

1135-94-248

**Jessalyn Bolkema\*** ([jessalyn.bolkema@huskers.unl.edu](mailto:jessalyn.bolkema@huskers.unl.edu)). *Factor graphs for polar codes.*

Arikan's polar codes have been celebrated for their capacity-achieving performance since first presented in 2008; however, the question of optimal finite-length decoding remains open. To understand the efficacy of graph-based decoding algorithms in this context, this poster explores families of graph realizations of polar codes suitable for message-passing decoding algorithms. We present the tensor-like join: a novel graph operation for constructing realizations of polar codes. (Received August 15, 2017)