

ABSTRACT

A polar code encoding and decoding method includes generating a first and second sub-codewords. The sub-codewords correspond to pre-codewords, and the pre-codewords have a shared data aspect. The sub-codewords provide useful error-recovery for data stored in a memory. When data is read from the memory, decoding takes place. The data read operation may include hard decision decoding, soft decision decoding, or hard decision decoding followed by soft decision decoding. In the method, the shared data aspect is used to decode a first sub-codeword for which decoding was not initially successful. An apparatus is also provided.

FIG. 8