MARK KLEINER, Syracuse University, Department of Mathematics, Syracuse, NY 13244-1150, USA

Reduced words in the Weyl group of a Kac–Moody algebra and preprojective representations of valued quivers

We discuss the interplay between the preprojective representations of a connected valued quiver, the $(+)$-admissible sequences of vertices, and the Weyl group. To each preprojective representation corresponds a canonical $(+)$-admissible sequence. A $(+)$-admissible sequence is the canonical sequence of some preprojective representation if and only if the product of simple reflections associated to the vertices of the sequence is a reduced word in the Weyl group. As a consequence, for any Coxeter element of the Weyl group associated to an indecomposable symmetrizable generalized Cartan matrix, the group is infinite if and only if the powers of the element are reduced words. The latter strengthens known results of Howlett and Fomin–Zelevinsky.

The talk is based on joint work with Helene R. Tyler and with Allen Pelley.