Fair semigroups

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Fair semigroups are non-additive analogues of xst-rings, introduced by Xu, Shum and Turner-Smith [2].

If S is a semigroup then a right S-act A_S is called **unitary** if $AS = A$. We say that a semigroup S is a **right fair semigroup** (see [1]) if every subact of a unitary right S-act is unitary. One defines left fair semigroups dually. By a **fair semigroup** we mean a semigroup which is both left and right fair.

It turns out that a semigroup S is right fair if and only if for every sequence $(s_i)_{i \in \mathbb{N}} \in S^{\mathbb{N}}$ of elements of S there exist $n \in \mathbb{N}$ and $u \in S$ such that

$$s_n \ldots s_2 s_1 u = s_n \ldots s_2 s_1.$$

We will give a list of examples of fair semigroups and some basic facts about them.

This talk is based on joint research with László Márki.

References

[1] V. Laan, L. Márki, Fair semigroups and Morita equivalence, *Semigroup Forum* 92, 2016, 633-644.

[2] Y. H. Xu, K. P. Shum, R. F. Turner-Smith, Morita-like equivalence of infinite matrix subrings, *J. Algebra* 159, 1993, 425–435.