

EVAPORATION SCHEMES IN DISTRIBUTIVE SEMILATTICES

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We introduce the concept of a strong evaporation scheme in distributive semilattices. This is the idea behind Wehrung's solution of Ditworth's Congruence Lattice Problem. The main result says that the semilattice of compact congruences of a free majority algebra has a strong evaporation scheme of a maximal possible cardinality. This means that the congruence lattices of majority algebras form a strictly larger class than the congruence lattices of lattices. The problem whether every distributive algebraic lattice is isomorphic to the congruence lattice of a majority algebra thus remains open. In another result we prove that distributive semilattices that are lattices can contain strong evaporation schemes of cardinality at most \aleph_1 .

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