Distributive double p-algebras edit

Abbreviation: DDblpAlg

Definition 1. A *distributive double p-algebra* is a structure $\mathbf{L} = \langle L, \vee, 0, \wedge, 1, ^*, ^+ \rangle$ such that

$\langle L, \vee, 0, \wedge, 1, ^* \rangle$ is a distributive p-algebras

$\langle L, \vee, 0, \wedge, 1, ^+ \rangle$ is a distributive dual p-algebras

Morphisms. Let $\mathbf{L}$ and $\mathbf{M}$ be distributive double p-algebras. A morphism from $\mathbf{L}$ to $\mathbf{M}$ is a function $h : L \to M$ that is a homomorphism:

$h(x \vee y) = h(x) \vee h(y)$, $h(x \wedge y) = h(x) \wedge h(y)$, $h(0) = 0$, $h(1) = 1$, $h(x^*) = h(x)^*$, $h(x^+) = h(x)^+$

Basic Results.

Examples.

1.

Properties. (description)

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

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

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

Subclasses.
Double Stone algebras

Superclasses.
Distributive p-algebras
Distributive dual p-algebras

References

[1]