Nguyen Hung* (hungnguyen@uakron.edu) and Attila Maroti. p-Rational characters and p-regular classes.

Let $G$ be a finite group of order divisible by a prime $p$. We show that the number of $p$-regular and $p'$-regular conjugacy classes of $G$ is at least $2\sqrt{p-1}$. Also, the number of $p$-rational and $p'$-rational irreducible characters of $G$ is at least $2\sqrt{p-1}$. To achieve these bounds, we prove a uniform lower bound for the number of $p$-regular classes in a finite simple group of Lie type in terms of its rank and size of the underlying field. (Received August 07, 2020)