Coherence of Random Circulant matrices

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This is just a quick note about the $S \in \{-1, +1\}^{m \times n}$ matrices that we spoke about on Friday. I've managed to find an upper bound on the coherence of the random partial circulant matrices with entries that are $+/-1$.

Definition 0.1 (Coherence)
The coherence of a matrix is the maximal inner product between it's columns

Theorem 0.1
Let μ be the coherence of the partial random circulant matrix $\Phi(\varepsilon)$, where ε is a sequence of random $\{+1, -1\}$