1145-55-1105 **Wade Bloomquist*** (`bloomquist@math.ucsb.edu`) and **Zhenghan Wang**. *Applications of Quantum Representations of Mapping Class Groups.*

Certain tensor categories give rise to rich topological structure, namely a $2 + 1$ topological quantum field theory. One consequence of this structure is a tower of mapping class group representations for every genus surface. We dive into some applications of this construction, both in recovering classical topology and in topological quantum computing. An emphasis will be placed on the underlying tensor category and how properties there can have far reaching impact. (Received September 19, 2018)