Complemented modular lattices edit

Abbreviation: CdMLat

Definition 1. A *complemented modular lattice* is a complemented lattices $\mathbf{L} = \langle L, \vee, 0, \wedge, 1\rangle$ that is

modular lattices: $((x \wedge z) \vee y) \wedge z = (x \wedge z) \vee (y \wedge z)$

Morphisms. Let $\mathbf{L}$ and $\mathbf{M}$ be complemented modular lattices. A morphism from $\mathbf{L}$ to $\mathbf{M}$ is a function $h : L \to M$ that is a bounded lattice homomorphism:

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

Basic Results. This class generates the same variety as the class of its finite members plus the non-desargean planes.

Examples.

1.

Properties. (description)

Classtype	first-order
Equational theory	decidable
Quasiequational theory	undecidable
First-order theory	undecidable
Locally finite	no
Residual size	unbounded
Congruence distributive	yes
Congruence modular	yes
Congruence n-permutable	yes
Congruence regular	no
Congruence uniform	no
Congruence extension property	
Definable principal congruences	
Equationally def. pr. cong.	
Amalgamation property	
Strong amalgamation property	
Epimorphisms are surjective	

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

$f(1) = 1$
$f(2) = 1$
$f(3) = 0$
$f(4) = 1$
$f(5) = 1$
$f(6) =$
$f(7) =$
$f(8) =$

Subclasses.
Boolean lattices

Superclasses.
Bounded lattices
Modular lattices

References

[1]