

1145-20-424

Hossein Shahrtash* (h.shahrtash@ufl.edu), 358 Little Hall, 1400 Stadium Road, Gainesville, FL 32611. *Rational Class Sizes and Their Implications About The Structure of Finite Groups.*

This talk considers the problem of the implications of rational class sizes for the structure of finite groups. Ever since Itô introduced the notion of a conjugate type vector in 1953, the problem of unraveling the connections between the set of conjugacy class sizes and the structure of a finite group has been widely studied. There are interesting instances of recognizing structural properties of a finite group, including solvability, nilpotency, etc. based on the set of conjugacy class sizes.

In this presentation, we will consider a similar problem concerning the set $cs_{\text{rat}}(G)$ of the sizes of rational classes of a finite group G , and will discuss the influence of rational class sizes on the structure of finite groups. (Received September 05, 2018)