

On injective envelopes of semimodules over semirings

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Abstract

© World Scientific Publishing Company. As is well-known, every module over a ring has an injective envelope; however, that fact does not hold, in general, for semimodules over semirings. We study the problem of existence of injective envelopes with respect to several types of semimodules, in particular, we consider simple semimodules, modules, additively idempotent semimodules, and additively regular semimodules. We completely describe semirings whose all semimodules of these types have injective envelopes.

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Keywords

Additively π -regular semiring, Injective envelope, Semizerotic semiring