

For $n, m \in \mathbb{N}$, let $\mu_{n,m}$ be the spectral measure of U^m , where U is Haar-distributed in $\mathbb{U}(n)$. Using Theorem 3.14 together with an adaptation of the same approach we took in class, estimate $\mathbb{E}W_1(\mu_{m,n}, \nu)$ (where ν is the uniform probability measure on the circle) and prove a concentration inequality for $W_1(\mu_{m,n}, \nu)$.