F-inverse semigroups and toposes

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We focus on two aspects of how semigroups and toposes are related [1, 4]. One aspect has to do with "left *-semigroups," and how to present the classifying topos $\mathscr{B}(T)$ of an inverse semigroup T in semigroup terms. The other is a 'dictionary' project connecting semigroup theory and topos theory. For instance, we explain that if a semigroup T is F-inverse [3], then $\mathscr{B}(T)$ has a torsion-free generator that is locally split [2].

REFERENCES

[1] J. Funk, *Semigroups and toposes*, Semigroup Forum, 1-41, 2007.

[2] A. Kock and I. Moerdijk, Presentations of étendues, *Cahiers de Top. et Géom. Diff. Catégoriques*, 32(2):145-164, 1991.

[3] Mark V. Lawson, *Inverse Semigroups: The Theory of Partial Symmetries*, World Scientific Publishing Co., Singapore, 1998.

[4] M. Lawson and B. Steinberg, *Etendues and ordered groupoids*, Cahiers de Top. et Géom. Diff. Catégoriques, 40(2):127-140, 2002.