Megan Bernstein* (bernstein@math.gatech.edu) and Evita Nestoridi. Cutoff for the random-to-random card shuffle.

We use the eigenvalues of the random to random card shuffle found by Dieker and Saliola to prove a sharp upper bound for the total variation mixing time. Combined with the lower bound due to Subag, we prove that this walk exhibits cutoff at $\frac{3}{4} n \log n$, answering a conjecture of Diaconis. (Received September 07, 2017)