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Huntington Ave, Boston, MA 02115. *Preprojective algebras of tree type quivers.*

We show the equivalence of several descriptions of preprojective algebras for any tree-type quiver Q . In particular, we construct irreducible morphisms, in the Auslander-Reiten quiver of the transjective component of the bounded derived category of its path algebra kQ , that satisfy what we call the λ -relations, where λ a nonzero element in the field k . When $\lambda = 1$, the relations are known as mesh relations. When $\lambda = -1$, they are known as commutativity relations. Using this technique together with the results given by Baer-Geigle-Lenzing, Crawley-Boevey, Ringel, and others, we show that for any tree-type quiver, several descriptions of its preprojective algebra are equivalent. (Received July 24, 2017)