

TREE REPRESENTATIONS OF EUCLIDEAN QUIVERS

Ábel Lőrinczi, István Szöllősi

Babeş–Bolyai University, Cluj-Napoca, Romania

The aim of this talk is to present a method of constructing tree representations using Schofield induction in case of preprojective and preinjective indecomposable representations over the tame quiver of type $\tilde{\mathbb{E}}_6$. Due to Ringel we know that every exceptional module, i.e. one without self-extension admits a special kind of representation called "tree representation" that uses 0 – 1 matrices, such that the number of 1's is exactly $d - 1$, where d is the sum of the dimensions of the vector spaces.

For the construction of the explicit representations we use an idea presented in [1] that relies on a theorem due to Schofield (see [2]) which states that for every exceptional representation M that is not simple there exists a short exact sequence with certain properties, such that the middle term is M and the other ones are direct sums of exceptional modules.

We implemented and carried out the required calculations in GAP.

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- [1] C. M. RINGEL, Exceptional modules are tree modules, *Linear algebra and its applications* **275–276** (1998), 471–493
- [2] A. SCHOFIELD, Semi-invariants of quivers, *J. London Math. Soc.*, **43** (1991), 383–395