

On modules over Green biset functors.

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For a given Green biset functor, the study and classification of its simple modules is an interesting problem as it takes part on the more general problem of classification of R -linear functors over R -linear categories. For the Burnside functor RB , its category of modules is equivalent to the category of biset functors, and it was proven by Serge Bouc in 1996 that for this category there exists a nice bijection between its simple objects (up to isomorphism) and the set of equivalence classes of pairs (H, V) consisting on a group H and a simple $ROut(H)$ -module. For a general Green biset functor, we cannot be so lucky, as it was pointed out by Nadia Romero in 2012, but under a condition of uniqueness of minimal groups for simple modules, we can have a similar result to that for simple biset functors: there exists a bijection between the set of isomorphism classes of simple A -modules and the set of equivalence classes of pairs (H, V) consisting of a group H such that the essential algebra of A in H is non-zero and V is a simple module over this algebra. In this talk I'm going to give more details on this result and some examples of Green biset functors for which the result holds.