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Cotorsion-free algebras as endomorphism algebras in L — the discrete and topological cases

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Abstract: The discrete algebras A over a commutative ring R which can be realized as the full endomorphism algebra of a torsion-free R-module have been investigated by Dugas and Göbel under the additional set-theoretic axiom of constructibility, $V = L$. Many interesting results have been obtained for cotorsion-free algebras but the proofs involve rather elaborate calculations in linear algebra. Here these results are rederived in a more natural topological setting and substantial generalizations to topological algebras (which could not be handled in the previous linear algebra approach) are obtained. The results obtained are independent of the usual Zermelo-Fraenkel set theory ZFC.

Keywords: cotorsion-free, endomorphism algebra, axiom of constructibility, Zermelo-Fraenkel set theory
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