

Seminar on Semigroups, Automata and Languages

Some remarks on F -inverse monoids

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Abstract: An inverse monoid M is F -inverse if every σ -class $a\sigma$ admits a greatest element a^m with respect to the natural partial order on M (σ denotes the smallest group congruence on M). An F -inverse monoid is necessarily E -unitary and such structures have attracted considerable attention. I intend to discuss the following topics:

- F -inverse monoids with enriched signature: as algebraic structures of type $(2, 1, 1, 0)$ (the second unary operation being $a \mapsto a^m$) the class of F -inverse monoids forms a variety (M. Kinyon). I shall present models of free F -inverse monoids and, more generally, universal objects in similarly defined categories (joint work with G. Kudryavtseva and M. B. Szendrei).
- status of the Henckell–Rhodes problem (Does every finite inverse monoid admit a finite F -inverse cover?)
- a possible extension of the Henckell–Rhodes problem (Is there an *expansion* from the category of finite inverse monoids to the category of finite F -inverse monoids?)

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Place: Online Zoom meeting