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Point defects and Majorana doublets in 3D time-reversal invariant topological superconductors and superfluids MENGXING YE, University of Michigan, ZHENG-CHENG GU, Perimeter Institute for Theoretical Physics, KAI SUN, University of Michigan — In this talk, we study topological point defects in 3D time-reversal invariant topological superconductors and superfluids, focusing on the Majorana zero modes hosted at these defects. We will address the exotic properties of these Majorana modes especially the nontrivial exchange group and its connection to fermion parity. In contrast to 2D chiral topological superconductors, in which the braiding of Majorana zero modes has been studied extensively and well understood, the time-reversal invariant topological superconductors allow richer structures at topological defects and thus result in more sophisticated response as we exchange these defects.

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