TOTAL VARIATION CUTOFF FOR THE FLIP-TRANSPOSE TOP WITH RANDOM SHUFFLE

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ABSTRACT. We consider a random walk on the hyperoctahedral group B_n generated by the signed permutations of the forms (i, n) and $(-i, n)$ for $1 \leq i \leq n$. We call this the flip-transpose top with random shuffle on B_n. We find the spectrum of the transition probability matrix for this shuffle. We obtain the sharp mixing time for this shuffle by proving total variation cutoff phenomenon with cutoff time $n \log n$.

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