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Strict monadic topology: first separation axioms and reflections

Given a monad T on the category of sets, we consider reflections of $Alg(T)$ into the full subcategories formed by algebras satisfying natural counterparts of topological separation axioms T_0, T_1, T_2 and T_{ts} (where "ts" stands for "totally separated"). We ask whether these reflections satisfy simple conditions useful in categorical Galois theory, and we give some partial answers in easy cases; for that, we use Birkhoff's well-known characterization of distributive lattices [1], and some results of [2]-[5].

References

[1] G. Birkhoff, Applications of lattice algebra, *Mathematical Proceedings of the Cambridge Philosophical Society* 2 (1934) 115–122.

[2] A. Carboni, G. Janelidze, G. M. Kelly, and R. Paré, On localization and stabilization of factorization systems, *Applied Categorical Structures* 5 (1997) 1–58.

[3] G. Janelidze and G. M. Kelly, Galois theory and a general notion of a central extension, *Journal of Pure and Applied Algebra* 97 (1994) 135–161.

[4] G. Janelidze, V. Laan, and L. Márki, Limit preservation properties of the greatest semilattice image functor on semigroups, *International Journal of Algebra and Computation* 18, 5 (2008) 853–867.

[5] T. Tamura, Attainability of systems of identities on semigroups, *Journal of Algebra* 3 (1966) 261–276.

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