Vivien Zapf’s lecture

1. What is the difference between abelian anyons and non-abelian anyon?

1. abelian anyons are fermions and non-abelian anyons are bosons
2. abelian anyons are edible, whereas non-abelian anyons are highly toxic
3. abelian anyons can exist in 2D while non-abelian anyons can exist in 3D
4. Interchanging two abelian anyons adds a phase factor to the quantum state (that can take any value), while interchanging non-abelian anyons requires a unitary transformation

2. Which of these can be braided (moved around each other to change the state of the system by more than just a phase factor) and thus used for topological quantum computing?

1. fermions
2. bosons
3. abelian anyons
4. non-abelian anyons

3. Which of these are approaches being considered in the research community for topological quantum computing?

1. Kitaev quantum spin liquids
2. Topological superconductors
3. Certain fractional quantum hall materials
4. All of the above