1064-20-46 **I. Martin Isaacs*** (isaacs@math.wisc.edu), Math. Dept., Univ. of Wisconsin, 480 Lincoln Dr., Madison, WI 53706. *Bounding the order of a group with a large character degree.*

Let d be the degree of an irreducible character of a finite group G. Since d divides $|G|$ and $|G|/d \geq d$, we can write $|G| = d(d+e)$, where $e \geq 0$. If $e = 0$, then G is trivial, and if $e = 1$ then G is a 2-transitive Frobenius group, which can have arbitrarily large order. If $e > 1$, however, N. Snyder showed that showed that $|G| \leq ((2e)!)^2$.

We prove that $|G| \leq Be^6$ for some universal constant B. In fact, $B = 2$ is sufficient except perhaps when G has a unique minimal normal subgroup N, and N is nonabelian. In that case, our bound depends on some recent work of Larsen, Malle and Tiep on irreducible character degrees of simple groups. (Received August 20, 2010)