1154-60-762   **Christopher Coscia*** (`christopher.s.coscia.gr@dartmouth.edu`), Department of Mathematics, 27 N. Main Street, 6188 Kemeny Hall, Hanover, NH 03755. *Exact Mixing and the Thorp Shuffle.* Preliminary report.

The Thorp Shuffle is a model for a riffle shuffle of a deck with $n = 2m$ cards with the following simple description: place the top m cards of the deck in the right hand and the bottom m cards in the left hand, then drop the bottom card from each hand, in the order determined by a fair coin flip, atop a new pile, repeating until all n cards have been dropped into a new permutation of the deck. We view a sequence of shuffles as a Markov chain on S_n in the usual way, and study stopping rules for the Thorp shuffle that observe the sequence of states and determine when to stop, having reached the uniform distribution exactly. (Received September 10, 2019)