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Lillian Pierce, Caroline Turnage-Butterbaugh* (ctb@math.duke.edu) and **Melanie Matchett Wood**. *Bounding ℓ -torsion in class groups*. Preliminary report.

Let K denote a number field of degree n , and for a fixed, positive integer ℓ , consider the ℓ -torsion subgroup of the class group of K . It is conjectured that the size of this ℓ -torsion subgroup is very small (in an appropriate sense), relative to the absolute discriminant of the field K . In 2007, Ellenberg and Venkatesh proved a nontrivial bound (removing a power from the trivial bound) by assuming GRH. In this talk, we will discuss a method that recovers this bound for almost all members of certain families of fields, without assuming GRH. (Received February 28, 2017)