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**Trevor Hyde\*** (tghyde@umich.edu) and **Michael E. Zieve**. *Finite automata and the dynamics of several rational functions.*

Let  $M$  be a monoid generated by finitely many rational functions under composition. I will discuss several ways in which the dynamics of  $M$  leads naturally to finite automata, including a recent generalization of the dynamical Mordell-Lang conjecture. This is joint work with Mike Zieve. (Received February 19, 2018)