Check operator, applied to all vertices in lattice, gives $2L-1$ redundancies

Response is even along rows and columns

Upon separation, response is locally odd on two rows (if separation is horizontal – columns otherwise)

- Straight cycles of $XXXX$s and $ZZZZ$s and $YYYY$s are the only obvious non-trivial 1D cycles that commute with check operator.
- Encoded Z operations produced from standard form are, with one simple exception, $ZZZZ$-style cycles (horizontal and vertical).
- Encoded X operations are area-filling, not chain-like at all.
- If there are actually no other forms for these operations (not proven), encoded states should be easy to protect with 1D error correction.