z = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$$

convex set:
6 generators
Stabilizer



36 separable states
 $|XI, IX\rangle$
 $|XI, IZ\rangle$
 $|XI, IY\rangle$

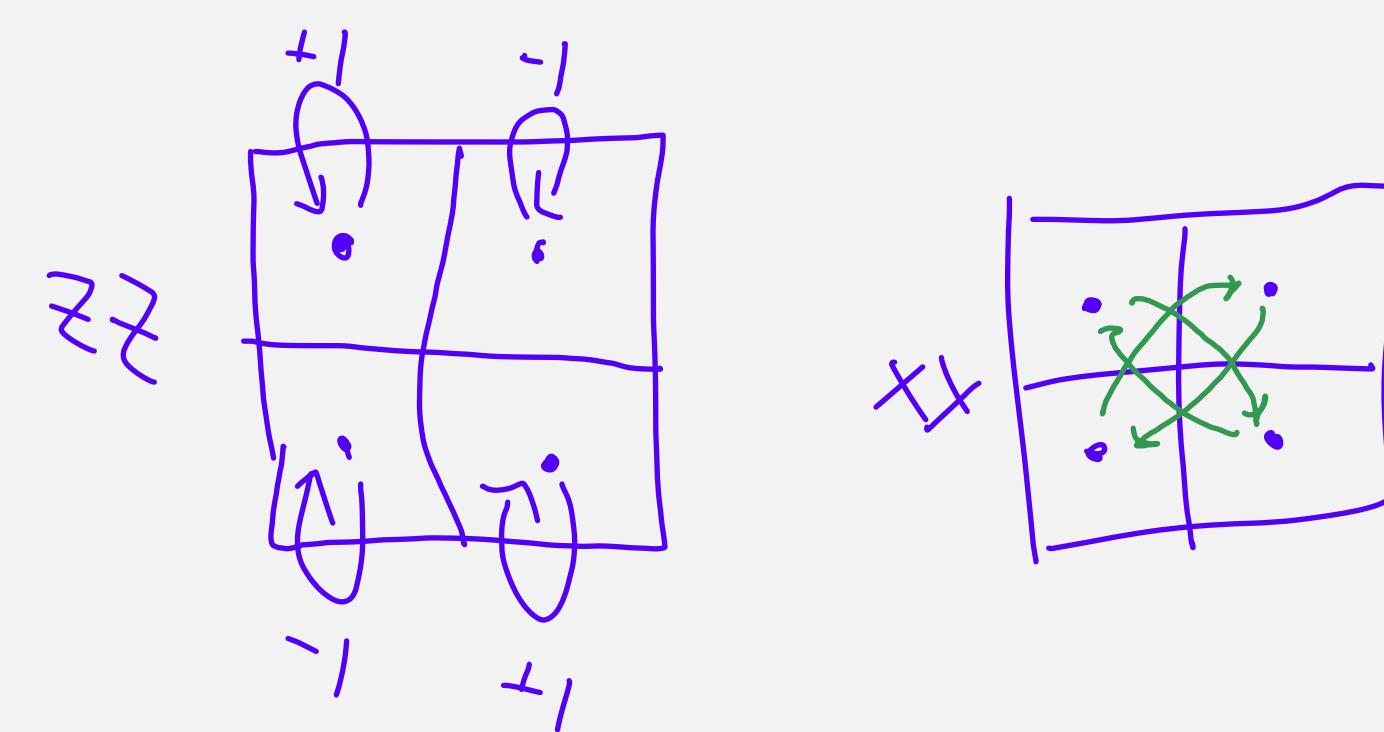
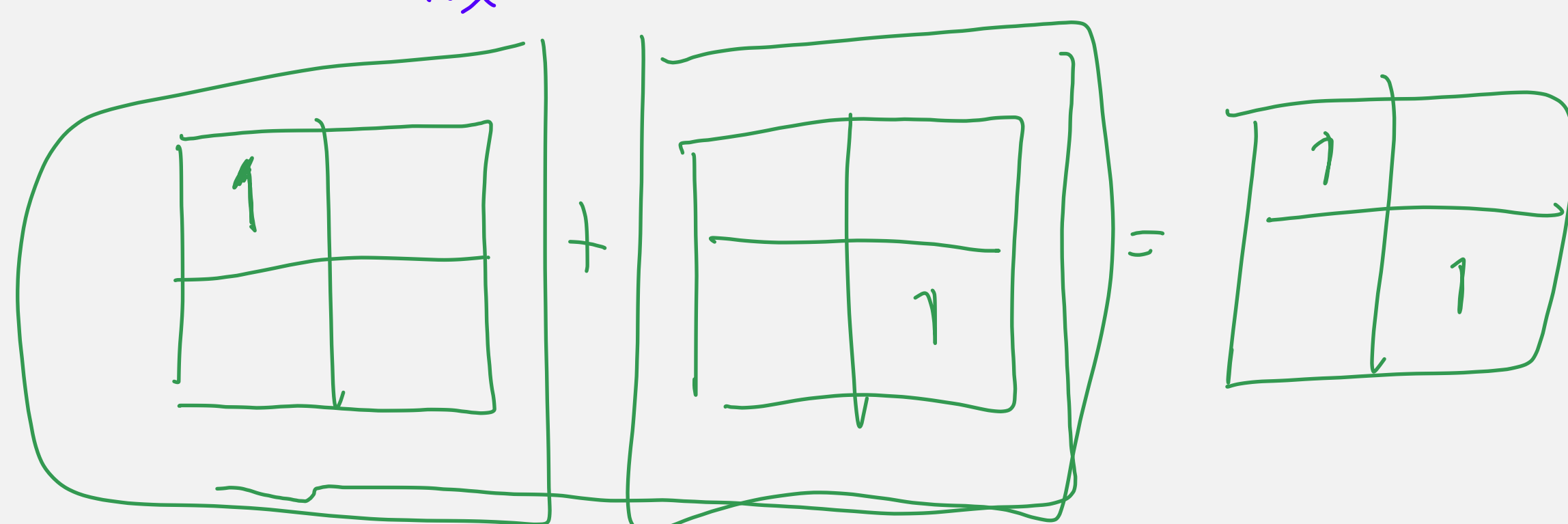
2 qubits



