

1114-20-312

Stephen J. Trefethen* (trefethen@math.arizona.edu), 1104 E Halcyon Rd #202, Tucson, AZ 85719. *Quadratic Rational Groups.*

A finite group G is said to be m -rational if $[\mathbb{Q}(\chi) : \mathbb{Q}] \mid m$ for all irreducible characters $\chi \in \text{Irr}(G)$. The structure of rational groups (i.e. $m = 1$) has been studied by R. Gow, W. Feit and G. M. Seitz, and J. G. Thompson. John McKay posed the question of describing the structure of quadratic rational groups (i.e. $m = 2$). In 2013, J. Tent showed that any composition factor of a solvable quadratic rational group is a cyclic group, C_p , with $p \leq 11$. In this talk, we discuss our findings on the structure of (non-solvable) quadratic rational groups. (Received August 31, 2015)