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The indecomposable representations of the quaternion algebra (50-60)

For k a field $\Lambda = k\langle x, y\rangle/(x^2 - yxy, y^2 - xyx, xyxy)$ is the quaternion algebra. Recall that with Q the group of quaternions we have $kQ/\operatorname{soc}(kQ) \cong \Lambda$ if k has characteristic 2. A degeneration argument shows for algebraically closed k that Λ is tame regardless the characteristic of k, however this gives no clue for the classification of indecomposable representations. We approach this problem via the subspace reduction of Gabriel, Nazarova Roiter, Sergeichuk and Vossieck

$$Q\colon \operatorname{mod}\Lambda \to \mathcal{U}(\operatorname{mod}\Lambda', |-|)$$

where $\Lambda' = \Lambda/(yxy)$ and $|-|\colon \operatorname{mod}\Lambda' \to \operatorname{mod}k$ is an appropriate k-functor. Notice that Λ' may be viewed as quotient of a semidihedral algebra. We manage to transform this problem into a clan. Thus the known classification of indecomposable representations of the clan translates into a answer to our problem.