

Weakly minimal modules over valuation domains

Sonia L’Innocente

*Department of Mathematics and Computer Science
University of Camerino
Via Madonna delle Carceri 9, 62032 Camerino, Italy*

sonia.linnocente@unicam.it

Referring to nonstandard models, for instance to suitably saturated extensions, does give news tools and new perspectives even in model theory of modules (indeed in pure module theory). For instance, over a given ring R (indecomposable) pure injective modules and their Ziegler topology do provide a lot of crucial information.

This approach is helpful also in characterizing those R -modules which are “minimal” in a suitable model theoretic sense (they are infinite, but their definable subsets are as simple as possible) [1, 2]. We plan to discuss and illustrate this point with particular emphasis on modules which are “weakly” minimal (equivalently, have of U-rank 1) and on some rings related to Dedekind domains [3].

(This is a joint paper with Stefano Leonesi and Carlo Toffalori [3]).

References

- [1] S. L’Innocente, V. Puninskaya, C. Toffalori, *Strongly minimal modules over group ring*, Preprint 2003
- [2] S. L’Innocente, V. Puninskaya, C. Toffalori, *Minimalities over Dedekind-like rings*, Preprint 2004
- [3] S. Leonesi, S. L’Innocente, C. Toffalori, *Weakly minimal modules over integral group rings and over some related classes of rings*, Preprint 2004