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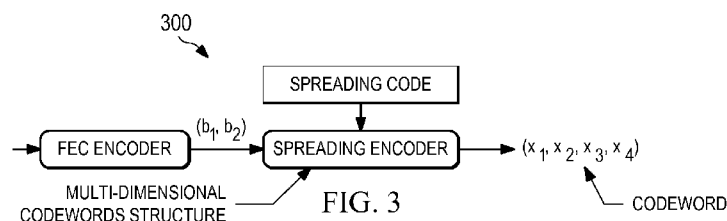
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(54) Title: SYSTEMS AND METHODS FOR SPARSE CODE MULTIPLE ACCESS



(57) Abstract: Coding gains can be achieved by encoding binary data directly to multi-dimensional codewords, which circumvents QAM symbol mapping employed by conventional CDMA encoding techniques. Further, multiple access can be achieved by assigning different codebooks to different multiplexed layers. Moreover, sparse codewords can be used to reduce baseband processing complexity on the receiver-side of the network, as sparse codewords can be detected within multiplexed codewords in accordance with message passing algorithms (MPAs).

