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William Coker*, cocke@math.wisc.edu, and **Steve Goldstein** and **Michael Stemper**. *A Database of Finite Groups with the Same Character Tables.*

The character table of a finite group captures many of the group theoretic properties of the group. For example, from the character table of a group G , one can tell if G is abelian, nilpotent, solvable, or simple. To help identify which properties of a group are captured by the character table we have built a database for all groups in the SmallGroups Database that identifies which groups share a character table. In general, there is no canonical ordering of the rows and columns of a character table and any rearrangement of the rows and columns produces an equivalent table. Our computations utilized HTCondor to determine which of the over 430,000,000 groups share a character table. The techniques could be applied to identify any discrete structure with a large automorphism group. (Received September 06, 2018)