

Clonoids Between Abelian Groups

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A clonoid from an algebra \mathbb{A} to an algebra \mathbb{B} is a set of functions from finite powers of A into B that is closed first with respect to the operations of \mathbb{A} and next with respect to the operations of \mathbb{B} . We investigate clonoids from one finite abelian group to another. These structures arise in the description of nilpotent algebras in congruence modular varieties. If the abelian groups are of non-coprime order then the number of clonoids from \mathbb{A} to \mathbb{B} is countably infinite. For distinct primes p and q we show that every clonoid from \mathbb{Z}_{p^n} to \mathbb{Z}_q is generated by the subset of n -ary functions. Thus there are finitely many such clonoids. This is joint work with Peter Mayr.

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