is a stabilizer state
60 of these
on 2 qubits

n=1	2	3
6	60	1080

stabilizer states
on n qubits



N-qubit STABILIZER STATE =
joint +1 eigenspace of N commuting Pauli operators

$1, X, Y, Z, i$
 $-1, 1, -1, -i, -i$

"curious" involved
of "STABILIZER STATES"
polytope volume grows —

36 VERTICES
1080 MAX BRACES

$$\frac{36 \cdot 35}{2}$$

1080 MAX BRACES

36

60

150

150

Let A, B be two C -invariant operators

Let



"maximal commutative set of operators" — 1 1

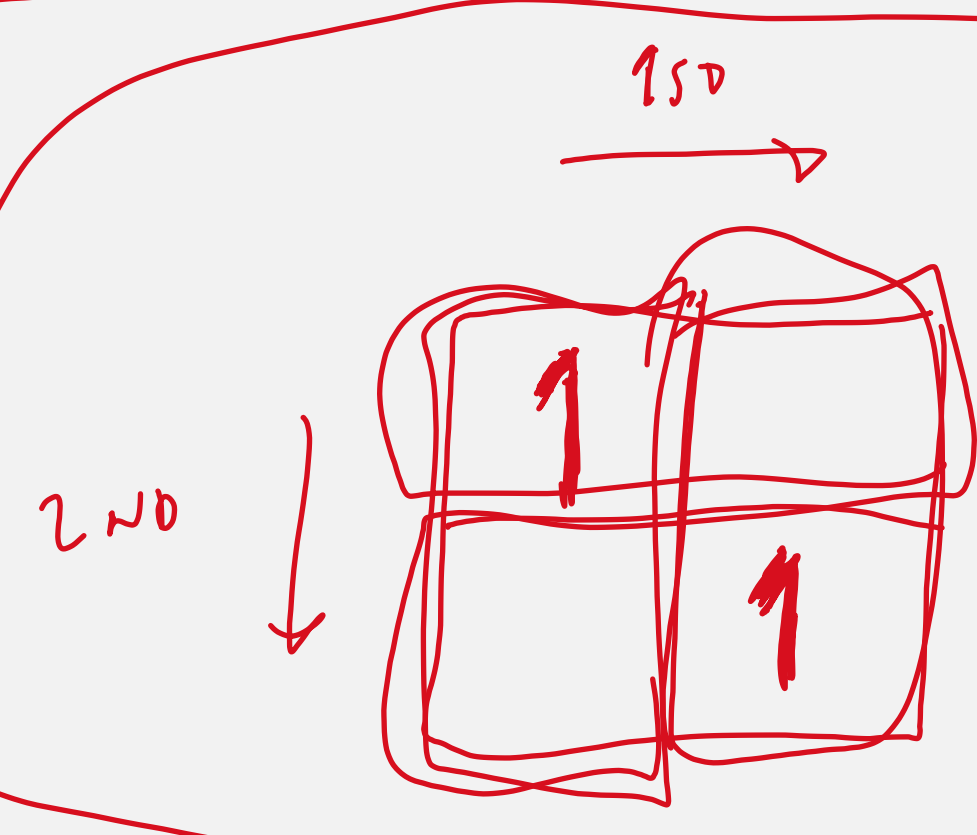
N-qubit
"STABILIZER STATE" "joint +1 eigenspace of..."

"EPR STATE IS

INTERMEDIATE / GADGET / — OF

IN 2 QUBIT STATE FOR

Z-commuting to X-commuting — 2



U vs. |