

Abstract

We first describe the role of rook monoids in the decomposition of the general linear algebraic monoids M_n into $B \times B$ orbits where B is the subgroup of M_n consisting of all invertible upper triangular matrices. We then introduce Putcha-Renner theory and generalize the concept of rook monoids to Renner monoids, and show that the role of the Renner monoids in Putcha-Renner theory is the same as that of the Weyl groups in the theory of algebraic groups.