Some classes of factorizable semigroups*

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Abstract

[Almost] factorizable inverse monoids [semigroups] play an important rule in the theory of inverse semigroups (see for example [2]). The notion of "factorizable" and "almost factorizable" coincides for inverse monoids. A couple of crucial results for inverse semigroups S are the following:

a) S is almost factorizable iff S is an idempotent separating image of a semidirect product $G * Y$ of a semilattice Y by a group G;

b) S is isomorphic to some $G * Y$ iff S is both E-unitary and almost factorizable.

In the first part of this talk we will present the concepts involved in the inverse case, and in second we shall show how this theory of [almost] factorizable inverse monoids [semigroups] extend to the wider classes of weakly ample monoids [semigroups], which are a type of $(2, 1, 1)$-algebras that include, in particular, the inverse semigroups. These latter results appear in a joint paper with Mária B. Szendrei [4].

References

[1] El Qallali, A. and Fountain, J. - Proper covers for left ample semigroups, Semigroup Forum 71 (2005), 411-427.

[2] Lawson, M. - Inverse semigroups, World Scientific, 1998.

[3] Szendrei, Mária B. - Factorizability in certain classes over inverse semigroups, to appear in Semigroups and Formal Languages (Proceedings of the Conference Semigroups and Languages, Lisboa, Portugal, 12-15 July 2005), World Scientific.

[4] Gomes, Gracinda M.S. and Szendrei, Mária B. - Almost factorizable weakly ample semigroups, to appear in Com. Algebra.

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