On the greatest semilattice decomposition of posemigroups

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An important tool in the theory of semigroups is the greatest semilattice decomposition of a semigroup S, which is a factor semigroup S/ρ that is itself a semilattice. A special property of this decomposition is that every ρ-equivalence class is a semilattice-indecomposable semigroup. Furthermore, Tamura [2] demonstrated that no other non-trivial variety of semigroups has a similar property.

We transfer much of the above theory to posemigroups. Specifically, we study the properties of the greatest *posemilattice decomposition* of a *posemigroup*.

References

[1] T. Tamura, Another proof of a theorem concerning the greatest semilattice-decomposition of a semigroup, *Proc. Japan Acad.* 40(10), 1964, 777-780.

[2] T. Tamura, Attainability of systems of identities on semigroups, *J. Algebra* 3, 1968, 261–276.