

A Connection Between the Module Category over a Path Algebra and the Coxeter Group

Yuya Mizuno*

yuya.mizuno@shizuoka.ac.jp

A path algebra, which is defined by a quiver, is one of the most fundamental classes of algebras. For this class, Oppermann–Reiten–Thomas established a bijection between certain subcategories over the algebra and the elements of the Coxeter group of the corresponding graph. Then, this result allows a representation-theoretical interpretation of the Coxeter group. In this talk, we explain a close relationship between path algebras, preprojective algebras and the Coxeter group. Moreover, we discuss the interplay of the theory of c-sortable elements and torsion pairs.

Our result is a joint work with Hugh Thomas.

*Department of Science, Shizuoka University, 836 Ohya, Suruga-ku, Shizuoka, 422-8529, Japan