

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-20-1292 **Benjamin Newton*** (newton@math.wisc.edu), University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706-1388. *On the Degrees of Complex p -Solvable Linear Groups.*

Let G be a finite group with a faithful, irreducible complex representation of degree n . Let p be a prime number and P be a Sylow p -subgroup of G . If G is solvable, Winter showed that $P \triangleleft G$ unless n is divisible by some prime power $q > 1$ such that $q \equiv 1, -1, \text{ or } 0 \pmod{p}$. It was conjectured that the same conclusion holds when G is merely p -solvable. This was shown to be true by Isaacs when $n \leq 2p$ and by Winter when $n = 2p + 1$. The present paper uses the classification of finite simple groups to prove the conjecture without any assumptions about n . (Received October 04, 2004)