

Definability in module theory

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Model theory and algebra fit together very well in the context of modules, with ideas and techniques from model theory finding many applications. Definability is a fundamental issue in model theory and, in modules, this is closely connected with purity and pure-injectivity. The Compactness Theorem, the central result of model theory, is expressed through the links between families of finite-dimensional modules and infinite-dimensional modules, in particular through the topology on the Ziegler spectrum. I will describe some of the main ideas and give examples of applications.