MR2310147 (2008b:68068) 68Q45 (06F25)

Droste, Manfred (D-LEIP-II); Püschmann, Ulrike (D-TUD-AL)

On weighted Büchi automata with order-complete weights. (English summary)

The authors investigate Büchi automata with weights for the transitions. Assuming that the weights are taken in a suitable ordered semiring, they show how to define the behaviors of these automata on infinite words. The main result shows that the formal power series arising in this way are precisely those which can be constructed using rational operators on infinite words. This extends the classical Kleene-Schützenberger result for weighted finite automata to the case of infinite words and generalizes Büchi’s theorem on languages of infinite words.

Reviewed by Dong Yang Long

References

13. M. Droste and P. Gastin, Aperiodic and star-free formal power series in partially commuting


*Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.*

© Copyright American Mathematical Society 2008, 2010