

Remark on axiomatizable classes closed under subdirect products

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Let \mathcal{R} be a class of algebras. A congruence θ on an algebra A is called an \mathcal{R} -congruence provided $A/\theta \in \mathcal{R}$. In event \mathcal{R} is closed under subdirect product the set $\text{Con}_{\mathcal{R}}(A)$ of all \mathcal{R} -congruences of A forms a complete lattice. A nontrivial algebra A is called *finitely subdirectly \mathcal{R} -irreducible* if $A \in \mathcal{R}$ and intersection of any finite set of its nonzero \mathcal{R} -congruences is nonzero. Let \mathcal{R}_{FSI} be the class of all finitely subdirectly \mathcal{R} -irreducible algebras. We show that the class $\mathcal{R}/\mathcal{R}_{FSI}$ is axiomatizable for any axiomatizable class algebras \mathcal{R} which is closed under subdirect product. Also we provide some corollaries of this fact.

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