

1119-20-89

Andrew F. Misseldine* (andrewmisseldine@suu.edu), Southern Utah University, Electronic Learning Center 114, 351 West University Boulevard, Cedar City, UT 84720. *Counting Schur Rings over Cyclic Groups.*

Any Schur ring, an algebraic structure closely related to association schemes, is uniquely determined by a partition of the elements of the group. An open question in the study of Schur rings is determining which partitions of the group induce a Schur ring. Although a structure theorem is available for Schur rings over cyclic groups, it is still a difficult problem to count all the partitions. For example, Kovacs, Liskovets, and Poschel determine formulas to count the number of wreath-indecomposable Schur rings. In this talk we solve the problem of counting the number of all Schur rings over cyclic groups of prime power order and draw some parallels with Higman's PORC conjecture. (Received February 09, 2016)