



## Topological Qubits



All the other qubit methods are prone to getting ruined by their environment: one particle bumping into your qubit ruins your qubit. What if the qubit could be based on the collective properties of a group of particles, rather than just one? Scientists are working on a way to do this by creating a qubit from the **topology** of multiple electrons. Topology describes the geometric fundamentals of an object regardless of its actual shape: for example, a Mobius strip, topologically, has one single side. When we look at a group of electrons, their topography could be described by having an even or odd number in the group. Scientists can trap electrons in a super-cooled wire, and the qubit information is formed from the topology of those electrons. They can perform computations between two of these wires and then measure the topology at the end. It doesn't matter if the electrons have had some interaction with the environment, but as long as their topology is the same (there are still an odd number in the wire, for example), the qubit information is still there!