1135-18-817 **Parsa Bonderson***, Microsoft Station Q, Santa Barbara, CA 93106, and **Meng Cheng**, **Roger Mong** and **Alan Tran**. *Fermionic Topological Phases and Modular Transformations.*

The effective theories describing 2+1D bosonic topological phases of matter and their modular transformations has been well-understood in terms of modular tensor categories for many years. In contrast, a similar understanding of 2+1D fermionic topological phases remained unspecified. We detail the algebraic structure of the universal properties of fermionic topological phases, including the braiding statistics of the quasiparticles and vortices. We explain how these are related to the the spinor structures of the physical fermions and modular transformations of the system. (Received September 14, 2017)