

Meeting: 999, Nashville, Tennessee, SS 13A, Special Session on Semigroup Theory

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Simon M. Goberstein* (sgoberstein@csuchico.edu), Department of Mathematics and Statistics, California State University, Chico, CA 95929-0525. *PA-isomorphisms of orthodox semigroups*. Preliminary report.

A partial automorphism of a semigroup S is any isomorphism between its subsemigroups, and the set of all partial automorphisms of S with respect to composition is the inverse monoid called the partial automorphism monoid of S . Two semigroups are \mathcal{PA} -isomorphic if their partial automorphism monoids are isomorphic. A class \mathbb{K} of semigroups is \mathcal{PA} -closed if any semigroup \mathcal{PA} -isomorphic to a semigroup from the class \mathbb{K} , itself belongs to \mathbb{K} . A semigroup is said to be \mathcal{PA} -determined if it is isomorphic or antiisomorphic to any semigroup \mathcal{PA} -isomorphic to it. We describe large \mathcal{PA} -closed classes of orthodox semigroups, prove that the so-called tightly connected fundamental inverse semigroups are \mathcal{PA} -determined (except for chains which are \mathcal{PA} -determined up to a dual isomorphism) and, using this result, establish \mathcal{PA} -determinability of certain fundamental orthodox semigroups. (Received August 19, 2004)