

Discrete Mathematics Seminar

Time: Friday, February 7, 2020, 2:15 - 3:15 PM

Location: 330 Derrick Hall

Title: On the sum of character degrees coprime to p and p -nilpotency of finite groups

Speaker: Dr. Hongfei Pan, Visiting Professor from Huaiyin Normal University, China

Abstract:

The well-known Thompson's Theorem on character degrees states that if a prime p divides the degree of every nonlinear irreducible character of a finite group G , then G is p -nilpotent. In this talk, we give a strengthened version of Thompson's Theorem in terms of $\sum_{\chi \in \text{Irr}_{p'}(G)} \chi(1)^2 / \sum_{\chi \in \text{Irr}_{p'}(G)} \chi(1)$, where $\text{Irr}_{p'}(G)$ denotes the set of all ordinary irreducible characters of G of degree coprime to p . We will discuss some other related problems if time permits. This is joint work with Nguyen Hung and Yong Yang.