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Daniel Creamer* (dan1010c@math.tamu.edu), Department of Mathematics, Mailstop 3368, Texas A&M University, College Station, TX 77843. *Classifying low rank modular tensor categories*. Preliminary report.

Modular Tensor Categories (MTC) can be used to model newly found exotic states of matter called Topological States of matter. A classification of MTC's may lead to previously unknown Topological States as well as a greater understanding of their properties. MTC's have two matrices, called its modular data, whose entries generate a Galois group over the rationals. In low rank the number of possible Galois groups is small and we can take advantage of the strong Galois structure to produce all possible modular data for the given rank. (Received February 16, 2016)