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A Comparison of Orderings for Preprojective Modules

In 2004, C. M. Ringel published his first of several papers on the Gabriel–Roiter measure. This measure assigns to each module a rational number that depends on its submodule lattice. Like the Auslander–Reiten theory, the Gabriel–Roiter measure partitions the module category into three classes. This talk is a report on joint work with Markus Schmidmeier, in which we investigate the connections between the two partitions. In particular, we discuss the relationship among the orderings on the preprojective modules given by the Gabriel–Roiter measure, the shortest annihilating sequence of reflections, and the slope of a module.