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Wade Bloomquist* (wbloomquist3@gatech.edu) and **Zhenghan Wang**. *Quantum representations of mapping class groups coming from pre-metric groups.*

We explore a family of concrete examples of quantum (Reshetikhin-Turaev) representations of mapping class groups. In particular, given a pre-metric group, meaning a finite abelian group together with a quadratic form, we will explicitly describe the associated mapping class group of a surface. A focus will be made on some of the topological content of such representations as well as their use in quantum computation. Finally, we will mention some of the difficulties in generalizing to non-abelian groups and beyond. (Received January 19, 2021)