1145-18-1647   **Marcel Bischoff*** (`bischoff@ohio.edu`), **Corey Jones** (`jones.6457@osu.edu`), **Yuan-Ming Lu** (`lu.1435@osu.edu`) and **David Penneys** (`penneys.2@osu.edu`). *Symmetry breaking from anyon condensation.* Preliminary report.

The topological order of a topological phase of matter can be described by a unitary modular tensor category $\mathcal{C}$ where objects correspond to anyons. If an anyon A in $\mathcal{C}$ has the structure of a connected étale algebra it can be condensed and one obtains a new topological phase with topological order $\mathcal{D}$ which is described by the category of local A-modules in $\mathcal{C}$. We give a mathematical description of symmetry preservation and breaking in this context by discussing the following question. Under which conditions can a symmetry of $\mathcal{C}$ described by a finite group G be promoted to a symmetry of $\mathcal{D}$? (Received September 23, 2018)