

Commutative residuated partially ordered monoids

edit

Abbreviation: CRPoMon

Definition 1. A *commutative residuated partially ordered monoid* is a residuated partially ordered monoid $\mathbf{A} = \langle A, \cdot, 1, \rightarrow, \leq \rangle$ such that

\cdot is *commutative*: $xy = yx$

Remark: This is a template. If you know something about this class, click on the “Edit text of this page” link at the bottom and fill out this page.

It is not unusual to give several (equivalent) definitions. Ideally, one of the definitions would give an irredundant axiomatization that does not refer to other classes.

Morphisms. Let \mathbf{A} and \mathbf{B} be commutative residuated partially ordered monoids. A morphism from \mathbf{A} to \mathbf{B} is a function $h : A \rightarrow B$ that is a orderpreserving homomorphism: $h(x \cdot y) = h(x) \cdot h(y)$, $h(1) = 1$, $h(x \rightarrow y) = h(x) \rightarrow h(y)$, and $x \leq y \implies h(x) \leq h(y)$.

Definition 2. A ... is a structure $\mathbf{A} = \langle A, \dots \rangle$ of type $\langle \dots \rangle$ such that

... is ...: *axiom*

... is ...: *axiom*

Basic Results.

Examples.

1.

Finite Members. $f(n)$ = number of members of size n .

$f(1) =$	1	$f(6) =$	
$f(2) =$		$f(7) =$	
$f(3) =$		$f(8) =$	
$f(4) =$		$f(9) =$	
$f(5) =$		$f(10) =$	

Subclasses.

Commutative residuated lattices expansion

Pocrims same type

Superclasses.

Residuated partially ordered monoids supervariety

Commutative partially ordered monoids subreduct

Properties. (description)

Feel free to add or delete properties from this list. The list below may contain properties that are not relevant to the class that is being described.

Classtype	quasivariety
Equational theory	
Quasiequational theory	
First-order theory	
Locally finite	
Residual size	
Congruence distributive	
Congruence modular	
Congruence n -permutable	
Congruence regular	
Congruence uniform	
Congruence extension property	
Definable principal congruences	
Equationally def. pr. cong.	
Amalgamation property	
Strong amalgamation property	
Epimorphisms are surjective	

REFERENCES

- [1] F. Lastname, *Title*, Journal, **1**, 23–45 MRreview