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THE INDECOMPOSABLE PREPROJECTIVE AND PREINJECTIVE REPRESENTATIONS OF THE QUIVER $\widetilde{\mathbb{D}}_n$

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Abstract. Consider the quiver $\widetilde{\mathbb{D}}_n$ and its finite dimensional representations over the field k. We know due to Ringel in [7] that indecomposable representations without self extensions (called exceptional representations) can be exhibited using matrices involving as coefficients only 0 and 1, such that the number of nonzero coefficients is precisely $d-1$, where d is the global dimension of the representation. This means that the corresponding "coefficient quiver" is a tree, so we will call such a presentation a "tree presentation". In this paper we describe explicit tree presentations for the indecomposable preprojective and preinjective representations of the quiver $\widetilde{\mathbb{D}}_n$. In this way we generalize results obtained by Mróz in [5] for the quiver $\widetilde{\mathbb{D}}_4$ and by Lőrinczi and Szántó in [4] for the quiver $\widetilde{\mathbb{D}}_5$.

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