

The Gabriel-Roiter measure is a module-theoretic invariant, defined in 1972 by P. Gabriel. It is an order-preserving function that refines a composition length of a module by also taking lengths of indecomposable submodules into account. We calculate all Gabriel-Roiter measures for finite-length representations of an orientation of a Dynkin graph  $D_4$  and an orientation of a Euclidean graph  $\tilde{A}_3$ .

In 2007, H. Krause proposed a combinatorial definition of the Gabriel-Roiter measure based on other length functions instead of composition length. We study these alternative Gabriel-Roiter measures on thin representations of quivers whose underlying graph is a tree.